

# 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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**MetaPost:** Postscript graphics.

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## 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 1328.

**v0.904a:** Fixed missing l warp-common-mathjax-siunitx package.

**v0.904:** Added siunitx v3.

- Fixed HTML tags inside non-Latin text.
- MATHJAX now defaults to SVG rendering.
- Added siunitx v3. Updated siunitx-v2. See section 8.7.14 for limitations.
- Updated caption, chemmacros, fbox, hyperref, multicol, wrapfig2.

**v0.903:** Various updates and improvements.

*l warpmk*

- Error if *pdftotext* not available. Ensures that POPPLER programs are installed.

*core*

- *ps2pdf*: Allow transparency due to recent changes in *ps2pdf*.

 New images

- Due to changes in how automatically-generated SVG image file names are computed, after *l warpmk html* use *l warpmk cleanimages* a single time, and then *l warpmk l images* to generate the new images.

- Improved back refs.

- Fixed verbatim\*.

- Various internal updates for recent LATEX release.

*packages*

- *cuted*: Updated to v2.0.

- *flushend*: Updated to v4.0.

- *mathalpha*: Updated for v1.14+.

- *minted*: Updated to v2.6.

- *cases*: Updated to v3.2.

- *siunitx* with MATHJAX: Improved \per, \numlist, \SIList, comma decimal points.

- Added *showlabels*, *wrapfig2*.

**v0.902:** beamerarticle, footnotes, paragraph tags.

*core*

- Fixed footnotes inside descriptions, minipages, amsthm, \nameref.

- Improved various paragraph tags.

*packages*

- Improved parnotes, sympytex.

- Added beamerarticle.

- Updated luatexko, xetexko, tagpdf.

*MATHJAX*

- Added missing standard international text symbols for MATHJAX.

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

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

**v0.900:** Package updates.

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

**v0.899:** Minor updates.

- core**
  - *l warpmk*: Warns if \usepackage{l warp} is not detected.
- packages**
  - graphics: Added support for keepaspectratio.
  - keyfloat: Fix: \w with h.
  - multicol: Improved css.

**v0.898:** Minor updates.

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

**v0.897:** siunitx rollback.

- docs**
  - Added a table of file extensions to use with \includegraphics. See table 9.
- core**
  - Added tests for additional incompatible packages.
- packages**
  - siunitx: Supports rollback to v2. Does not yet support v3.
  - fixme: Improved to work if the user modifies layouts.
  - float: Improved integration with newfloat, keyfloat.
  - Added centerlastline, decorule, fancypar, froufrou, pbalance.
  - Verified works as-is with fnpct.

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



- 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.
- Fixed footnotes in bracket display math with MATHJAX.
- L<sup>A</sup>T<sub>E</sub>X theorems, `amsthm`, `ntheorem`, `theorem`: Print theorem footnotes following theorems.
- Added HTML `<main>` element to each page.
- Added ARIA math role to SVG math images, and note role to margin notes, footnotes, etc.
- 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`.
- `threeparttable`: Fix: `\TPTL@tnotex`.
- `amsthm`: Fix: Footnotes inside environment optional argument.
- `listings`: Fixed labels. Accepts but ignores escapes w/o error.
- `pdflscape`: Fix: Added Landscape environment.
- Added `ccicons`, `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 X<sub>E</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X.

MATHJAX  
packages

- Added `\ifblank` and `\ifstreq` to MATHJAX emulation.
- `multirow`: Allow `\par` per v2.7.
- `acro`: Updated to v3.5.
- `fancyhdr`: Updated to v4.0.
- `changes`: Updated to v4.0.1.
- `epsfig`, `rotating`: Now work inside `lateximage`.
- `amscdx`: Verified to work with SVG math. Warning added about use with MATHJAX.
- Added MATHJAX emulation for `isomath`, `mattens`, `maybernath`, `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 `\fcolorbox` and related.
  - Added `fverextra`, `minted`.

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

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

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

|  |   |
|--|---|
| <code>core</code>  | <ul style="list-style-type: none"> <li>Adapted to upcoming LATEX kernel changes.</li> <li>Allows load of <code>amsmath</code> before <code>l warp</code>.</li> </ul>  |
| <code>l warpmk</code>  | <ul style="list-style-type: none"> <li>Also removes <code>*.bb1</code> when cleaning aux files.</li> </ul>  |
| <code>MATHJAX</code>   | <ul style="list-style-type: none"> <li>MATHJAX: Neutralized <code>\protect</code>, <code>\mathcode</code> and related, ligatures. Fixed nested environments.</li> </ul>   |
| <code>packages</code>  | <ul style="list-style-type: none"> <li><code>caption</code>: Updated for v3.5, fix for label sep.</li> <li><code>thmtools</code>: Updated for v0.72. Fixed <code>swapnumber</code>, <code>margin</code>.</li> <li>Improved MATHJAX for <code>centernot</code>, <code>mathtools</code>, <code>mismath</code>, <code>Slunits</code>, <code>siunitx</code>, <code>statmath</code>.</li> <li>Added MATHJAX emulation for accents, <code>hepunits</code>, <code>hhtensor</code>, <code>mathalpha</code>, <code>mathdesign</code>, <code>mathpazo</code>, <code>mathptmx</code>, <code>mleftright</code>, <code>newpxmath</code>, <code>newtxmath</code>, <code>newtxsf</code>, <code>pxfonts</code>, <code>shuffle</code>, <code>txfonts</code>, <code>upgreek</code>, <code>ushort</code>.</li> <li>Verified to work as-is: <code>authoraftertitle</code>.</li> </ul> |
| <b>v0.88:</b> Indexing, boxing, theorems.  |   |
| <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> |   |
| <code>core</code>  | <ul style="list-style-type: none"> <li>Fixed: <code>\ref*</code>, and also added MATHJAX emulation.</li> <li>If starting a new paragraph, <code>\hrulefill</code> creates a <code>&lt;div&gt;</code> with a thin horizontal line across the page. Use instead of <code>\hrule</code>.</li> <li>Fixed: Use <code>\chaptername</code> where appropriate.</li> <li>Fixed: Inline links causing extraneous paragraphs.</li> </ul>   |
| <code>l warpmk</code>  | <ul style="list-style-type: none"> <li>Added <code>l warpmk -v</code> to print the version number.</li> </ul>   |
| <code>indexing</code>  | <ul style="list-style-type: none"> <li>Added the <code>IndexRef</code> option to control the display of index entries. See section 7.5.</li> <li>Added <code>\IndexPageSeparator</code> and <code>\IndexRangeSeparator</code> for custom index styles.</li> <li>Added support for <code>gindex</code>, <code>xindex</code>.</li> <li>Verified to work as-is with <code>varindex</code>.</li> </ul>  |
| <code>packages</code>  | <ul style="list-style-type: none"> <li><code>cleverref</code>, <code>varioref</code>: Fix for starred macros.</li> <li><code>varioref</code>: Removed page-related text from HTML output.</li> <li><code>xfakebold</code>: Updated to v0.08, using <code>pdfrender</code>.</li> <li><code>caption</code>, <code>scrextend</code>: Fixed <code>\caption*</code>.</li> <li>Added <code>fbox</code>, <code>shadethm</code>, <code>tcolorbox</code>, <code>termcal</code>, <code>thmbox</code>, <code>thmtools</code>.</li> </ul>   |
| <b>v0.87:</b> MATHJAX, bibliography packages.  |   |
| <code>core</code>  | <ul style="list-style-type: none"> <li>Added boolean <code>FixSmallCaps</code> for fonts which render small caps as all caps.</li> <li>Fixed <code>\bibliography</code> to use the HTML version's <code>.bb1</code> file. Previously the HTML bibliography relied on the print version's <code>.bb1</code>, thus would fail if the print document had not yet been created.</li> </ul>  |
| <code>MATHJAX</code>   | <ul style="list-style-type: none"> <li>Added <code>\ifstar</code> and <code>\ifnextchar</code> to MATHJAX, and removed <code>\DeclareIfstar</code>. See section 8.7.6.</li> </ul>   |
|  <code>Removed \DeclareIfstar packages</code>                                 | <ul style="list-style-type: none"> <li><code>physics</code>: Now supports the MATHJAX v3 extension.</li> </ul>  |

- `mathtools`: Improved `\underbraket`, `\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`.

**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 8.7.6.
- Added `\DeclareIfstar` to define starred TeX macros in MATHJAX. See section 8.7.6.
- 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**

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

**⚠ acro formats**

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

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

**docs**

- Added documentation of `BlockClass` and `\InlineClass` for css `<div>`s and `<span>`s. See section 7.8.
- Added `\LinkPrevious`, `\LinkNext` page links. See section 7.6.

**⚠ home page footer changed**

- Added `\FirstPageBottom`. Home page no longer shares `\PageBottom`. See section 7.6.
- Improved coexistence with `comment`, support for nested environments.

**core**

- No longer requires but still supports the `caption` package.
- Improved filenames and HTML titles when using special characters.

**⚠**

- Change: Append `-0` to section named `Index` previously `_index` to distinguish from `index.html`
- Fixed style tags for `\multicolumn`, `\multirow`.
- Fixed spacing in tabbing.
- Fixed `lateximage` for: `quote`, `quotation`, `verse`, `center`, `flushleft`, `flushright`, `<par>` tags, packages `verbatim`, `alltt`, `epigraph`.

- Fixed `textcomp` due to integration into L<sup>A</sup>T<sub>E</sub>X kernel.
  - Fixed `\itshape`, etc. Adapted to L<sup>A</sup>T<sub>E</sub>X `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 X<sub>E</sub>T<sub>E</sub>X 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: `\dashunderline`.
  - `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 [8.7.6, 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 `awesonebox`, `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.

**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.

**docs**

- Docs: Expanded documentation regarding the use of multiple projects in the same directory. See section 5.17.

**MATHJAX**

**packages**

- `xr`: Updated to v5.05.
- `xr-hyper`: Updated to v6.1.
- Verified works as-is with `xcite`.
- `acro`: Updated to v2.10.

**⚠️ broken**

- Currently broken in print mode by the 2019/10 L<sup>A</sup>T<sub>E</sub>X update, and waiting for fixes: `breqn`, `grffile`, `multimedia`, `movie15`.

**v0.75:** `keyfloat`, `wrapfig`

**packages**

- `\minipage`: Fix for `\linewidth`.
- `keyfloat`: Improved color control.
- `wrapfig`: Fix for `\linewidth`.

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

**docs**

- Added to the tutorial the section **What next?**. See section 5.19.

- Added documentation about localization options. See section 7.1.

- Added documentation about accessibility options. See section 7.2.

- Renamed and updated HTML alt text macros:

**⚠️ changed names**

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

- Added `\ImageAltText` for the default HTML alt text for an image. See section 7.6.
  - Added `\ThisAltText`, which may be used to assign a one-time HTML alt tag to the very next image generated by `l warp`, such as a `\lateximage`, `picture`, `tikzpicture`, 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.
- svg math**
- Adjusted `\LateximageFontSize` default from .75 to 1.
  - Fix: Font control for SVG math.
- misc**
- Fix: Ignores negative `\hspace`.
  - Warning if `SideTOCDepth < FileDepth`.
- l warpmk**
- `l warpmk: l warpmk clean` removes additional files.
  - `l warpmk: l warpmk epstopdf` and `l warpmk pdftosvg` now honor directories.
- packages**
- `lyluatex`: Split images by system or per `fullpage`, improved margins and scaling.
  - Tested to work as-is with `mathspec`, `unicode-math`.
- v0.73:** `\include`, `memoir`, `koma-script`, `caption`, `xy`, `datatool`, music scores.
- Fix for `\include`.
  - Warning for a `tabular` inside a `<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.
  - `memoir`: Fixes for `\frontmatter*` and `\mainmatter*`. Added `\book`.
  - `koma-script`: Fix for starred captions in the TOC.
  - `caption`: Fix for starred captions.
  - `datatool`: Added pie, bar, and plot charts.
  - `threeparttable`: Added `measuredfigure`.
  - `intopdf`: Updated to v0.2.1.
  - `tocdata`: Updated to v2.03.
  - `quotchap`: Updated to v1.2.
  - `versonotes`: Updated to v0.4.
  - `backnaur`: Now uses SVG images. Updated to v3.1.
  - `xy`: Fix for `\xybox`, improved `xy`, also now compatible with `qcircuit`.
  - `fancyvrb`: Fix for label HTML tags.
  - Added `stackengine`.
- music**
- Added `lyluatex`. (Music scores.)
  - `musicography`: Updated to 2019/05/28. Added support for `\lateximages`.

**v0.72:** Font control, `\multicolumn`, `xr` and `xr-hyper`.

- ⚠️ images**
- Due to internal changes, images for inline SVG math and `\lateximages` will have new hash values, and will have to be regenerated using  
Enter ⇒ `l warpmk cleanimages`  
and  
Enter ⇒ `l warpmk limages`

- Docs: Color-codes package names in the table of supported packages and features, table 2, according to each package's level of support by l warp.
  - \multicolumn: Fix for paragraph columns.
  - xr, xr-hyper: Fixes for references, \externaldocument.
  - soulutf8: Fix: Loads soul for emulation.
  - boxedminipage2e: Added support for lateximages.
  - zhlineskip: Updated to v1.0e.
  - Added fontaxes, slantsc, tabfigures.
  - Added nfssext-cfr, thus supporting cfr-lm and several other font packages.
  - Added backnaur, hypbmsec, minibox, pdfcrypt, shapepar.
- v0.71:** Error handling, multimedia, tabular.
- tabular: Added support for '\*' columns. Fix for paragraph tags.
  - quotation: Fix for HTML tag.
  - Docs: Added a section about error conditions tested by l warp. See section 13.1.
  - l warpmk: If file l warpmk.conf is an older version, or the incorrect operating system, displays the print command to use to recompile.
- packages**
- chemfig: Updated for v1.4.
  - endfloat: Updated for v2.7.
  - textpos: Updated for v1.9.1.
- multimedia**
- Added media9, movie15, multimedia.
- v0.70:** Error handling, MATHJAX, mathtools.
- Error handling for "Label(s) changed." Refuses to l warpmk l images until recompile first.
  - Fix: If Computer Modern font is used, ensures cm-super or lmodern is used.
  - Fixes for \makebox.
  - Fixes for \parbox inside a <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 410.
  - changes: Updated to v3.1.2.
  - Added autonum, changelayout, inputrc, mathtools, metalogox.
- v0.69:** Error handling, many fixes, improved keyfloat / tocdata.
- Fix for HTML corruption of lateximage displays.
  - \makebox, \framebox: Fix for (<width,height>) arguments.
  - fminipage: Honors \minipagefullwidth.
  - array, longtable: Fix for \tabularnewline.
  - tabularx, tabulary: Fix to require the array package.

- *supertabular*, *xtab*: Fix to clear caption after use.
- *graphics*: Added a warning if used the `\includegraphics scale` option.
- *multirow*: Added an error if didn't use `\mrowcell` or `\mcolrowcell` when using `\multirow` or `\multicolumnrow`.
- *keyfloat*: Updated for v2.00, additional improvements.
- Added *ctable*, *eqlist*, *eqparbox*, *ftcap*, *listliketab*, *minitoc*, *tocdata*, *topcapt*.

**v0.68:** Error handling, tabulars, footnotes.

- |                |  |
|----------------|--|
| <i>lwarpmk</i> | <ul style="list-style-type: none"> <li>• <i>lwarpmk</i>: Improved error handling for image generation if compile was incomplete.</li> </ul>  |
| packages       | <ul style="list-style-type: none"> <li>• <i>tabular</i>: Fix for <code>\warpprintonly</code>.</li> <li>• <i>longtable</i>: Improved flexibility for <code>\endhead</code>, etc. Improved error reporting if <code>\endhead</code>, etc. incorrect for <i>l warp</i>.</li> <li>• <i>threeparttable</i>: Fix for caption type.</li> <li>• <i>hyperref</i>: Fix for options with braces.</li> <li>• <i>morefloats</i>: Fix to be loaded early for print output.</li> <li>• <i>listings</i>: Updated for v1.7.</li> <li>• Added <i>bigfoot</i>, <i>fnpara</i>, <i>footnotebackref</i>, <i>manyfoot</i>, <i>tablefootnote</i>, <i>threeparttablex</i>.</li> <li>• Added <i>layouts</i>, <i>niceframe</i>, <i>perpage</i>, <i>showtags</i>.</li> <li>• Prevented <i>alg</i>, <i>algorithmic</i>, <i>pdfcprot</i>, <i>fncylab</i>.</li> </ul> |

**v0.67:** Filename generation, symbol fonts.

- |           |  |
|-----------|--|
| docs      | <ul style="list-style-type: none"> <li>• Documentation fix for <code>&lt;project&gt;-images</code>, <code>&lt;project&gt;-images.txt</code>.</li> <li>• Added discussion regarding section names. See section 8.4.</li> </ul>  |
| filenames | <ul style="list-style-type: none"> <li>• Added <code>\FilenameNullify</code> and <code>\FilenameSimplify</code> for filename generation. See section 8.4.</li> <li>• Core, <i>textcomp</i>, <i>xunicode</i>: Nullified additional symbols during filename generation.</li> </ul>   |
| packages  | <ul style="list-style-type: none"> <li>• <i>color</i>: Fix for version number warnings.</li> <li>• Added <i>academicons</i>, <i>bding</i>, <i>dingbat</i>, <i>eurosym</i>, <i>fontawesome</i>, <i>fontawesome5</i>, <i>marvosym</i>, <i>pifont</i>, <i>typicons</i>.</li> <li>• Added <i>changes</i>, <i>easyReview</i>, <i>fitbox</i>, <i>foreign</i>, <i>gloss</i>, <i>karnaugh-map</i>, <i>multicap</i>, <i>nomencl</i>, <i>notes</i>, <i>struktex</i>, <i>umoline</i>, <i>xfakebold</i>.</li> <li>• Tested to work as-is with <i>askmaps</i>, <i>curves</i>, <i>euro</i>, <i>karnaughmap</i>, <i>tikz-karnaugh</i>.</li> </ul> |

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

- |                           |  |
|---------------------------|--|
| ⚠ Reset the configuration | <ul style="list-style-type: none"> <li>• Due to changes in <i>lwarpmk</i>, <b>recompile any existing project a single time</b> using <code>pdflatex filename.tex</code> or similar, after which <i>lwarpmk</i> may then be used with the new configuration files.</li> </ul>                         |
| lateximage                | <ul style="list-style-type: none"> <li>• Adds options <code>ImagesDirectory</code> and <code>ImagesName</code> to assign directory and name prefixes for <i>lateximage</i> images. The new defaults include the jobname, allowing the image directories for multiple projects to coexist.</li> </ul> |
| ⚠ existing projects       | <ul style="list-style-type: none"> <li>• To reuse existing <i>lateximage</i> directories, add <i>l warp</i> options           <pre>\usepackage[   ImagesDirectory={lateximages},   ImagesName={lateximage-} ]{l warp}</pre> </li> </ul>  |

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 `lwarf`.

### ⚠ Possible filename changes

#### `WINDOWS`

##### `floats`

##### `lists, table notes`

##### `tabular`

##### `indexing`

##### `minipage`

##### `colors`

##### `HTML`

##### `docs`

### `packages`

- Improved filename generation when special characters or macros are used in section names.

- Fix for `lwarpmk cleanimages` with `WINDOWS`.

- Fixes for floats in the home page.

- Improved css for definition lists, table notes.

- `tabular`: Fixes for `\par` in column specifier, minipage inside `tabular`.

- `Indexing`: Fix for a long line of multiple entries.

- `\minipagewidth`: Fix for global changes.

- Added `\UseMinipageWidths` and `\IgnoreMinipageWidths`. See section 8.3.3.

- Improved `\fbox`, `\fboxBlock`, `\fminipage` to use current text color.

- Improved `HTML` output formatting.

- Added discussion regarding invalid `HTML`. See section 8.1.1.

- Added discussion regarding math in section names, `\imagegraphics` scale option. See section 6.

- Added discussion regarding international languages in section names. See section 8.14.

- `caption`: Fix for options clash.

- `xr, xr-hyper`: Now compatible.

- `subcaption`: Improved horizontal spacing.

- `multicol`: Fix for minipage inside `multicols`.

- `multicolrule`: Updated for v1.2.

- `tocbasic`: Minor update.

- `acronym`: Fix for acronym in float caption.

- `kotexutf`: Patch with `pdflatex` and new `lwarf` 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 \tj\* classes, bounddvi, gentombow, \tjext, plarydshln, plect, plectarydshln, plectcolortbl, pxatbegshi, pxeveryshi, pxftnright, pxjahyper, tascmac.
- Verified to work with plarray, plautopatch, 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.

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

**v0.63:** mdframed, Chinese, Japanese, Korean

- |               |  |
|---------------|--|
| localization  | <ul style="list-style-type: none"> <li>• Added \linkhomename: A user-definable name for the <b>Home</b> link.</li> <li>• Documented \sidetocname: A user-definable name for the sidetoc.</li> </ul>  |
| fixes         | <ul style="list-style-type: none"> <li>• Fix: \LinkHome for print output.</li> </ul>   |
| optimizations | <ul style="list-style-type: none"> <li>• Moved package load checks to the l warp core to reduce the number of l warp-* files.</li> </ul>   |
| packages      | <ul style="list-style-type: none"> <li>• mdframed: Fix with amsthm, improved titles and font control. Improved rule widths.</li> </ul>   |
| Chinese       | <ul style="list-style-type: none"> <li>• Fixes for xeCJK.</li> <li>• Added xpinyin, zhlineskip.</li> <li>• Verified to work with cjkpunct, upzhkinsoku, zhspacing.</li> </ul>  |
| Japanese      | <ul style="list-style-type: none"> <li>• Verified to work with zxjatype, luateja, luateja-fontspec.</li> <li>• Added bxjsarticle and related classes.</li> <li>• Added ltjsarticle and related classes.</li> <li>• Added pLATEX, upLATEX, ujarticle and related classes.</li> <li>• Prevented utarticle and related classes.</li> <li>• Prevented bxcjkatype.</li> </ul> |
| Korean        | <ul style="list-style-type: none"> <li>• Verified to work with kotex, xetexko, luatexko.</li> </ul>  |

**v0.62:** MiKTEX docs, HTML title, CTEX, xeCJK, bitpattern.

- |              |   |
|--------------|---|
| docs         | <ul style="list-style-type: none"> <li>• Docs: Setting a UTF-8 locale. See section 9.9.</li> </ul>  |
| MiKTEX       | <ul style="list-style-type: none"> <li>• MiKTEX: Docs for <i>MiKTeX Console</i> and miktex-poppler-bin.</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> </ul>   |

- Fixes for horizontal white space between `fminipage`, `fcolorminipage`, `colorboxBlock`, `fcolorboxBlock`.
  - Logos: Fix for X<sup>E</sup>T<sub>E</sub>X logo, improved css, made robust, improved search-engine optimization.
  - `\\\[$1]`: Additional HTML `<br>` if  $$1 > 0 \text{ pt}$ .
  - Fixes for `\includgraphics` filename, and with `FormatWP`.
  - Fix: css for `\textup`.
  - Fix: Added `\sllshape`.
- Chinese packages**
- Added `ctex` package and related classes, `xeCJK`.
  - Prevented CJK, CJKutf8 unless `xeCJK`, `ctex` are used.
  - `chemfig`: Docs for new macro `\polymerdelim`.
  - `asymptote`: Docs for compilation.
  - `chngpage`: Fix to load `l warp-changepage`.
  - `algorithm2e`: Fix with non-book classes.
  - `register`: Updated to v1.8.
  - `nicefrac`: Improved font control and css, honors nice and ugly.
  - `units`: Improved font control and css, honors tight and loose.
  - `xfrac`: Improved css.
  - `textcomp` and `xunicode`: Fix conflicts with `\textcircled`.
  - `ulem`: Improved compatibility with `CJKulem`, `latextimage`.
  - `MATHJAX` and `siunitx`: Removed inoperable extension.
  - Added `bitpattern`, `pdfcomment`, `pdfmarginpar`, `tram`, `unitsdef`, `xchangebar`.
  - Added `musicography`, `octave`, `semantic-markup`.
  - Added `2in1`, `flippdf`, `notespages`, `rviewport`, `twoup`.
- v0.61:** Custom compilation, EPS-related packages, documentation, indexes.
- docs**
- Split index into multiple indexes.
  - Improved documentation regarding font selection. See section [7.4](#).
  - Added documentation regarding debugging options. See section [35](#).
  - Added documentation regarding HTML entities inside program listings. See section [8.2.1](#).
- custom compiling**
- Added options to specify the shell commands to execute for `l warpmk print` and `l warpmk html`, allowing the use of `l warp` with perltex, pythontex, etc. If not specified, these are set automatically depending on the L<sup>A</sup>T<sub>E</sub>X engine, `--shell-escape`, and `l warp` options. See section [9](#).
- ⚠ 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 L<sup>A</sup>T<sub>E</sub>X `\includegraphics` EPS images.
  - Fix: newfloat lists.
  - Fix: css footnotes text align, minipage tabular and footnote margins.

- packages**
  - Added `epsfig`, `psfrag`, `psfragx`, `pstool`.
  - Added `copyrightbox`, `pdfprivacy`, `thinspace`, `threadcol`, `uspace`.
  - Added `chkfloat`, `cmdtrack`, `dprogress`, `lua-visual-debug`, `refcheck`, `srcltx`, `srctex`, `vpe`, `xbmks`.
- v0.60:** Fixes for `longtable`, `listings`.
  - fixes**
    - `longtable`, etc.: Fixes for slowdown and memory management for very long tables.
    - `listings`: Fix for HTML entities, and also when used inside a list.
    - `diagbox`: Fix for incorrect HTML par tags.
  - packages**
    - Added `2up`, `booklet`.
    - Added `bophook`, `draftfigure`, `fullminipage`, `grid-system`, `layaureo`.
    - Added `leading`, `widows-and-orphans`.
    - Added `fancytabs`, `thumb`, `thumbs`.
- v0.59:** DVI `latex`, MATHJAX, `asymptote`, `pdftricks`, `pstricks`, `epstopdf`, `breqn`.
  - ⚠ Reset the configuration**
  - l warpmk***
    - 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.
    - Added an error if `l warpmk.conf`'s format has changed and the document must be recompiled.
    - Added a warning if the `l warpmk.conf` configuration file appears to be for the wrong operating system, in case files are transferred between systems.
    - Added  
`l warpmk 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.
  - `latextmk`**
    - Fix for --shell-escape with `latextmk`.
  - 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`.
    - Fix for `\includegraphics` filename expansion.
    - `\includegraphics` now works with `.pdf` and `.eps` filename extensions.
  - images**
    - Moved `amsmath` out of the `l warp` core.
    - Fix for `chemformula \NMR`.
  - packages**
    - Added `asymptote`, `pdftricks`, `pstricks`, `pst-eps`.
    - Added `breqn`, `Slunits`.
    - Added `bxpaper-size`, `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 *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*  
glossaries

- *lwarpmk*: Added the `-p` option to specify the project name.
- *lwarpmk*: Now uses `makeglossaries` for glossary generation, allowing the processing of multiple glossaries at once.
- Added *lwarp* option `GlossaryCmd` to specify the shell command used by `lwarpmk printglossary` and `lwarpmk htmlglossary`. Defaults to `makeglossaries`.
- Docs: Extra indexing options. See section 8.6.14.
- Added support for `makeindex`. (Previously supported only `xindy`.) Also added indexing packages listed below.
- Added *lwarp* options `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to specify shell commands used by `lwarpmk printindex`, `lwarpmk htmlindex`, and `latexmk`. May be preset with the `makeindex` or `xindy lwarp` options. See section 7.5.

index and glossary

- Added *lwarp* options `makeindex` and `xindy` to set `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to sensible values for a typical single index. See section 7.5.
- Added *lwarp* option `makeindexStyle` to tell *lwarpmk* to use a custom style instead of *lwarp.ist*. See section 8.6.20.
- Fix for index entries with `\see`, `\seealso`, `\emph`, `\textbf`, etc.

misc. fixes

- 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`.

packages

- Fixes for `komascript`: Indexing improvements.
- Added `imakeidx`, `index`, `repeatindex`, `splitidx`.
- Added `attachfile`, `attachfile2`, `intopdf`, `pdfpages`, `pdfx`.
- Added `cases`.
- Tested to work as-is: `notes2bib`, `hvindex`.

**v0.57:** algorithm2e, float styles, tabular packages, internal improvements.

MathJax  
math macros

- Added support for MATHJAX equations with `\footnote`, `\footnotemark`.

dynamic math

- Added `\StartDefiningMath` and `\StopDefiningMath` for use when defining macros in the preamble which contain `$`. See section 8.7.8.
- 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 8.7.9.

⚠ new name

- Renamed `\EndDefiningTabulars` to `\StopDefiningTabulars`.

- [lateximage alt tags](#)
- 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- diagram)`  
See section [7.6](#).
- [misc. fixes](#)
- Fix: Improved print/HTML macro selection.
  - Fix: `\href` text catcodes.
  - Fix: `\subref` text.
  - Fixes: Colored `\rule` and `\boxframe`.
- [packages](#)
- `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.

- [lwarpmk](#)
- Added  
`lwarpmk pdftosvg <list-of-PDF-files>`  
to quickly convert a document's PDF images to SVG, for use with `HTML`.  
See section [8.8](#).
- [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, toccenter, 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 *lwarfmk*, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which *lwarfmk* may then be used with the new configuration files.

*lwarfmk*

- *lwarfmk* limages checks for the presence of the HTML version of the document and valid image references before attempting to create the lateximages.
- *lwarfmk*: Improved error message if configuration file does not exist.
- Added documentation for avoiding error with BibTeX and \etalchar. See section 8.6.9.
- Added documentation regarding polyglossia. See section 8.15.4.
- Added documentation regarding the use of macros in section names. See section 8.1.
- 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 now honor `\centering`, `\raggedright`, `\raggedleft`, and their `ragged2e` equivalents, when placed directly after:

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

- `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`.
- LATEX 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`.

**v0.53:** Improved image checks.

*lwarfmk*

- *lwarfmk*: Added a warning about corrupted images due to the need to recompile the document one more time.
- *lwarfmk*: Added the `lwarfmk cleanlimages` command.
- Added documentation for `lwarfmk cleanlimages` and `lwarfmk 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 `XeLaTeX` or `LuaLaTeX` 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.

---

`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>

---

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

---

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

---

<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.

---

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.

---

<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 <sup>A</sup> T <sub>E</sub> 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 <sup>A</sup> T <sub>E</sub> X macro.            |
| <i>environment</i>    | L <sup>A</sup> T <sub>E</sub> X environment.      |
| <i>counter</i>        | L <sup>A</sup> T <sub>E</sub> X counter.          |
| <i>boolean</i>        | L <sup>A</sup> T <sub>E</sub> X boolean.          |
| <element>             | HTML element.                                     |
| <i>attribute</i>      | HTML attribute.                                   |
| <b>User Interface</b> | A user-interface item.                            |
| <b>ACRO</b>           | Acronym.  |

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

Prog Lwarp

Black-colored tags in the left margin are used to identify programming objects such as files, packages, environments, booleans, and counters. Items without a tag

**index entries** are command macros. Each of these also appears in the index as individual entries, and are also listed together under “files”, “packages”, “environments”, “booleans”, and “counters”.

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

## 2.2 Supported packages and features

Table 2 lists some of the various L<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 `latextimage` 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 l warp package — Supported features

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

## l warp Supported Functions — continued

| Category                            | Status   |
|-------------------------------------|--|
| Page layout:                        | 2in1, 2up, a4, a4wide, a5comb, addlines, anysize, <b>atbegshi</b> , balance, blowup, booklet, bophook, bounddvi, 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, gmetric, grid, <b>grid-system</b> , gridset, layaureo, layout, layouts, leading, lscape, ltxgrid, nccfancyhdr, notespages, nowidow, pagegrid, pagesel, <b>parallel</b> , <b>parcolumns</b> , pbalance, pdfcolparallel, pdfcolparcolumns, pdfcrypt, pdflandscape, pdfprivacy, preview, <b>ragged2e</b> , returntogrid, 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, tocbind, <b>tocdata</b> , tocloft, tocstyle, <b>tocvsec2</b> .   |
| Title page:                         | \maketitle, titlepage, authblk, <b>authoraftertitle</b> , <b>titling</b> .   |
| Front & back matter:                | <b>abstract</b> , <b>appendix</b> .  |
| Indexing:                           | <b>makeindex</b> , <b>xindy</b> , and <b>xindex</b> are supported, with hyperlinks.<br><b>gindex</b> , <b>hvindex</b> , <b>idxlayout</b> , <b>imakeidx</b> , <b>index</b> , <b>makeidx</b> , <b>repeatinde</b> , <b>splitidx</b> , <b>varindex</b> , <b>xindex</b> .   |
| Glossary:                           | <b>gloss</b> , <b>glossaries</b> and <b>xindy</b> , <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> .   |
| Cross-references:                   | bookmark, <b>breakurl</b> , <b>cleveref</b> , <b>fancyref</b> , <b>hypdestopt</b> , <b>hyperref</b> , <b>perpage</b> , <b>prettyref</b> , <b>titleref</b> , <b>url</b> , <b>variorref</b> , <b>xcite</b> , <b>xr</b> , <b>xr-hyper</b> , <b>xurl</b> , <b>zref</b> .   |

## l warp Supported Functions — continued

| Category                                | Status  |
|---|---|
| Margin notes:                           | marginal, marginfit, marginfix,<br><i>scrlayer-notecolumn</i> , <i>versonotes</i> .   |
| Footnotes:                              | Adds FootnoteDepth to print footnotes at section breaks. MATHJAX emulation for \footnote, and also as marked in the following: <i>bigfoot</i> , <i>dblfnote</i> , <i>endheads</i> , <i>endnotes</i> <sup>MJ</sup> , <i>enotez</i> <sup>MJ</sup> , <i>fixfoot</i> , <i>fnbreak</i> , <i>fnpara</i> , <i>fnpct</i> , <i>fnpos</i> , <i>footmisc</i> , <i>footnote</i> , <i>footnotebackref</i> , <i>footnoterange</i> , <i>footnpag</i> , <i>manyfoot</i> , <i>marginnote</i> <sup>MJ</sup> , <i>nccfoots</i> <sup>MJ</sup> , <i>pagenote</i> <sup>MJ</sup> , <i>parnotes</i> <sup>MJ</sup> , <i>pdfcolfoot</i> , <i>pfnote</i> , <i>sepfootnotes</i> , <i>sidenotes</i> <sup>MJ</sup> , <i>tablefootnote</i> .   |
| Math:                                   | Converted to SVG images with HTML <alt> tags containing the LATEX source for the math expression. MATHJAX supported as an alternative. <i>amsmath</i> <sup>MJ</sup> : <i>AMS</i> environments are supported. User-defined macros are available during conversion, due to native LATEX processing.   |
| Theorems:                               | Native LATEX theorems, <i>amsthm</i> , <i>apxproof</i> , <i>ntheorem</i> , <i>shadethm</i> , <i>theorem</i> , <i>thmbox</i> , <i>thmtools</i> .   |
| Additional math:                        | Math fonts via SVG images, <i>accents</i> <sup>MJ</sup> , <i>amscd</i> <sup>MJ</sup> , <i>amscdx</i> , <i>autobreak</i> <sup>MJ</sup> , <i>autonum</i> , <i>backnaur</i> <sup>MJ</sup> , <i>bm</i> <sup>MJ</sup> , <i>braket</i> <sup>MJ</sup> , <i>breqn</i> <sup>MJ</sup> , <i>bussproofs</i> <sup>MJ</sup> , <i>cases</i> <sup>MJ</sup> , <i>centernot</i> <sup>MJ</sup> , <i>cmbright</i> <sup>MJ</sup> , <i>colonequals</i> <sup>MJ</sup> , <i>decimal</i> <sup>MJ</sup> , <i>delarray</i> , <i>DotArrow</i> <sup>MJ</sup> , <i>dotlessi</i> <sup>MJ</sup> , <i>dotlessj</i> <sup>MJ</sup> , <i>esvect</i> <sup>MJ</sup> , <i>extarrows</i> <sup>MJ</sup> , <i>fixmath</i> <sup>MJ</sup> , <i>fouridx</i> <sup>MJ</sup> , <i>fourier</i> <sup>MJ</sup> , <i>guass</i> , <i>hhtensor</i> <sup>MJ</sup> , <i>icomma</i> <sup>MJ</sup> , <i>isomath</i> <sup>MJ</sup> , <i>jkmath</i> , <i>kpfnts</i> <sup>MJ</sup> , <i>kpfnts-otf</i> <sup>MJ</sup> , <i>leftidx</i> <sup>MJ</sup> , <i>libertinust1math</i> <sup>MJ</sup> , <i>mathalpha</i> <sup>MJ</sup> , <i>mathastext</i> <sup>MJ</sup> , <i>mathcomp</i> <sup>MJ</sup> , <i>mathdesign</i> <sup>MJ</sup> , <i>mathdots</i> <sup>MJ</sup> , <i>mathfixs</i> <sup>MJ</sup> , <i>mathpazo</i> <sup>MJ</sup> , <i>mathptmx</i> <sup>MJ</sup> , <i>mathpunctspace</i> <sup>MJ</sup> , <i>mathspec</i> <sup>MJ</sup> , <i>mathtools</i> <sup>MJ</sup> , <i>mattens</i> <sup>MJ</sup> , <i>maybemath</i> <sup>MJ</sup> , <i>mdwmath</i> <sup>MJ</sup> , <i>mismath</i> <sup>MJ</sup> , <i>mleftright</i> <sup>MJ</sup> , <i>multiobjective</i> <sup>MJ</sup> , <i>nccmath</i> <sup>MJ</sup> , <i>nicematrix</i> <sup>MJ</sup> , <i>noitcrl</i> <sup>MJ</sup> , <i>newpxmath</i> <sup>MJ</sup> , <i>newtxmath</i> <sup>MJ</sup> , <i>newtxsf</i> <sup>MJ</sup> , <i>pb-diagram</i> , <i>pxfonts</i> <sup>MJ</sup> , <i>resizegather</i> <sup>MJ</sup> , <i>rmathbr</i> <sup>MJ</sup> , <i>scalerel</i> <sup>MJ</sup> , <i>shuffle</i> <sup>MJ</sup> , <i>skmath</i> <sup>MJ</sup> , <i>stackrel</i> <sup>MJ</sup> , <i>statex2</i> <sup>MJ</sup> , <i>statistics</i> , <i>statmath</i> <sup>MJ</sup> , <i>subsupscripts</i> <sup>MJ</sup> , <i>tensind</i> , <i>tensor</i> <sup>MJ</sup> , <i>textualicomma</i> <sup>MJ</sup> , <i>txfonts</i> <sup>MJ</sup> , <i>txgreeks</i> <sup>MJ</sup> , <i>unicode-math</i> <sup>MJ</sup> , <i>upgreek</i> <sup>MJ</sup> , <i>ushort</i> <sup>MJ</sup> , <i>witharrows</i> <sup>MJ</sup> , <i>xfakebold</i> <sup>MJ</sup> , <i>xy</i> . Many others work as-is. |
| Display math with<br>\displaymathother: | Complicated math objects in display math, such as <i>tikz-cd</i> , etc.   |

## l warp Supported Functions — continued

| Category   | Status  |
|--|---|
| 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>topcap</code> , <code>trivfloat</code> , <code>wrapfig</code> , <code>wrapfig2</code> .  |
| Tabular:   | <code>tabular</code> 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>dcolumn</code> , <code>diagbox</code> , <code>hhline</code> <sup>MJ</sup> , <code>longtable</code> , <code>ltablex</code> , <code>ltxtable</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> .   |
| Graphics:  | <code>graphics</code> and <code>graphicx</code> . <code>\includegraphics</code> supports width, height, origin, angle, and scale tags, and adds class. 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.<br><code>asymptote</code> , <code>curves</code> , <code>datatool</code> , <code>eepic</code> , <code>epsf</code> , <code>epsfig</code> , <code>epstopdf</code> , <code>figsize</code> , <code>fitbox</code> , <code>grffile</code> , <code>lpic</code> , <code>luamplib</code> , <code>media9</code> , <code>movie15</code> , <code>multimedia</code> , <code>overpic</code> , <code>pict2e</code> , <code>pinlabel</code> , <code>psfrag</code> , <code>psfragx</code> , <code>pst-eps</code> , <code>pstool</code> , <code>pstricks</code> , <code>rlepsf</code> , <code>rviewport</code> , <code>svg</code> , <code>svg-extract</code> , <code>tikz</code> , <code>tikz-3dplot</code> , <code>tikz-imagelabels</code> , <code>xy</code> |
| <code>xcolor</code> :                                      | Full package color names, any color models, and mixing. <code>\textcolor</code> , <code>\colorbox</code> , <code>\fcolorbox</code> . Enhanced for HTML compatibility.   |
| Lists:   | Standard L <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>fvextra</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> .   |

## l warp Supported Functions — continued

| Category                  | Status  |
|---------------------------|---|
| 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> .   |
| Direct formatting:        | <code>\emph</code> , <code>\textsuperscript</code> , <code>\textbf</code> , etc are supported. <code>\bfseries</code> , 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>luicolor</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, <code>\enskip</code> , <code>\quad</code> , <code>\qquad</code> , <code>\hspace</code> .   |
| Rules:                    | <code>\rule</code> with width, height, raise, text color.   |
| HTML reserved characters: | <code>\&amp;</code> , <code>\textless</code> , and <code>\textgreater</code> 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> .<br>Tested to work as-is: Special font macros in <code>cfr-lm</code> and others which use <code>nfssext-cfr</code> .<br>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>bding</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>metab</code> , <code>metalogox</code> , <code>pifont</code> , <code>textalpha</code> , <code>textcomp</code> <sup>MJ</sup> , <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, pgfquant, phfqt, 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:             | awesomibox, notes.  |
| Editorial:               | changebar, changelog, changes, easy-todo, easyReview, ed, errata, fixme, fixmetodonotes, pdfcomment <sup>MJ</sup> , pdfmarginpar, todo, todonotes, tram, xexchangebar.  |
| Accessibility:           | accessibility <sup>MJ</sup> , accsupp <sup>MJ</sup> , axessibility <sup>MJ</sup> , pdfcomment <sup>MJ</sup> , repltext <sup>MJ</sup> , tagpdf.  |
| Package handling:        | catoptions.   |
| Debug:                   | chkfloat, cmdtrack, dprogress, lipsum, lua-visual-debug, mwe, refcheck, showlabels, showkeys, 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, lwarf may be a good choice. For new projects with a large number of documents, it may be worth investigating the alternatives before decided which path to take.

#### 3.1 internet class

cls internet

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

#### 3.2 TeX4HT

Prog TeX4ht  
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 lwarf provides a better HTML conversion, and it supports a different set of packages. TeX4ht produces several other forms of output beyond HTML, including ODT and a direct path to EPUB, and is still being developed.

#### 3.3 Translators

These systems use external programs to translate a subset of L<sup>A</sup>T<sub>E</sub>X syntax into HTML. Search for each on CTAN (<http://ctan.org>).

Prog Hevea  
Prog TtH  
Prog GELLMU  
Prog LaTeXML  
Prog Plastex  
Prog LaTeX2HTML  
Prog TeX2page

**H<sup>E</sup>V<sup>E</sup>a:** <http://hevea.inria.fr/> (not on CTAN)  
**T<sub>T</sub>H:** <http://hutchinson.belmont.ma.us/tth/>  
**GELLMU:** <http://www.albany.edu/~hammond/gellmu/>  
**L<sup>A</sup>TEXML:** <http://dlmf.nist.gov/LaTeXML/>  
**PlasTeX:** <https://github.com/tiarno/plastex>  
**L<sup>A</sup>TEX2HTML:** <http://www.latex2html.org/>  
and <http://ctan.org/pkg/latex2html>.  
**TEX2page:** <http://ds26gte.github.io/tex2page/index.html>

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 ASCIIDOC 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 L<sup>A</sup>T<sub>E</sub>X 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 L<sup>A</sup>T<sub>E</sub>X-related features.

##### Asciidoc-LaTeX:

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

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

### 3.5 PANDOC

Prog Pandoc

A markup system which also reads and writes L<sup>A</sup>T<sub>E</sub>X and HTML.

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

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

### 3.6 Word processors

Prog Word

Prog LibreOffice

Prog OpenOffice

It should be noted that the popular word processors have advanced through the years in their abilities to represent math with a L<sup>A</sup>T<sub>E</sub>X-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

Prog FrameMaker

Prog InDesign

Prog Flare

Prog Madcap

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*™.

### 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 lwarf, 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 TeXLive: <http://tug.org/texlive/>.

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

**The l warp package:** This package.

**The *l warpmk* 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 *l warpmk* called *l warpmk.lua*. See table 4.

**luatex:** Used by the *l warpmk* 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 *l warpmk* 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.

**POPLER 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 *miktek-poppler-bin-\** packages.

From POPLER: [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> *miktek-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 POPLER 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 *tlmgr*:

Enter ⇒ **tlmgr 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 *lwarpmk* 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/l warp> 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 TeX 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 MiKTeX, start the program called *MiKTeX 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:

- At a command line, try executing `l warpmk`. If the `l warpmk` help message appears, then `l warpmk` is already set up. If not, it is easiest to generate and use a local copy. See section 4.2.1.
- For MiKTeX, try updating the `miktex-misc` package. This may install the `l warpmk` 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 MiKTeX 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 <path to lwarpmk.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 MiKTeX:** Create a new `lwarpmk.bat` file:

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

`C:\Program Files\MiKTeX 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\MiKTeX 2.9\scripts\lwarpmk\lwarpmk.texlua" %*`

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

#### 4.2.1 Using a local copy of `lwarpmk`

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

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

`\usepackage[lwarpmk]{l warp}`

2. When the tutorial is compiled with `pdflatex`, the file `lwarpmk.lua` will be generated along with the other configuration files.

3. `lwarpmk.lua` may be used for this project:

**Unix:**

- (a) Make `lwarpmk.lua` executable:  
Enter ⇒ `chmod 0755 lwarpmk.lua`
- (b) Compile documents with  
Enter ⇒ `./lwarpmk.lua html`  
Enter ⇒ `./lwarpmk.lua print`  
etc.
- (c) It may be useful to rename or link to a version without the `.lua` suffix.

**WINDOWS:**

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

Enter ⇒ `texlua lwarpmk.lua html`  
Enter ⇒ `texlua lwarpmk.lua print`  
etc.

Or:

Enter ⇒ `lwarpmk html`  
Enter ⇒ `lwarpmk print`  
etc.

### 4.3 Installing additional utilities

#### To test for the existence of the additional utilities:

Enter the following in a command line. If each programs' version is displayed, then that utility is already installed. See table 3 on page 76.

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 T<sub>E</sub>X 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>

#### 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)"`

Prog [requirement]    `pdftotext`  
 Prog [requirement]    `pdfseparate`  
 Prog [requirement]    `pdftocairo`

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 76.
2. Download and extract the POPPLER utilities *pdftotext*, *pdfseparate*, and *pdfseparate* 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 lwarf 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`.
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 lwarf documentation directory:**

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

Enter ⇒ `texdoc -l lwarf_tutorial.txt`

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

⚠ Note: `.txt` suffix!

⚠ 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. lwarf 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 lwarf 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, LATEX 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:** lwarf.css, lwarf\_formal.css, lwarf\_sagebrush.css These files are standard for lwarf, 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 lwarf defaults.

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

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

**lwarf\_one\_limage.txt:** For Windows only. Used to process svg images in the background. Copied to lwarf\_one\_limage.cmd when images are generated.

**lwarf\_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 lwarf to conditionally process blocks of text. These files may be ignored.

---

When the lwarpmk option is given to the lwarf 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 *latexmk* (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 images**

Note that math images have not yet been generated, so math is still displayed as its alt tag, which is set to the plain-text L<sup>A</sup>T<sub>E</sub>X source for that expression. Math may be displayed as SVG images (section 5.4) or by a MATHJAX script (section 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 `l warp`:

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

2. Recompile

Enter ⇒ `l warpmk html`

3. Reload the math page.

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

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

## 5.6 Changing the css style

For a formal css style, add to the preamble:

```
\usepackage{lwarf}
...
\CSSFilename{lwarf_formal.css}
...
\begin{document}
```

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

```
\CSSFilename{lwarf_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

lwarf 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 ⇒ **lwarfmk printglossary**

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

To process the glossary for the HTML version:

Enter ⇒ **lwarfmk htmlglossary**

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

Enter ⇒ **lwarfmk html1**

Enter ⇒ **lwarfmk html**

Enter ⇒ **lwarfmk print1**

Enter ⇒ **lwarfmk 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 ⇒ **l warpmk clean**

## 5.13 Cleaning auxiliary and output files

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

Enter ⇒ **l warpmk 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 ⇒ **l warpmk 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 *l warpmk* also provides a way to convert PDF or EPS images in bulk:

Enter ⇒ **l warpmk epstopdf \*.eps (or a list of files)**

Enter ⇒ **l warpmk 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 ⇒ **l warpmk 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. *l warpmk* 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 8.7.6, [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 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}}
```
  - (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:** LATEX 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 text 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.

Table 6: Accessibiliy 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.

### 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, lwarf detects and remembers whether shell escape is enabled. If so, it will also be enabled when the document is recompiled with `lwarpmk`.

### 7.4 Font and utf-8 support

 type 3 bitmapped fonts

lwarf 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 lwarf option `pdftotextEnc` may be useful in some situations. See section 7.5.

vector fonts

Computer Modern

 pdflatex

 DVI latex

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.

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`, lwarf automatically loads `fontenc` with T1 encoding. `fontenc` may be loaded with an additional encoding after lwarf. `inputenc` is automatically loaded with UTF8 encoding if it has not yet been loaded, but may also be specified with another encoding such as `latin1`. See the next section regarding index encoding.

 xelatex, lualatex, fontspec

X<sub>E</sub>LATEX and LuaLATEX 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{lwarf}`.

 package conflicts

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

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

- For X<sub>E</sub>LATEX or LuaLATEX:
  - `fontspec` and font choices

Pkg fontspec

*ligatures*

lwarf sets the following to turn off T<sub>E</sub>X 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 pdfx package
  - iii. \pdfgentounicode=1
- (f) Another option to assist with the PDF-HTML conversion, such as the dotless j (\j):
  - \usepackage{cmap} — or —
  - \usepackage{mmap} — or —
  - \usepackage[noTeX]{mmap}
- (g) \usepackage{textcomp}

3. \usepackage{newtxmath} or other math-related font packages. Many of these load amsmath, which may now be loaded before l warp.
4. \usepackage{l warp} (section 7.5) is placed after any of the above, followed by:

5. \setmonofont{TeX Gyre Cursor} or similar may be required if using X E T A X or L u a L T E X and fonts spec along with traditional font packages such as txfonts, newtxtext, etc. This is required to turn off the monospaced font's ligatures with fonts spec after loading the traditional font packages. Monospaced output ligatures must be turned off to produce the correct HTML characters.

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

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

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

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

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

#### 7.4.1 Indexes, glossaries, and encoding

l warp 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.

**⚠ dotless j**

```
Pkg   lmodern
Pkg   fontenc
Pkg   inputenc
Pkg   inputenx
Pkg   newunicodechar
File  glyptounicode.tex
```

**⚠ fonts spec with monospaced fonts**

```
Pkg   cmap
Pkg   mmap
Pkg   textcomp
```

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

## 7.5 lwarpl package loading and options

**l**warp 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 `\warp` package immediately after the font and UTF-8 setup commands.

Package options may be set while loading `lwarp`, or later with

```
\l warpsetup{\langle key=value, . . . \rangle}
```

**lwarp** package options are as follows:

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

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

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

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

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

**Opt HomeHTMLFilename**:  
Default: \BaseJobname      Filename of the homepage, without the “.html” suffix. Defaults to the \BaseJobname. A common setting is:

HomeHTMLFilename=index

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:

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

**Opt** **HTMLFilename** **Default:** <empty> **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.

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

**Opt** **ImagesDirectory**  
Default: `\jobname-images` **ImagesDirectory:** The directory for the images automatically generated by lwarf for 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-<n>`.

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. |

|   |  |
|---|--|
| Opt PrintLatexCmd<br>Default: <automatic>             | <b>PrintLatexCmd:</b> Sets the shell commands executed by <code>lwarpmk print</code> . If not specified, will automatically be set according to the detected LATEX engine and the use of --shell-escape.   |
| Opt HTMLLatexCmd<br>Default: <automatic>              | <b>HTMLLatexCmd:</b> Sets the shell commands executed by <code>lwarpmk html</code> . If not specified, will automatically be set according to the detected LATEX engine and the use of --shell-escape.   |
| Opt makeindex<br>Default: <code>makeindex</code>      | <b>makeindex:</b> Sets PrintIndexCmd, HTMLIndexCmd, and LatexmkImageCmd to use <code>makeindex</code> when generating indexes with <code>lwarpmk printindex</code> , <code>lwarpmk htmlindex</code> , or <code>latexmk</code> . If neither <code>makeindex</code> nor <code>xindy</code> is used, <code>makeindex</code> is assumed.   |
| Opt makeindexStyle<br>Default: <code>lwarf.ist</code> | <b>makeindexStyle:</b> If you wish to use a custom .ist file for index generation, see section <a href="#">8.6.20</a> .  |
| Opt xindy<br>Default: <code>makeindex</code>          | <b>xindy:</b> Sets PrintIndexCmd, HTMLIndexCmd, and LatexmkImageCmd to use <code>xindy</code> when generating indexes with <code>lwarpmk printindex</code> , <code>lwarpmk htmlindex</code> , or <code>latexmk</code> .  |
| Opt xindyStyle<br>Default: <code>lwarf.xdy</code>     | <b>xindyStyle:</b> If you wish to use a custom .xdy file for index generation, see section <a href="#">8.6.21</a> .  |
| Opt xindyLanguage<br>Default: <code>english</code>    | <b>xindyLanguage:</b> If using an index or glossary, see section <a href="#">29</a> .  |
| Opt xindyCodepage<br>Default: <code>utf8</code>       | <b>xindyCodepage:</b> If using an index, see section <a href="#">29</a> .  |
| Opt xindex<br>Default: <code>makeindex</code>         | <b>xindex:</b> Sets PrintIndexCmd, HTMLIndexCmd, and LatexmkImageCmd to use <code>xindex</code> when generating indexes with <code>lwarpmk printindex</code> , <code>lwarpmk htmlindex</code> , or <code>latexmk</code> .  |
| Opt xindexConfig<br>Default: <empty>                  | <b>xindexConfig:</b> If you wish to use a custom <code>xindex-*.lua</code> file for index generation, see section <a href="#">8.6.22</a> .   |
| Opt PrintIndexCmd<br>Default: <automatic>             | <b>PrintIndexCmd:</b> Sets the shell commands executed by <code>lwarpmk printindex</code> . If not specified, will be set by the selection of <code>makeindex</code> or <code>xindy</code> . May be used to specify the creation of multiple indexes. See section <a href="#">8.6.15</a> .<br><br>Examples:<br><pre>makeindex -s lwarf.ist projectname.idx          (makeindex) xindy -M lwarf.xdy -L english -C utf8 projectname.idx  (xindy)</pre> |
| automatic setting                                     | The use of the <code>makeindex</code> or <code>xindy</code> options sets PrintIndexCmd to sensible values for each of those programs while compiling a single index. <code>lwarf</code> 's <code>makeindexStyle</code> , <code>xindyStyle</code> , <code>xindyLanguage</code> , and <code>xindyCodepage</code> options will be used if specified.  |
| ⚠ xindy   | If specifying PrintIndexCmd manually, be sure to assign an <code>xindy</code> language and codepage with the <code>-L</code> and <code>-C</code> <code>xindy</code> options, as the <code>lwarf</code> <code>xindyLanguage</code> and <code>xindyCodepage</code> 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 `lwarf PrintIndexCmd` option.

Opt `HTMLIndexCmd`

Default: `<automatic>`

#### filenames

**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](#).

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

```
makeindex -s lwarf.ist projectname_html.idx      (makeindex)
xindy -M lwarf.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. `lwarf`'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 `lwarf 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`

Default: `<automatic>`

**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:

```
makeindex -s lwarf.ist                                (makeindex)
xindy -M lwarf.xdy -L english -C utf8                (xindy)
```

#### 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`, `latexmk` 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`

Default: `cref`

**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 `\cleverref`, as the `lwarf` package relies on `\cleverref` 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 `\cleverref`'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`

Default: `makeglossaries`

**GlossaryCmd:** Sets the shell command executed by `lwarfmk printglossary` and `lwarfmk 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`

Default: `UTF-8`

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

Opt `lwarfmk`

**lwarfmk:** If you wish to have `lwarf` generate a local copy of `lwarfmk.lua` for archival or local-installation purposes, compile the print version with the `lwarfmk` 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`

Opt `warpHTML`

**warpprint** and **warpHTML**: Usually controlled by `lwarfmk`, and not set in the document. 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 `lwarf` 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{lwarf}` without any options to create a printed version, while `<project>_html.tex` will create an HTML version.

Opt `BaseJobname`

Default: `\jobname`

**BaseJobname:** Not intended for the user. Used internally by `lwarf` when creating the `*_html.tex` file used to compile the HTML version. See section [29](#).

## 7.6 Customizing the HTML output

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

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

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

Enter ⇒ **lwarfmk clearall**

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

Enter ⇒ **lwarfmk print**

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

Enter ⇒ **lwarfmk html**

### Placed in the preamble before \begin{document}:

\HTMLFirstPageTop  
Default: <empty>

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

\HTMLFirstPageBottom  
Default: <empty>

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

\linkhomename  
Default: Home

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

\linkpreviousname  
Default: Previous

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

\linknextname  
Default: Next

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

Ctr tocdepth

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

Ctr SideTOCDepth

Default: 1

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

sideroc

Each subpage of the website has its own small table of contents on the side (the “sideroc”). Its depth is set by SideTOCDepth. This sideroc 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 sideroc 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

or

Table 8: HTML settings

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

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

`SideTOCDepth=FileDepth+1`

 **inaccessible pages**

If `SideTOCDepth < FileDepth`, web pages will be inaccessible via the `\sidetoc`.

`\sidetocname`  
Default: `Contents`

`Ctr FileDepth`  
Default: `-5`

- 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 (`lwarp mk cleanall`), change `FileDepth` and/or `CombineHigherDepths`, then finally recompile and renavigate to the desired page using the new file structure.

`Bool FileSectionNames`  
Default: `true`

**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 footnotes 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*, *fbf*, 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.

To customize subpage <title>s, redefine \theHTMLTitleSection, which defaults to:

```
\def\theHTMLTitleSection{%
  \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
}
```

**custom <title>**

|   |                        |  |
|---|------------------------|--|
| \HTMLAuthor   | \theauthor             | \HTMLAuthor: {\ <i>author</i> } The HTML header's meta author. Defaults to \theauthor, which is set by \author if using the <i>titling</i> package, but is empty otherwise. There are several ways to represent the author and affiliations, especially if using the <i>authblk</i> 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: {\ <i>description</i> } Sets the HTML description tag for the following files. May be changed before each sectioning command which would cause a file split.   |
| \HTMLPageTop  | Default: <empty>       | \HTMLPageTop: {\ <i>contents</i> } 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: {\ <i>contents</i> } 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.  |
| <b>Placed in the home page before the first sectioning command which causes a file break:</b> |                        |  |
| \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.<br>Links to each chapter/section are provided, as selected by tocdepth.  |
| <b>Placed in the document wherever necessary:</b>   |                        |  |
| \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: {\ <i>text</i> } \ThisAltText can be used to assign an HTML alt text attribute to the next image generated by a <i>lateximage</i> , <i>picture</i> , <i>tikzpicture</i> , or any other similar environment which generates an image, or the next SVG math expression. This tag is cleared after use. The tag is also cleared after each MATHJAX expression, in case the user changes between SVG math and MATHJAX.   |

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

\MathImageAltText

Default: math image

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

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

\PackageDiagramAltText

Default: diagram

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

(-xy- diagram)

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

\AltTextOpen

Default: (

\AltTextClose

Default: )

**\AltTextOpen:** Redefine with \renewcommand.

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

\HTMLnewcolumntype

**\HTMLnewcolumntype:** \newcolumntype may not always work with lwarp for HTML output, since it often involves T<sub>E</sub>X boxes and fills. To provide a simplified column type for HTML, add \HTMLnewcolumntype in addition.

Env warpprint

**warpprint:** An environment which is only used while generating print output. Place inside anything which does not apply to HTML and which may cause problems with lwarp. If lwarp knows about and emulates or supports a package then its related macros, lengths, counters, etc. probably won’t have to be placed inside a warpprint environment, but unknown packages may cause problems which may be isolated from lwarp using this environment.



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

Env warpHTML

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



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

\warpprintonly

**\warpprintonly:** {⟨contents⟩} A macro version of the warpprint environ-

ment.

**\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}
```

---

## 7.7 Customizing the css

\CSSFilename  
Default: lwarp.css

{<filename>}

\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:

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

---

```

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

```

The styles provided by `lwarp` include:

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

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

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

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

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

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

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

File `lwarp.css`  
File `project.css`  
File `sample_project.css`

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

---

```

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

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

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

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

```

---

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

## 7.8 Assigning css classes and styles

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

Env BlockClass

---

[*<style>*] {[*<class>*]}

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

\InlineClass

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

A section of text without paragraphs may be assigned 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  
 Prog Mac OS  
 Prog Linux  
 Prog MS-Windows  
 Prog Windows  
 Opt OSWindows

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.

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

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

## 7.10 Selecting actions for print, HTML, or MATHJAX output

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

For most of built-in LATEX 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`.
- ⚠ `nesting`

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.
- ⚠ `nesting`

Env `warpall`

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

---

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

---

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

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

`\warpprintonly`

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

- ⚠ `\end{warpMathJax}`
- ⚠ `nesting`

Env `warpsvg`

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

- ⚠ `\end{warpsvg}`
- ⚠ `nesting`

`\LWR@formatted` To define macros or environments which behave differently depending on print or HTML output, see section 36.

## 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. `l warp` 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`

⚠ `HTML corrupted`  
⚠ `newlines`

Avoid newlines in the `\title`; these will interfere with the file break and css detection. 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`

`{<author>}`

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

`\date`

`{<date>}`

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

\thanks

\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 etoolbox, xpars, 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 `embrace`, copy/paste “SMALL CAPS” as all caps (“SMALL CAPS”), which `lwarf` 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 `\empty` 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`  
`\hskip`

`\kern` and `\hskip` are entered into the HTML PDF output as-is, then interpreted by `pdftotext`, 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`  
`\vrule`

Both `\hrule` and `\vrule` are ignored for HTML. To create a horizontal dividing rule across the page, use `\rulefill` in its own paragraph.

`\rulefill`

`\rulefill` 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

[⟨left⟩] {⟨right⟩} \marginpar may contain paragraphs, but in order to remain inline with the surrounding text l 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.

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

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

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

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

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

**⚠ tabular, multicols** Inside a `tabular` or `multicols` environment, where the width depends on the browser window, `\minipagefullwidth` is effectively used by default for every `minipage` or `\parbox` inside the environment. `\UseMinipageWidths` may be used to tell `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 `multicols`, `\ linewidth` is divided by the specified number of columns.

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

### 8.3.4 Side-by-side minipages

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

### 8.3.5 Framed minipages and other environments

`\fbox` can only be used around inline `<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:

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 `LATEX` 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 671 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 259 for the `fancybox` package.

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

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

---

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

### 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`.

**⚠️ math** `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.

**⚠️ 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`

{*<macros>*}

⚠ **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 alphanumeric, hyphen, underscore, and perhaps the colon (if not French).

\nameref

`\nameref` refers to the most recently-used section where the `\label` was defined.

⚠ **empty link**

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 498.

### 8.5.2 cleveref and varioref packages

Pkg cleveref

Pkg varioref

**⚠ cleveref page numbers**

`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”.

Ex:

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

See `\cpagerefFor` at page 728 to redefine the message which is printed for page number references.

**⚠ varioref types**

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

### 8.5.3 Hyperlinks, hyperref, and url

Pkg hyperref

Pkg url

**⚠ comments between arguments**

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

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

`lwarf` can also load `url`, but `url` should not be used at the same time as `hyperref`, since they both define the `\url` command. `lwarf` 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, `lwarf`'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{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** **⚠ memoir** 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.

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+.}
```

**⚠ VerbatimFootnotes** **⚠ sectioning or displaymath**

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`

#### ⚠ `pfnote` numbers

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

### `bigfoot`, `manyfoot`

#### ⚠ `verbatim`

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

As a possible solution, try creating several new counters before defining `bigfoot` or `manyfoot` footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use X<sub>E</sub>L<sup>A</sup>T<sub>E</sub>X or L<sub>U</sub>aL<sup>A</sup>T<sub>E</sub>X instead of PDF L<sup>A</sup>T<sub>E</sub>X.

## 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 entry pointing to that page, the page will be inaccessible unless some other link is created.

#### ⚠️ inaccessible HTML page

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 `warpprint` 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

`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`.

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

[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`.

### 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

 **makeglossaries not found**

*lwarpmk* has the commands `lwarpmk printglossary` and `lwarpmk 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 `\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 105.

#### source code

See section 79 for lwarf's core index and glossary code, section 340 for `index`, section 571 for `splitidx`, section 338 for `imakeidx`, section 625 for `tocbibind`, and section 692.17 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.

*lwarpmk* will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk 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 <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, copy *gindex.ist* to a new file, modify, then specify it with *MakeindexStyle* as above. *lwarf* will automatically adapt to *gindex*'s *\indexpagesep* and *\indexrangesep* settings.

### 8.6.16 Indexing with index

Prog index

lwarf is told how to use *makeindex* 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.

#### For multiple indexes using *makeindex* and *index*:

```
(Assuming that the second index has file extensions .sist and .sind)
\usepackage[
    makeindex, latexmk,
    PrintIndexCmd={
        makeindex -s lwarf.ist <projectname>.idx ;
        makeindex -s lwarf.ist
        -o <projectname>.sind <projectname>.sidx
    },
    HTMLIndexCmd={
        makeindex -s lwarf.ist <projectname>_html.idx ;
        makeindex -s lwarf.ist
        -o <projectname>_html.sind <projectname>_html.sidx
    }
]{lwarf}
\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}
\newlabel{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 692.17 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 lwarf.ist
    },
    HTMLIndexCmd={
        splitindex <projectname>_html -- -s lwarf.ist
    }
]{lwarf}
\usepackage{splitidx}
...
\makeindex
\newindex[Second Index]{secondname}
```

When creating the HTML index, “`_html`” is automatically appended to each of the names.

Use

```
Enter ⇒ lwarfmk printindex
Enter ⇒ lwarfmk htmlindex
```

to compile the indexes.

#### For multiple indexes using `xindy` and `splitidx`:

```
\usepackage[
    xindy, latexmk,
    PrintIndexCmd={
        splitindex -m xindy <projectname> -- -M lwarf.xdy
        -L english -C utf8                                <optional>
    },
    HTMLIndexCmd={
        splitindex -m xindy <projectname>_html -- -M
        lwarf.xdy
        -L english -C utf8                                <optional>
    }
]{lwarf}
\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 lwarf's special `lwarf.ist` or `lwarf.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 lwarf's `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options. These are passed to *latexmk* by lwarf's **lwarpmk printindex** and **lwarpmk htmlindex** commands.

Where shell escape and *latexmk* are not possible, *lwarpmk* may be used to manually compile the indexes. lwarf's `PrintIndexCmd` and `HTMLIndexCmd` options are used.

#### For a single or multiple indexes using *makeindex* and *imakeidx*:

The index style `lwarf.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]{imakeidx}
...
\makeindex[options={-s lwarf.ist}]
\makeindex[name=secondname,options={-s lwarf.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 `lwarf.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 **lwarfmk print** and **lwarfmk html** are executed.

**For indexes using *xindy* and *imakeidx*, without shell escape, and without *latexmk*:**

*lwarfmk* 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 ⇒ lwarfmk printindex
Enter ⇒ lwarfmk 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  
] {lwarf}  
\usepackage[makeindex,splitindex]{imakeidx}  
...  
\makeindex[%  
    options={ -s lwarf.ist} }  
]  
\makeindex[  
    name=secondname,  
    options={ -s lwarf.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*. *lwarf* 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]{lwarf}  
...  
\makeindex
```

The usual .idx and .ind files will be used, along with the *lwarf.ist* 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.

#### For multiple indexes with memoir and makeindex, using latexmk:

*lwarf*'s options are used, and are passed to *latexmk*.

```
\documentclass{memoir}  
\usepackage[makeindex,latexmk]{lwarf}  
...  
\makeindex  
\makeindex[secondname]
```

*lwarfmk* will use *latexmk* to create the indexes automatically when the user executes **lwarfmk print** and **lwarfmk html**.

**For multiple indexes with memoir and *makeindex*, without *latexmk*:**

*lwarpmk* must be told how to create the indexes:

```
\documentclass{memoir}
\usepackage[
    makeindex,
    PrintIndexCmd={
        makeindex -s lwarf.ist <projectname>.idx ;
        makeindex -s lwarf.ist secondname.idx
    },
    HTMLIndexCmd={
        makeindex -s lwarf.ist <projectname>_html.idx ;
        makeindex -s lwarf.ist secondname_html.idx
    }
]{lwarf}
...
\makeindex
\makeindex[secondname]
```

 **WINDOWS**

For Windows, replace the two “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name\_html.idx.

Use

```
Enter ⇒ lwarpmk printindex
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

**For a single index with memoir and *xindy*:**

```
\documentclass{memoir}
\usepackage[
    xindy,
    xindyLanguage=english,                                <optional>
    xindyCodepage=utf8,                                 <optional>
    latexmk                                         <optional>
]{lwarf}
...
\xindyindex
\makeindex
```

The usual .idx and .ind files will be used, along with the lwarf.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*:**

*lwarf*'s options are used, and are passed to *latexmk*.

```
\documentclass{memoir}
\usepackage[
    xindy,
    xindyLanguage=english, <optional>
    xindyCodepage=utf8, <optional>
    latexmk
]{lwarf}
...
\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 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}
...
\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
File  lwarf.ist
```

When using *makeindex*, *lwarpmk* uses the file *lwarf.ist* to process the index. This file is over-written by *lwarf* whenever a print version of the document is processed.

To use a custom *makeindex* style file:

1. Copy `lwarf.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.

4. In the document source use the `makeindexStyle` option for `lwarf`:

```
\usepackage[
    ... other options ...
    makeindex,
    makeindexStyle=projectname.ist,
]{lwarf}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarf` to rewrite the `lwarfpmk.conf` configuration file. This tells `lwarfpmk` to use the custom `projectname.ist` file instead of `lwarf.ist`.

### 8.6.21 Using a custom *xindy* style file

When using *xindy*, `lwarfpmk` uses the file `lwarf.xdy` to process the index. This file is over-written by `lwarf` whenever a print version of the document is processed.

To use a custom *xindy* style file:

1. Copy `lwarf.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 `lwarf`:

```
\usepackage[
    ... other options ...
    xindy,
    xindyStyle=projectname.xdy,
]{lwarf}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarf` to rewrite the `lwarfpmk.conf` configuration file. This tells `lwarfpmk` to use the custom `projectname.xdy` file instead of `lwarf.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 `lwarf`:

```
\usepackage[
    ... other options ...
    xindex,
    xindexConfig=projectname, % (without xindex- or .lua)
]{lwarf}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarf` to rewrite the `lwarfpmk.conf` configuration file. This tells `lwarfpmk` 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 *l warp* is loaded:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
...
\usepackage{l warp}
```

***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 *l warp.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 numbered index section** Use the `tocbibind numindex` option to generate a numbered index. Without this option, the index heading has no number.

Other packages, such as `imakeidx`, may also have options for including the index in the Table of Contents.

**Pkg tocloft**

**⚠️ 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 L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.

## 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 inline 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 T<sub>E</sub>X boxes** SVG math does not work inside T<sub>E</sub>X 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.

When MATHJAX is enabled, math is rendered twice:

---

<sup>14</sup>See section 677 regarding fonts and fractions.

1. As regular L<sup>A</sup>T<sub>E</sub>X PDF output placed inside an HTML comment, allowing equation numbering and cross referencing to be almost entirely under the control of L<sup>A</sup>T<sub>E</sub>X, and
2. As detokenized printed L<sup>A</sup>T<sub>E</sub>X 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 L<sup>A</sup>T<sub>E</sub>X values, and the MATHJAX equation numbering system is ignored in favor of the L<sup>A</sup>T<sub>E</sub>X internal system, seamlessly integrating with the rest of the HTML output, including any math appearing in non-MATHJAX SVG output.

### 8.7.5 MATHJAX rendering options

 fonts

MATHJAX v3 may render using CHTML or SVG. SVG display renders italic characters correctly. To select SVG rendering, right-click on some math, and select

**Math Settings → Math Renderer → SVG**

Wait a moment for the math to rerender.

### 8.7.6 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` sub-equation 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.

`l warp` 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 `l warp` definition for `\DeclarePairedDelimiterX`, in section 399, `mathtools`.

**local customizations** For customizations local to the current HTML page only, macros may be defined as follows:

```
\begin{warpMathJax}
\(\newcommand{\macroname}{...} \)
\(\newcommand{\anothername}{...} \)
\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\nstarredaction
% (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.

### 8.7.7 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 8.7.14.

physics

- For physics, see [physics package](#), section 8.7.16.

tabbing

- A tabbing environment is emulated using an HTML <pre>. While MATHJAX is enabled inside tabbing, the browser may not correctly render the horizontal alignment of the math and text following after on the same line.

\text

- MATHJAX includes the *textmacros* extension, which supports various macros which are commonly used inside \text, such as \textbf and text accents. Lwarp supports this extension.

⚠ Unicode

- If using DVI LATEX or PDF LATEX, unicode input may not appear correctly in MATHJAX. Either use XELATEX or LuaLATEX, or replace Unicode special characters such as

```
\text{special character æ}
```

with their special macros, such as

```
\text{special character \ae}
```

⚠ other macros and packages

- Many other math-related macros and packages are not directly supported by MATHJAX, including \ensuremath and occasionally-used macros such as \relax. While using MATHJAX, 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.

### 8.7.8 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{\dots}
\StopDefiningMath
```

As an alternative, use \(\) 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.

### 8.7.9 Complicated inline math objects

\inlinemathnormal  
\inlinemathother

changing contents  
complicated alt tag

MATHJAX limitations

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 another problem is math packages which are only partially emulated in MATHJAX. The macro \inlinemathother may be used before a sequence of dynamic or complicated math expressions, and \inlinemathnormal after. Doing so tells l warp to use unhashed SVG math images for those particular expressins, even if MATHJAX is otherwise in use. See section 44.

### 8.7.10 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.

### 8.7.11 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}{
    \crefname{Proof}{Proof}{Proofs}
  }{}
}
```

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

### 8.7.12 ntheorem package

Pkg ntheorem

⚠ **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  $\mathcal{M}$ S environments when the option `thref` is used. l warp does not share this bug, so equations with `\split`, etc, are numbered correctly with l warp's HTML output, but not with the print output. It is recommended to use `cleveref` instead of ntheorem's `thref` option.

### 8.7.13 mathtools package

Pkg mathtools

⚠ **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.
- `alignat` in MATHJAX requires math mode, but in L<sup>A</sup>T<sub>E</sub>X 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}`.

### 8.7.14 siunitx package

Pkg siunitx

siunitx is well supported by l warp.

**Limitations** Some general limitations:

**fractions**

Due to `pdftotext` limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

`\cancel` is not currently supported for siunitx v3.

Negative values are not automatically colored.

⚠ **tabular**

Tabular S and s columns are rendered as simple c columns, although key settings will be set. If using scientific notation, `table-format`, `table-align-uncertainty`, `drop-exponent`, etc.. use `\tablenum` for each cell. This is especially required for `drop-exponent`, without which the value will be shown incorrectly.

⚠ **drop-exponent**

⚠ **table-auto-round** `table-auto-round` is ignored.

**Math rendering** Math may be rendered in several ways in the same document:

**For math mode with svg display:** The original siunitx code is used while generating the SVG image.

**For HTML text mode:** lwarf uses siunitx code patched for HTML, and simplified units.

**For math expressions while using MATHJAX:** A limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. The result usually looks fine, and otherwise is enough to get the meaning across.

**Custom units** siunitx allows customized units:

`\DeclareSIUnit {name} {definition}`

`\DeclareSIUnit` declares a version of the unit for the print version. This is also used when the unit is printed in SVG math or a `lateximage`. It is also used for HTML if an HTML-specific version is not defined with `\HTMLDeclareSIUnit`.

`\DeclareSIUnit\myunit{\ensuremath{\text{m}}_y}`

`\HTMLDeclareSIUnit {name} {definition}`

⚠ v3 only! Use this after the print unit has been defined. For siunitx v3, `\HTMLDeclareSIUnit` declares a simplified version of the unit for HTML, for example if the print-mode unit uses TeX boxes or `\ensuremath`:

`\HTMLDeclareSIUnit\myunit{\text{m}\textsubscript{y}}`

It is also possible to provide a custom unit for MATHJAX:

`\CustomizeMathJax{\newcommand{\myunit}{\text{m}_y}}`

**Predefined units** Most units work as-is with HTML. For the following units, lwarf has already set `\HTMLDeclareSIUnit`: `\celsius`, `\arcminute`, `\arcsecond`, `\elementarycharge`, `\clight`, `\bohr`, `\electronmass`, `\hartree`, `\planckbar`.

⚠ MathJax

### Document modifications required for MATHJAX

⚠ \sisetup

- Place `\sisetup` in the preamble before `\begin{document}`. Changes made later may be ignored, especially with MATHJAX. The MATHJAX emulation also ignores most macro options.

⚠ complex numbers

- Complex numbers are displayed as entered, ignoring `output-complex-root`.

custom units

- Custom units may be added with `\CustomizeMathJax`. For example, from `lwarf-common-mathjax-siunitx`:

```
\CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_{\mathrm{h}}}}
\CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\AA}}}
```

⚠ unit spacing

- Units work better using `~` between units instead of using periods.

Table 9: `\includegraphics` and file names

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

<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.**⚠ \square, \cubic**

- To square or cube compound units, enclose the following compound units in braces:

`\cubic{\centi\meter}`

Single units do not require braces.

- For `\numlist`, the argument is printed as text as-is, so use space between semicolons for improved readability.
- If using `parse-numbers = false`, also use `\num` or `\qty`. `siunitx=siunitx>Missing $ inserted`.

Also see [MATHJAX option](#), section 8.7.4.**8.7.15 units and nicefrac packages**

```
Pkg  units
Pkg  nicefrac
```

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

**8.7.16 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
      file extensions
```

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

 case sensitive

SVG file for HTML, for example. If no extension is given, the automatic search will only return lowercase extensions, even if the filename actually has an uppercase extension, and l warp cannot get around this problem, so image file extensions must be lowercase to be seen by the HTML browser with l warp. For example, name the image file image.pdf instead of image.PDF, but refer to it in the source as image, without an extension. For images which may be used as-is with either print or HTML, such as JPG or PNG, you may use a capitalized extension if it is specified in the source, such as image.JPG.

\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

To convert a PDF image to SVG, use the utility *pdftocairo*:

Enter ⇒ **pdftocairo -svg filename.pdf**

Prog l warpmk pdftosvg

For a large number of images, use *l warpmk*:

Enter ⇒ **l warpmk pdftosvg \*.pdf (or a list of filenames)**

Prog l warpmk epstopdf

For EPS images converted to PDF using the package *epstopdf*, use

Enter ⇒ **l warpmk pdftosvg \*.PDF**

to convert to SVG images.

DVI LATEX When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

Enter ⇒ **l warpmk epstopdf \*.eps (or a list of filenames)**

Enter ⇒ **l warpmk pdftosvg \*.pdf (or a list of filenames)**

PNG and JPG

For PNG or JPG while using *pdflatex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

GIF GIF files may be used for HTML, but another format must also be provided for print output.

file extension priorities

If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

A complication occurs if a file of the same name exists elsewhere in the TEX tree, such as a test image from some LATEX package. TEX looks in the local document directory before considering the directories specified by \graphicspath, but the TEX tree is found as “local”, so any file in the tree is found before the directories

duplicate files

 image not displayed

in `\graphicspath`. To use such an image, it must be copied to the document's directory to be used for HTML, and furthermore must be in the document's base directory instead of an images subdirectory.

- ⚠️ `graphics` vs. `graphicx`** If using the older `graphics` syntax, use both optional arguments for `\includegraphics`. A single optional parameter is interpreted as the newer `graphicx` syntax. Note that viewports are not supported by `l warp`—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. (`alt` has recently been incorporated into `graphicx` itself.)
- 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.

### 8.8.1 tikz package

- Pkg `tikz`**
- ⚠️ `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 \&.

### 8.8.2 grffile package

- Pkg `grffile`** `grffile` is supported as-is. File types known to the browser are displayed, and

unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.

### 8.8.3 color package

Pkg color  
color is superceded by xcolor, and lwarf requires several of the features of xcolor. When color is requested, xcolor is loaded as well.

### 8.8.4 xcolor package

Pkg xcolor  
**\colorboxBlock and \fcolorboxBlock**  
 \colorboxBlock and \fcolorboxBlock are provided for increased HTML compatibility, and they are identical to \colorbox and \fcolorbox in print mode. In HTML mode they place their contents into a <div> instead of a <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  
**⚠ use pspicture** All pstricks content should be contained inside a pspicture environment.

### 8.8.7 pdftricks package

Pkg pdftricks  
**⚠ 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 ⇒ **lwarfmk pdftosvg <jobname>-fig\*.pdf**

### 8.8.8 psfrag package

Pkg psfrag

 use psfrags

The `psfrags` environment is modified to use `\latextimage` 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.

### 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 l images`

### 8.8.10 asymptote package

Pkg asymptote

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 l images
```

### 8.8.11 overpic package

Pkg overpic

 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.

### 8.8.12 Multimedia packages

Pkg multimedia

The packages **multimedia**, **movie15**, and **media9** are supported.

Pkg movie15

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

Pkg media9

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For **media9**, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the `poster` text, except for `<embed>` objects. For **movie15**, the `text` option is supported to specify the `poster` text.

The `width`, `height`, and `totalheight` options are supported. The `HTML` object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

**media9** `\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.

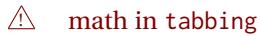
`\hyperlink{movie}`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YouTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

## 8.9 Tabbing

The tabbing environment works, except that `svg` math and `lateximage` 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.

## 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
```

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}
{
  \begin{tabular}{cc}
    left & right \\
  }
  {
    \TabularMacro\ResumeTabular
    left & right \\
    \end{tabular}
  }
\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@subsomename}[2]{%
  ...
  \otherenvironmentname [args] {args} % for
example
}
% Change catcode before absorbing arguments:
\newcommand*{\LWR@HTML@somename}{%
  \StartDefiningTabulars
  \LWR@HTML@subsomename
}
% Change catcode again at the end:
\newcommand*{\LWR@HTML@endsomename}{%
  ...
  \endotherenvironmentname % for example
  \StopDefiningTabulars
}
% Combine with the existing print definition:
\LWR@formattedenv{somename}
```

**Cell contents:****⚠ macro in a table**

- Using a custom macro inside a tabular data cell may result in an extra HTML data cell tag, corrupting the HTML table. To avoid this, use \TabularMacro just before the macro. This is ignored in print mode.  
`\TabularMacro\somemacro & more row contents \\`

**Column specifiers:****⚠ math**

- Due to the way math is gathered for processing, column specifiers such as `>{$}c<{$}` do not work with l warp. Instead, each cell must specify math mode individually.

**@ and !**

- Only one each of @ and ! is used at each column, and they are used in that order.

**\multirow**

- In \multirow cells, the print version may have extra instances of <, >, @, and ! cells on the second and later rows in the \multirow which do not appear in the HTML version.

**⚠ \newcolumntype**

- If \newcolumntype does not work for HTML, add a simplified column type using \HTMLnewcolumntype.

**font and alignment**

- l warp detects each of the following, and sets HTML CSS appropriately:
`>{\centering\arraybackslash}
>{\raggedright\arraybackslash}
>{\raggedleft\arraybackslash}
>{\itshape}
>{\bfseries}
>{\bfseries\itshape}`

These may be used with \newcolumntype, such as:

```
\newcolumntype{P}[1]{>{\centering\arraybackslash}p[#1]}
```

**Rules:****vertical rules**

- Doubled \hlines, \midrules, and vertical rules are supported.
- Vertical rules next to either side of an @ or ! column are displayed on both sides of the column.

**width and trim**

- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with @ or ! columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.

**combined rules**

- If you wish to use \cmidrule followed by \bottomrule, it may be necessary to use:

```
\cmidrule{2-3} \\[-2ex]
\bottomrule
```

The optional -2ex is ignored in HTML, but improves the visual formatting in the print output.

- For \toprule and \bottomrule, when combined with a warpprint or warpHTML environment, if a “Misplaced \noalign” error occurs, change

This & That \endhead

to

\warpprionly{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 \warpprionly{}.

**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 l warp’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:

```
\warpprionly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\
\warpHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\}
```

- In LATEX, 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 \warpprionly 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 429.2 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}{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 threeparttable.)

```
\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, l warp 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:

```
\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/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

 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 |
| c      | d |   |
| left { | e | f |
|        | g | h |
| <->    | i | j |

---

For MATHJAX, limited emulation is provided which merely prints the delimiter and optional text in the first row.

## 8.11 Floats

### 8.11.1 Float contents alignment

 figure & table alignment

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

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

### 8.11.2 float, trivfloat, and/or algorithmicx together

Pkg float

If using \newfloat, trivfloat, and/or algorithmicx together, see section 636.1.

Pkg trivfloat

### 8.11.3 caption and subcaption packages

Pkg algorithmicx

 package conflicts

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

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

```
\usepackage[font={it,small}]{caption}% does not work
```

... try instead selecting the package options before loading lwarp:

---

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

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

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

 **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.

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 after-

wards; 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**

`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 692.1). 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 `lwarfmk`. The `glossaries` package may be used instead, but does require the glossary entries be changed from the `memoir` syntax to the `glossaries` syntax.

 **framewithtitle, titledframe** The custom frame commands in the `memoir` manual may be emulated by placing the original definitions in the preamble inside `warpprint` environments, and then providing an `HTML` equivalent:

```
\begin{warpprintHTML}
\newcommand{\FrameTitle}[2]{%
    \textbf{\#2}
}

\newenvironment{framewithtitle}[2][\FrameFirst@Lab\ (cont.)]{%
    \begin{minipage}{\linewidth}
        \textbf{\#2}
        \begin{minipage}{\linewidth}
}
{\end{minipage}\end{minipage}%

\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
Cls  memoir
\attrib
```

When using *verse* or *memoir*, always place a `\\"` after each line.

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
Len  \vleftmargini
Len  \HTMLvleftskip
Len  \HTMLleftmargini
```

These lengths are used by *verse* and *memoir* to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLvleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any *verse* environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

⚠ **spacing**

Horizontal spacing relies on *pdftotext*'s ability to discern the layout (-layout option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLvleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdftotext* to shift everything over.

⚠ **verse margin**

### 8.15.2 newclude package

```
Pkg  newclude
```

*newclude* modifies `\label` in a non-adaptive way, so *newclude* must be loaded

**⚠ loading**

before l warp is loaded:

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

**8.15.3 babel package**

Pkg babel  
⚠ \CaptionSeparator

When French is used, the caption separator is changed to a dash. To restore it to a colon, the following may be placed before l warp is loaded:

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

**punctuation spaces**

Also when French is used, l warp 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

l warp 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 l warp.

**8.15.5 todonotes and luatodonotes packages**

Pkg todonotes  
Pkg luatodonotes

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

External layouts (\fxloadlayouts) are not supported.

Customized layouts are overwritten by l warp's versions \AtBeginDocument in order to provide the HTML conversion. If creating a new layout, see l warp'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 410.

### 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

*lwarf* 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 *lwarf* options, the commands ***lwarpmk print*** and ***lwarpmk html*** are automatically set up to correctly recompile the project. These actions may be overridden using *lwarf* options, thus allowing the use of packages such as *perltx* and *pythontex*.

### 9.1 Command options

Opt PrintLatexCmd  
Opt HTMLLatexCmd

The ***lwarf*** 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 ***lwarf*** 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 *lwarf*:

---

```
\usepackage{kvoptions-patch}
\usepackage[
    PrintLatexCmd={ ... } ,
    HTMLLatexCmd={ ... }
]{lwarf}
```

---

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 \lwarfsetup must be used to set PrintLatexCmd and HTMLLatexCmd:

---

```
\usepackage[...]{lwarf}
\lwarfsetup{
    PrintLatexCmd=
    {
        latex tm \LWRopseq
        dvips -o tm-pics.ps tm.dvi \LWRopseq
        ps2pdf -dALLOWPSTRANSPARENCY tm-pics.ps \LWRopseq
        pdflatex tm.tex
    } ,
    HTMLLatexCmd=
    {
        latex tm_html \LWRopseq
        dvips -o tm_html-pics.ps tm_html.dvi \LWRopseq
        ps2pdf -dALLOWPSTRANSPARENCY tm_html-pics.ps \LWRopseq
        pdflatex tm_html.tex
    }
}
```

---

### 9.3 *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

**lwarfmk pdftohtml project\_html.pdf** would take *project\_html.pdf* and convert it to *project.html*.

*latexmk* may simplify the use of packages such as *sagetex*.

## 9.4 perltex package

Pkg perl~~tex~~

The l warp package option settings to use perl~~tex~~ would be similar to:

```
\usepackage[
  ...
  PrintLatexCmd={perltex -latex=pdflatex project.tex} ,
  HTMLLatexCmd={perltex -latex=pdflatex project_html.tex} ,
  ...
]{l warp}
```

⚠ “impure” math Place perl~~tex~~ math expressions between \displaymathother and \displaymathnormal, or \inlinemathother and \inlinemathnormal. See section 8.7.10.

## 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.

⚠ HTML look-alike

## 9.6 sympytex package

Pkg sympy~~tex~~

For sympy~~tex~~:

```
\usepackage[
    ...
    PrintLatexCmd={
        pdflatex project.tex \LWRopseq
        python project.sympy \LWRopseq
        pdflatex project.tex
    } ,
    HTMLLatexCmd={
        pdflatex project_html.tex \LWRopseq
        python project_html.sympy \LWRopseq
        pdflatex project_html.tex
    } ,
    ...
]{}{lwarp}
```

Also see the warnings for `pythontex`, above.

## 9.7 Other packages

Pkg rterface

Other packages such as `rterface` would be set up similar to `pythontex`, and the same warnings would apply.

## 9.8 make program

Prog make

To use `lwarp` with the `make` program, have the `makefile` take `project.tex` and generate the print version `project.pdf`, as normal. `\usepackage{lwarp}` must be used, and it generates `lwarpmk.conf` when the print version is created.

To generate HTML, first have `project_html.tex` be compiled to generate `project_html.pdf`. This must be in PDF format. Finally, have `project_html.pdf` be converted to HTML using `lwarpmk pdftohtml project_html.pdf`, and convert SVG math with `lwarpmk limages`.

## 9.9 UTF-8 locale

### ⚠ UTF-8 locale

`lwarpmk` uses the `texlua` program, which sets the “locale” to “C”, including for external operating-system calls such as when executing `lwarpmk html`. In some cases, an external program called from the user’s document may require the use of a UTF-8 “locale”. For UNIX-related operating systems, it may be required to use `lwarp`’s custom compilation options to add a locale change:

```
\usepackage{lwarp}[
    PrintLatexCmd={
        env LC_CTYPE=en_US.UTF-8
        xelatex -shell-escape project.tex
    }
    HTMLLatexCmd={
        env LC_CTYPE=en_US.UTF-8
        xelatex -shell-escape project_html.tex
    }
]
```

Pkg ditaa

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

## 10 EPUB conversion

lwarf does not produce EPUB documents, but it may be told to modify its HTML output to greatly assist in the conversion. An external program may then be used to finish the conversion to EPUB.

`<meta> author` To assign the author's name for regular lwarf HTML files, and also for the EPUB, use \HTMLAuthor {*name*}. This assigns the name to the `<meta> author` element. It may be set empty, and it defaults to \theauthor.

A special boolean is provided to simplify the process of converting lwarf HTML output to EPUB:

### FormatEPUB

---

Bool FormatEPUB

Default: false

FormatEPUB changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section.

---

To help convert lwarf HTML output to EPUB, add

```
\booltrue{FormatEPUB}
```

to the project's source preamble after \usepackage{lwarf}. The EPUB version of the document cannot co-exist with the regular HTML version, so

```
Enter ⇒ lwarfmk cleanall
```

```
Enter ⇒ lwarfmk html
```

```
Enter ⇒ lwarfmk limages
```

to recompile with the FormatEPUB boolean turned on. Several changes are then made to the HTML output:

- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.

The resulting files will be ready to be loaded into an EPUB conversion program, such as the open-source program *Calibre* (<https://calibre-ebook.com/>).

 **search order** The EPUB conversion program must know what order the files are included. For lwarf projects, set the EPUB conversion software to do a breadth-first search of the files. For *Calibre*, this option is found in

**Preferences → Plugins → File type plugins → HTML to Zip**

 **encoding** Check the box Add linked files in breadth first order. Set the document encoding as utf-8, which is what lwarf generates for HTML, even if the original printed document uses some other encoding.

 **section breaks** The EPUB-conversion program must also know where the section breaks are located. For a list of lwarf's section headings, see table 12. For example, an article class document would break at \section, which is mapped to HTML heading level

<h4>, whereas a book class document would break at \chapter, which is HTML heading level <h3>. For *Calibre*, this option is found in

**Preferences → Conversion (Common Options) → Structure Detection → Detect chapters at (XPath expression)**

Select the “magic wand” to the right of this entry box, and set the first entry

**Match HTML tags with tag name:**

to “h4”. (Or “h3” for document classes with \chapters.) The Detect chapters at field should then show

**//h:h4 — or — //h:h3**

This option is also available on the main tool bar at the Convert books button.

Once these settings have been made, the lwarf-generated HTML files may be loaded by *Calibre*, and then converted to an EPUB.

---

#### *MathJax support*

---

MATHJAX may be used in EPUB documents. Some e-readers include MATHJAX, but any given reader may or may not have a recent version, and may or may not include extensions such as support for siunitx.

lwarf adds some modifications to MathML to support equations numbered by chapter. These modifications may not be compatible with the e-reader’s version of MATHJAX, so lwarf requests that a known version be loaded instead. In some cases chapter numbering of equations still doesn’t work.

Until math support in EPUB documents is improved, it is recommended to use SVG images instead of MATHJAX, especially for equations numbered by chapter, or where siunitx support is important.

---

## 11 Word-processor conversion

lwarf may be told to modify its HTML output to make it easier to import the HTML document into a word processor. At the time of this writing, it seems that LibreOffice works best at preserving table layout, but it still has some limitations, such as an inability to automatically assign figure and table frames and captions according to user-selected HTML classes. lwarf provides some assistance in locating these frame boundaries, as shown below.

### 11.1 Activating word-processor conversion

A special boolean is provided to simplify the process of converting lwarf HTML output to EPUB:

#### FormatWP

Bool FormatWP

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 L<sup>A</sup>T<sub>E</sub>X and T<sub>E</sub>X 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 L<sup>A</sup>T<sub>E</sub>X 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

---

Bool WPMarkMath

Default: false

siunitx

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.

---

### 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**.

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 199.

See table 11 on page 183.

### 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 lwarf 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`.

L<sup>I</sup>BREOFFICE 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

|                            |  |
|----------------------------|--|
| <b>locating something</b>  | To quickly find the source for a package in <code>lwarp.dtx</code> , search for <code>*packagename</code> , such as <code>*siunitx</code> .<br><br>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 <b>HTML</b> .<br><br>Look to existing code for ideas on how to expand into new code.   |
| <b>image of TeX output</b> | An environment may be converted to a <code>\teximage</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.   |
| <b>css classes</b>         | To create a custom <b>HTML</b> block or inline <b>css class</b> , see section 52.10.   |
| <b>print/HTML macros</b>   | To create print and <b>HTML</b> versions of the same macro or environment, see section 36.   |
| <b>⚠ TeX boxes</b>         | Any TeX boxes must be undone, as <b>SVG</b> math or <code>\teximages</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 -- gind.ist
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
makeindex -s gglo.ist -o lwarp.gls lwarp.glo <indexes>
splitindex lwarp.idx -- 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 -- 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 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.

When creating `HTML`, `lwarp` redefines the `\usepackage` and `\RequirePackage` macros such that it first looks to see if a `lwarp-<packagename>.sty` version exists. If so, the `lwarp` version is used instead. This modular system allows users to create their own versions of packages for `lwarp` to use for `HTML`, simply by creating a new package with a `lwarp-` 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 `lwarp`-packages where T<sub>E</sub>X can see it, then the user's new package will be seen by any documents using `lwarp`. (Remember `mktexlsr` or `texhash`.)

An `lwarp-<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 `lwarp-` packages for examples.

Anything the user might expect of the original package must be replaced or emulated by the new `lwarp-` 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 `lwarp-*` package should first call either of:

```
\LWR@ProvidesPackageDrop
— or —
\LWR@ProvidesPackagePass
```

If “Drop”ped, the original print-version package is ignored, and only the `lwarp`-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 `lwarp`- version continues loading as well. See section 457 (`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 `lwarp`-version.

### 12.2.1 Adding a package to the `lwarp.dtx` file

When adding a package to `lwarp.dtx` for permanent including in `lwarp`, provide the `lwarp-<packagename>` code in `lwarp.dtx`, add its entry into `lwarp.ins`, and also remember to add

```
\LWR@loadafter{<packagename>}
```

to `lwarp.dtx` in section 20.1. This causes `lwarp` to stop with an error if `packagename` is loaded before `lwarp`. Finally, add an entry in table 2, **Supported packages and features**, and also the Updates section.

### 12.3 Modifying a class for `lwarp`

If a class loads additional packages, it will be required to modify the class for `lwarp`, since `lwarp` must be loaded before most other packages.

To work with `lwarp`, a class must first set up anything which replicates the functions of the basic L<sup>A</sup>T<sub>E</sub>X classes, load any required fonts, then load `lwarp`, then finally load and adjust any other required packages.

### 12.4 Testing `lwarp`

Compiling `lwarp.ins` generates all the `*.sty` files for `lwarp`. It can be useful to create additional `*.ins` files to be able to recompile only the pieces which have changed.

- compiling individual packages** For example, to be able to recompile the `lwarp` core alone, copy `lwarp.ins` to `core.ins`, then modify `core.ins` to only compile:

File `core.ins`

```
\generate{
  \file{lwarp.sty}{\from{lwarp.dtx}{package}}
}
```

For individual packages, create `packagename.ins`, set to compile only:

```
\generate{
  \file{lwarp-packagename.sty}{\from{lwarp.dtx}{packagename}}
}
```

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.

- compiling css and other generated files** 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 -or- pdflatex core.ins`
3. `pdflatex lwarp.dtx`
4. If modifying `lwarpmk` the new version should now be active.
5. If modifying css files or other files generated by `lwarp`:
  - (a) For the document, `lwarpmk print` 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 lwarp package error conditions and warnings

lwarp 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 `lwarp`. So far only Unix and Windows are supported.

**Incorrect delimiter characters.** Older versions of `lwarpmk` used a different delimiter.

**Source name is set to lwarp:** `lwarp` has recently been recompiled in this directory, which overwrote the project's configuration files. This also occurs if `lwarpmk` is executed in `lwarp`'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:** `lwarp` 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:** `lwarp` 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, X<sup>H</sup>L<sup>A</sup>T<sub>E</sub>X, L<sup>A</sup>TeX, 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. Re-compile.

`lwarpmk epstopdf *` or `lwarpmk pdftosvg *`: Errors if filenames are not found.

### 13.1.3 Default bitmapped font

lwarf requires the use of a vector font. If lwarf 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 lwarf:** Some packages and classes must be loaded before lwarf. These include input and font encoding, morewrites and newclude, and a number of CJK-related packages and classes.

**Loaded after lwarf:** Most packages which are modified by lwarf must be loaded after lwarf.

**Loaded never:** Some packages do not work with lwarf. 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:** lwarf tries to patch some packages using xpatch. If the original package has been updated more recently than lwarf, a patch may not work. It may be necessary to use an older version of the package until lwarf is updated.

**longtable:** lwarf'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 languages 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:** lwarf 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** **Multirow:** When \multirow or \multicolrow 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 l warp 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 >.

 **dotlessj** **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 l warp 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{l warp}, 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 `\@flextyp` or `\@sectontyp` definition. See lwarf’s definitions for examples.

**“Improper \prevdepth”:** lateximages and SVG math require `\newpage`, which cannot work inside TeX boxes or `\ensuremath`. Anything using `\newsavebox`, `\newbox`, `\lrbox`, `\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.

`LWR@texboxdepth`

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 lwarf 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`.

**“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.

**“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.

**Complicated objects inside math:** Some objects, such as Tikz, may not compile in lwarf’s normal math emulation. Insert

⚠️ macros in section, table,  
figure names

⚠️ BibTeX

⚠️ polyglossia

⚠️ custom macros for  
environments

⚠️ `\LWR@formatted`

⚠️ quote character

⚠️ “impure” math objects

---

\displaymathother — or — \inlinemathother  
before the math, and then  
\\displaymathnormal — or — \inlinemathnormal  
when displaying “normal” math. See section 8.7.10.

**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 8.7.10.

**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”.

Ex:

```
\cpageref{tab:first,tab:second}
in html becomes:
```

“pages for table 4.1 and for table 4.2”

See \cpagerefFor at page 728 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>E</sub>L<sub>A</sub>T<sub>E</sub>X or L<sub>A</sub>U<sub>A</sub>L<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:**

- When images are added or removed, Enter **lwarpmk limages** to refresh the `\image` images.

**SVG images:****⚠️ adding/removing**

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

**recompile first**

Before attempting to create the SVG image files, *lwarpmk* verifies that the HTML version of the document exists and has correct internal image references.<sup>16</sup> If it is necessary to recompile the document’s HTML version one more time, *lwarpmk* usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the LATEX recompile warnings.

**⚠️ HTML instead of images**

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

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

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

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

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

**Plain-looking document:**

- The document’s css stylesheet may not be available, or may be linked incorrectly. Verify any `\CSSfilename` statements point to a valid css file.

**⚠️ HTML corrupted****Broken fragments of HTML:**

- Check the PDF file used to create HTML to see if the tags overflowed the margin. (This is why such large page size and margins are used.)

**Changes do not seem to be taking effect:**


---

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

- 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**

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

Place \tracinglwarp just after \usepackage{lwarp} to activate tracing.

**13.3 Compiling the lwarp.dtx file**

**lwarp\_tutorial.tex:** Copy or link `lwarp_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 lwarp.sty file:**

1. Delete the `lwarp.sty` file.
2. Enter `pdflatex lwarp.ins` to generate a new `lwarp.sty` file.
3. Enter `pdflatex lwarp.dtx` to recompile the `lwarp.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}`

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File 1 **lwarf.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 erude-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 `\textrimage` environment to preserve the graphics.

Testing has primarily been done with the Iceweasel/Firefox browser.

Table 12: Section depths and HTML headings

| Section                     | LATEX 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 183.

## 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. These are often the targets of index entries.

Prog Lwarf 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

**index entries** are command macros. Each of these also appears in the index as individual entries, and are also listed together under “files”, “packages”, “environments”, “booleans”, and “counters”.

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

**for HTML output:** Green-colored tags in the left margin show which sections of source code apply to the generation of HTML, print, or both forms of output.

**for HTML & PRINT:**

## 18 Detecting the **TEX** engine — ***p**dflat**e**x, **l**ualat**e**x, **x**elat**e**x*

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

Detects X<sub>E</sub>TEX and LuaLATEX:

```
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.

```
16 \RequirePackage{etoolbox}[2011/01/03] % v2.6 for \BeforeBeginEnvironment, etc.
```

Patch to fix copy of environment with a \par:

<https://github.com/josephwright/etoolbox/issues/35>

```
17 \long\def\etb@carsquare#1#2#3\@nil{#1#2}
```

Pkg xpatch

Patches macros with optional arguments.

```
18 \RequirePackage{xpatch}
```

Pkg ifplatform

Provides \ifwindows to try to automatically detect WINDOWS OS.

```
19 \RequirePackage{ifplatform} % sense op-system platform
```

Pkg letltxmacro

```
20 \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 `l warp` 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 `l warp`.

## 20.1 Tests of package load order

`\LWR@loadafter {<packagename>}` Error if this package was loaded before `l warp`.

```

21 \newcommand*{\LWR@loadafter}[1]{%
22 \IfPackageLoadedTF{#1}{%
23 {%
24     \PackageError{l warp}%
25     {%
26         Package #1,\MessageBreak
27         or one which uses #1,\MessageBreak
28         must be loaded after L warp.\MessageBreak
29         Enter 'H' for possible solutions%
30     }%
31     {%
32         Move ``\protect\usepackage{#1}'' after
33         ``\protect\usepackage{l warp}''.\MessageBreak
34         Package #1 may also be loaded by something else,\MessageBreak
35         which must also be moved after L warp.%%
36     }%
37 }%
38 {\relax}%
39 }
```

`\LWR@notmemoirloadafter {<packagename>}` Error if not `memoir` class and this package was loaded before `l warp`.

`memoir` emulates many packages, and pretends that they have already been loaded.

```

40 \IfClassLoadedTF{memoir}%
41 {\newcommand*{\LWR@notmemoirloadafter}[1]{}%
42 {\LetLtxMacro{\LWR@notmemoirloadafter}\LWR@loadafter}}
```

`\LWR@notltjloadafter {<packagename>}` Error if not a `ltjs*` class and this package was loaded before `l warp`.

```

43 \LetLtxMacro{\LWR@notltjloadafter}\LWR@loadafter%
44 %
45 \IfClassLoadedTF{ltjarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}%
46 \IfClassLoadedTF{ltjbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}%
47 \IfClassLoadedTF{ltjreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}%
48 \IfClassLoadedTF{ltjsarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
```

```

49 \IfClassLoadedTF{ltjsbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
50 \IfClassLoadedTF{ltjsreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
51 \IfClassLoadedTF{ltjspf}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
52 \IfClassLoadedTF{ltjskiyou}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
53 \IfClassLoadedTF{ltjtarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
54 \IfClassLoadedTF{ltjtbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
55 \IfClassLoadedTF{ltjtreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}

```

\LWR@loadbefore {*packagename*} Error if this package is loaded after lwarp.

```

56 \newcommand*{\LWR@loadbefore}[1]{%
57 \IfPackageLoadedTF{#1}%
58 {\relax}%
59 {%
60     \PackageError{lwarp}%
61     {%
62         Package #1 must be loaded before lwarp.\MessageBreak
63         Enter 'H' for possible solutions%
64     }%
65     {Move ``\protect\usepackage{#1}'' before ``\protect\usepackage{lwarp}'' .}%
66 }%
67 }

```

\LWR@checkloadbefore {*packagename*}

Given \LWR@tempone is the package name to compare to, if package names match, error if it is loaded after lwarp.

```

68 \newcommand*{\LWR@checkloadbefore}[1]{%
69     \ifdefstring{\LWR@tempone}{#1}{%
70         \LWR@loadbefore{#1}%
71     }{}%
72 }

```

\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.

```

73 \newcommand*{\LWR@loadnever}[2]{%
74 \PackageError{lwarp}%
75 {%
76     Package #1 is not yet supported\MessageBreak
77     by lwarp's HTML conversion%
78     \ifblank{#2}{}{%
79         .\MessageBreak
80         Package(s)\MessageBreak
81         \space\space#2\MessageBreak
82         may be useful instead%
83     }%
84 }%
85 {%
86     Package #1 might conflict with lwarp in some way,\MessageBreak
87     or is superceded by another package.%%
88     \ifblank{#2}{}{%
89         \MessageBreak
90         For possible alternatives, see package(s) #2.%}

```

```

91      }%
92 }
93 }
```

\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.

```

94 \newcommand*{\LWR@afterloadnever}[2]{%
95   \ifdefstring{\LWR@tempone}{#1}{%
96     \LWR@loadnever{#1}{#2}%
97   }{}%
98 }
```

\LWR@earlyloadnever {*<badpackagename>*} {*<replacementpkgname>*}

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.

```

99 \newcommand*{\LWR@earlyloadnever}[2]{%
100   \IfPackageLoadedTF{#1}{%
101     \LWR@loadnever{#1}{#2}%
102   }{}%
103 }
```

\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.

```

104 \newcommand*{\LWR@earlyclassloadnever}[2]{%
105 \IfClassLoadedTF{#1}{%
106 \PackageError{lwarp}%
107 {%
108   Class #1 is not supported\MessageBreak
109   by lwarp's HTML conversion%
110   \ifblank{#2}{}{%
111     .\MessageBreak
112     #2 may be useful instead%
113   }%
114 }%
115 {%
116   Class #1 might conflict with lwarp in some way,\MessageBreak
117   or is superceded by another class.%%
118   \ifblank{#2}{}{%
119     \MessageBreak
120     For a possible alternative, see #2.%%
121   }%
122 }%
123 }{\relax}%
124 }
```

## 20.2 Error for disallowed packages and classes loaded before l warp

\LWR@checkloadnevers Checks against a list of incompatible packages.

```
125 \newcommand*\LWR@checkloadnevers{%
126 \LWR@checkloadnever{ae}{cm-super, lmodern}%
127 \LWR@checkloadnever{acompl}{cm-super, lmodern}%
128 \LWR@checkloadnever{ecc}{cm-super, lmodern}%
129 \LWR@checkloadnever{alg}{algorithm2e, algorithmicx}%
130 \LWR@checkloadnever{algorithmic}{algorithm2e, algorithmicx}%
131 \LWR@checkloadnever{bitfield}{bytefield}
```

`bxcjkjatype` is based on CJK:

```
132 \LWR@checkloadnever{bxcjkjatype}{upLaTeX, bxjsarticle, ujarticle, utarticle}%

133 \LWR@checkloadnever{caption2}{caption}%
134 % \LWR@checkloadnever{ccaption}{caption}% might be preloaded by memoir
135 \LWR@checkloadnever{colortab}{colortbl}%
136 \LWR@checkloadnever{csvtools}{datatool}%
137 \LWR@checkloadnever{doublespace}{setspace}%
138 \LWR@checkloadnever{fancyheadings}{fancyhdr}%
139 \LWR@checkloadnever{fncylab}{cleveref}%
140 \LWR@checkloadnever{formula}{siunitx}%
141 \LWR@checkloadnever{glossary}{glossaries}
```

`hangul` is not in TeXLive, and is not tested:

```
142 \LWR@checkloadnever{hangul}{kotex, xetexko, luatexko}%

143 \LWR@checkloadnever{hyper}{hyperref}%
144 \LWR@checkloadnever{libgreek}{libertinust1math, newtx}%
145 \LWR@checkloadnever{newthm}{ntheorem}%
146 \LWR@checkloadnever{pdfcprot}{microtype}%
147 \LWR@checkloadnever{picins}{floatflt, wrapfig, wrapfig2}%
148 \LWR@checkloadnever{rplain}{fancyhdr}%
149 \LWR@checkloadnever{si}{siunitx}%
150 \LWR@checkloadnever{sistyle}{siunitx}%
151 \LWR@checkloadnever{slashbox}{diagbox}%
152 \LWR@checkloadnever{statex}{statex2}%
153 \LWR@checkloadnever{tlenc}{fontenc, inputenc, inputenx}%
154 \LWR@checkloadnever{ucs}{inputenc, inputencx}%
155 \LWR@checkloadnever{wasysym}{textcomp, amsymb, amsfonts, mnsymbol, fdsymbol}
```

The following may one day be supported by l warp:

```
156 % \LWR@checkloadnever{adjustbox}{}% req'd for menukeys
157 \LWR@checkloadnever{animate}{}%
158 \LWR@checkloadnever{auto-pst-pdf}{}%
159 \LWR@checkloadnever{auto-pst-pdf-lua}{}%
160 \LWR@checkloadnever{algorithms}{}%
161 \LWR@checkloadnever{arraycols}{}%
162 \LWR@checkloadnever{bidi}{}%
163 \LWR@checkloadnever{cals}{}%

164 \LWR@checkloadnever{cellspace}{tbls}
```



```

225 \LWR@checkloadnever{tabularkv}{}
226 \LWR@checkloadnever{thumby}{}
227 \LWR@checkloadnever{titles}{}
228 \LWR@checkloadnever{typehtml}{}
229 \LWR@checkloadnever{unicode-bidi}{}
230 \LWR@checkloadnever{vcell}{}
231 \LWR@checkloadnever{xhfill}{}
232 }

```

\LWR@checkloadnever {*badpackagename*} {*replacementpkgnome*}

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.

```
233 \LetLtxMacro{\LWR@checkloadnever}{\LWR@earlyloadnever}
```

Now check for incompatible packages which have been loaded before **lwarp**:

```
234 \LWR@checkloadnevers
```

The older **CJK** and **CJKutf8** only work with **xeCJK**:

```

235 \IfPackageLoadedTF{xeCJK}{}{
236   \LWR@checkloadnever{CJK}{ctex, xeCJK}
237   \LWR@checkloadnever{CJKutf8}{ctex, xeCJK}
238 }

```

Some classes do not work with **lwarp**:

```

239 \LWR@earlyclassloadnever{beamer}{beamerarticle}
240 \LWR@earlyclassloadnever{jarticle}{ujarticle}
241 \LWR@earlyclassloadnever{jbook}{ujbook}
242 \LWR@earlyclassloadnever{jreport}{ujreport}
243 \LWR@earlyclassloadnever{tarticle}{utarticle}
244 \LWR@earlyclassloadnever{tbook}{utbook}
245 \LWR@earlyclassloadnever{treport}{utreport}
246 \LWR@earlyclassloadnever{novel}{}
247 \LWR@earlyclassloadnever{powerdot}{}

```

### 20.3 Enforcing package loading after **lwarp**

Packages which should only be loaded after **lwarp** are tested here to trip an error if they have already been loaded.

The following packages must be loaded after **lwarp**:

```

248 \LWR@loadafter{2in1}
249 \LWR@loadafter{2up}
250 \LWR@loadafter{a4}
251 \LWR@loadafter{a4wide}
252 \LWR@loadafter{a5comb}
253 \LWR@notmemoirloadafter{abstract}

```

```
254 \LWR@loadafter{academicons}
255 \LWR@loadafter{accents}
256 \LWR@loadafter{accessibility}
257 \LWR@loadafter{accsupp}
258 \LWR@loadafter{acro}
259 \LWR@loadafter{acronym}
260 \LWR@loadafter{adjmulticol}
261 \LWR@loadafter{addlines}
262 \LWR@loadafter{afterpage}
263 \LWR@loadafter{algorithm2e}
264 \LWR@loadafter{algorithmicx}
265 \LWR@loadafter{alltt}
266 \LWR@loadafter{amscdx}
267 % \LWR@loadafter{amsmath}% may be preloaded
268 % \LWR@loadafter{amsthm}% may be preloaded
269 \LWR@loadafter{anonchap}
270 \LWR@loadafter{any size}
271 \LWR@notmemoirloadafter{appendix}
272 \LWR@loadafter{ar}
273 \LWR@loadafter{arabicfront}
274 \LWR@notmemoirloadafter{array}
275 \LWR@loadafter{arydshln}
276 \LWR@loadafter{asymptote}
277 % \LWR@loadafter{atbegshi}% now in LaTeX core, also used by morewrites
278 \LWR@loadafter{attachfile}
279 \LWR@loadafter{attachfile2}
280 \LWR@loadafter{authblk}
281 \LWR@loadafter{authoraftertitle}% Supported as-is, but must be loaded after.
282 \LWR@loadafter{autobreak}
283 \LWR@loadafter{autonum}
284 \LWR@loadafter{awesomebox}
285 \LWR@loadafter{axessibility}
286 \LWR@loadafter{axodraw2}
287 \LWR@loadafter{backnaur}
288 \LWR@loadafter{backref}
289 \LWR@loadafter{balance}
290 \LWR@loadafter{bbding}
291 \LWR@loadafter{beamerarticle}
292 \LWR@loadafter{bigdelim}
293 \LWR@loadafter{bigfoot}
294 \LWR@loadafter{bigstrut}
295 \LWR@loadafter{bitpattern}
296 \LWR@loadafter{blowup}
297 \LWR@loadafter{bm}
298 \LWR@loadafter{booklet}
299 \LWR@loadafter{bookmark}
300 \LWR@notmemoirloadafter{booktabs}
301 \LWR@loadafter{bophook}
302 \LWR@loadafter{bounddvi}
303 \LWR@loadafter{boxedminipage}
304 \LWR@loadafter{boxedminipage2e}
305 \LWR@loadafter{braket}
306 \LWR@loadafter{breakurl}
307 \LWR@loadafter{breqn}
308 \LWR@loadafter{bsheaders}
309 \LWR@loadafter{bussproofs}
310 \LWR@loadafter{bxpaper size}
311 \LWR@loadafter{bytefield}
312 \LWR@loadafter{ccicons}
313 \LWR@loadafter{cancel}
```

```
314 \LWR@loadaft{canoniclayout}
315 \LWR@loadaft{caption}
316 \LWR@loadaft{caption2}
317 \LWR@loadaft{caption3}
318 \LWR@loadaft{cases}
319 % catoptions is supported by the lwarf core
320 % \LWR@Loadaft{ccaption}% may be preloaded by memoir
321 \LWR@loadaft{centerlastline}
322 % \LWR@loadaft{centernot}% may be preloaded by newtx
323 \LWR@loadaft{changebar}
324 \LWR@loadaft{changelayout}
325 \LWR@notmemoirloadaft{changepage}
326 \LWR@loadaft{changes}
327 \LWR@loadaft{chappg}
328 \LWR@loadaft{chapterbib}
329 \LWR@loadaft{chemfig}
330 \LWR@loadaft{chemformula}
331 \LWR@loadaft{chemgreek}
332 \LWR@loadaft{chemmacros}
333 \LWR@loadaft{chemnum}
334 \LWR@loadaft{chkfloat}
335 \LWR@notmemoirloadaft{chngpage}
336 \LWR@loadaft{cite}
337 \LWR@loadaft{citeref}
338 \LWR@loadaft{classicthesis}
339 \LWR@loadaft{cleveref}
340 % cmbright may be preloaded
341 \LWR@loadaft{cmdtrack}
342 \LWR@loadaft{colonequals}
343 \LWR@loadaft{color}
344 \LWR@loadaft{colortbl}
345 \LWR@loadaft{continue}
346 \LWR@loadaft{copyrightbox}
347 \LWR@notmemoirloadaft{crop}
348 % ctex must be loaded before lwarf
349 \LWR@loadaft{ctable}
350 \LWR@loadaft{cuted}
351 \LWR@loadaft{cutwin}
352 \LWR@loadaft{dblfloatfix}
353 \LWR@loadaft{dblfnote}
354 \LWR@notmemoirloadaft{dcolumn}
355 \LWR@loadaft{decimal}
356 \LWR@loadaft{decorule}
357 \LWR@loadaft{diagbox}
358 \LWR@loadaft{dingbat}
359 \LWR@loadaft{DotArrow}
360 \LWR@loadaft{dotlessi}
361 \LWR@loadaft{dprogress}
362 \LWR@loadaft{draftcopy}
363 \LWR@loadaft{draftfigure}
364 \LWR@loadaft{draftwatermark}
365 \LWR@loadaft{drftcite}
366 \LWR@loadaft{easy-todo}
367 \LWR@loadaft{ebook}
368 \LWR@loadaft{econometrics}
369 \LWR@loadaft{ed}
370 \LWR@loadaft{ellipsis}
371 \LWR@loadaft{embrac}
372 \LWR@loadaft{emptypage}
373 \LWR@loadaft{endfloat}
```

```
374 \LWR@loadaft{endheads}
375 \LWR@loadaft{endnotes}
376 \LWR@loadaft{engtlc}
377 \LWR@loadaft{enotez}
378 \LWR@notmemoirloadaft{enumerate}
379 \LWR@loadaft{enumitem}
380 \LWR@notmemoirloadaft{epigraph}
381 \LWR@loadaft{epsf}
382 \LWR@loadaft{epsfig}
383 \LWR@loadaft{epstopdf}
384 \LWR@loadaft{epstopdf-base}
385 \LWR@loadaft{eqlist}
386 \LWR@loadaft{eqparbox}
387 \LWR@loadaft{errata}
388 \LWR@loadaft{eso-pic}
389 \LWR@loadaft{esvect}
390 \LWR@loadaft{etoc}
391 \LWR@loadaft{eurosym}
392 \LWR@loadaft{everypage}
393 % \LWR@loadaft{everyshi} % now in LaTeX core
394 \LWR@loadaft{extarrows}
395 \LWR@loadaft{extramarks}
396 \LWR@loadaft{fancybox}
397 \LWR@loadaft{fancyhdr}
398 \LWR@loadaft{fancypar}
399 \LWR@loadaft{fancyref}
400 \LWR@loadaft{fancytabs}
401 \LWR@loadaft{fancyvrb}
402 \LWR@loadaft{fbox}
403 \LWR@loadaft{fewerfloatpages}
404 \LWR@loadaft{figcaps}
405 \LWR@loadaft{figsize}
406 \LWR@loadaft{fitbox}
407 \LWR@loadaft{fix2col}
408 \LWR@loadaft{fixmath}
409 \LWR@loadaft{fixme}
410 \LWR@loadaft{fixmetodonotes}
411 \LWR@loadaft{flafter}
412 \LWR@loadaft{flippdf}
413 \LWR@loadaft{float}
414 \LWR@loadaft{floatflt}
415 \LWR@loadaft{floatpag}
416 \LWR@loadaft{floatrow}
417 \LWR@loadaft{fltrace}
418 \LWR@loadaft{flushend}
419 \LWR@loadaft{fnbreak}
420 \LWR@loadaft{fncychap}
421 \LWR@loadaft{fnlineno}
422 \LWR@loadaft{fnpara}
423 \LWR@loadaft{fnpos}
424 \LWR@loadaft{fontawesome}
425 \LWR@loadaft{fontawesome5}
426 % fontenc must be loaded before lwarf
427 % fontssec must be loaded before lwarf
428 \LWR@loadaft{footmisc}
429 \LWR@loadaft{footnote}
430 \LWR@loadaft{footnotebackref}
431 \LWR@loadaft{footnotehyper}
432 \LWR@loadaft{footnoterange}
433 \LWR@loadaft{footnpag}
```

```
434 \LWR@loadafter{foreign}
435 \LWR@loadafter{forest}
436 \LWR@loadafter{fouridx}
437 % fourier may be loaded before l warp
438 \LWR@loadafter{framed}
439 \LWR@loadafter{froufrou}
440 \LWR@loadafter{ftcap}
441 \LWR@loadafter{ftnright}
442 \LWR@loadafter{fullminipage}
443 \LWR@loadafter{fullpage}
444 \LWR@loadafter{fullwidth}
445 \LWR@loadafter{fvextra}
446 \LWR@loadafter{fwlw}
447 \LWR@loadafter{gensymb}
448 \LWR@loadafter{gentombow}
449 % geometry is always loaded by l warp, and l warp-geometry is AtBeginDocument
450 \LWR@loadafter{ghsystem}
451 \LWR@loadafter{gindex}
452 \LWR@loadafter{glossaries}
453 \LWR@loadafter{gmeometric}
454 % \LWR@loadafter{graphics} % pre-loaded by xunicode
455 % \LWR@loadafter{graphicx} % pre-loaded by xunicode
456 \LWR@loadafter{gloss}
457 \LWR@loadafter{glossary}
458 \LWR@loadafter{grffile}
459 \LWR@loadafter{grid}
460 \LWR@loadafter{grid-system}
461 \LWR@loadafter{gridset}
462 \LWR@loadafter{hang}
463 \LWR@loadafter{hanging}
464 \LWR@loadafter{hepuunits}
465 \LWR@loadafter{hhline}
466 \LWR@loadafter{htensor}
467 \LWR@loadafter{hypbmsec}
468 \LWR@loadafter{hypcap}
469 \LWR@loadafter{hypdestopt}
470 \LWR@loadafter{hypernat}
471 \LWR@loadafter{hyperref}
472 \LWR@loadafter{hyperxmp}
473 \LWR@loadafter{hyphenat}
474 \LWR@loadafter{idxlayout}
475 \LWR@loadafter{ifoddpage}
476 \LWR@loadafter{imakeidx}
477 \LWR@loadafter{impnattypo}
478 \LWR@notmemoirloadafter{index}
479 % inputenc must be loaded before l warp
480 % inputenx must be loaded before l warp
481 % inputenc may be loaded before l warp
482 \LWR@loadafter{intopdf}
483 \LWR@loadafter{isomath}
484 \LWR@loadafter{isotope}
485 \LWR@loadafter{jurabib}
486 \LWR@loadafter{karnaugh-map}
487 \LWR@loadafter{keyfloat}
488 \LWR@loadafter{keystroke}
489 % kpfonts may be loaded before l warp
490 % kpfonts-otf may be loaded before l warp
491 \LWR@loadafter{layaureo}
492 \LWR@loadafter{layout}
493 \LWR@loadafter{layouts}
```

```
494 \LWR@loadaft{leading}
495 \LWR@loadaft{leftidx}
496 \LWR@loadaft{letterspace}
497 \LWR@loadaft{lettrine}
498 % libertinust1math may be loaded before l warp
499 \LWR@loadaft{lineno}
500 \LWR@loadaft{lips}
501 \LWR@loadaft{listings}
502 \LWR@loadaft{listliketab}
503 \LWR@loadaft{lltjp-siunitx}
504 \LWR@loadaft{lltjp-tascmac}
505 \LWR@loadaft{longtable}
506 \LWR@loadaft{lpic}
507 \LWR@loadaft{lscape}
508 \LWR@loadaft{ltablex}
509 \LWR@loadaft{ltcaption}
510 \LWR@loadaft{ltxgrid}
511 \LWR@loadaft{ltxtable}
512 \LWR@loadaft{lua-check-hyphen}
513 \LWR@loadaft{lua-visual-debug}
514 \LWR@loadaft{luacolor}
515 \LWR@loadaft{luamplib}
516 \LWR@loadaft{luatodonotes}
517 \LWR@loadaft{luavlna}
518 \LWR@loadaft{lyluatex}
519 \LWR@loadaft{magaz}
520 \LWR@notmemoirloadaft{makeidx}
521 \LWR@loadaft{manyfoot}
522 \LWR@loadaft{marginfit}
523 \LWR@loadaft{marginfix}
524 \LWR@loadaft{marginnote}
525 \LWR@loadaft{marvosym}
526 % mathalpha may be loaded before l warp
527 \LWR@loadaft{mathastext}
528 \LWR@loadaft{mathcomp}
529 \LWR@loadaft{mathdesign}
530 \LWR@loadaft{mathdots}
531 \LWR@loadaft{mathfixs}
532 \LWR@loadaft{mathpazo}
533 \LWR@loadaft{mathptmx}
534 \LWR@loadaft{mathspec}
535 \LWR@loadaft{mathtools}
536 \LWR@loadaft{mattens}
537 \LWR@loadaft{maybemath}
538 \LWR@loadaft{mcaption}
539 \LWR@loadaft{mdframed}
540 \LWR@loadaft{mdwmath}
541 \LWR@loadaft{media9}
542 \LWR@loadaft{memhfixc}
543 \LWR@loadaft{menukeys}
544 \LWR@loadaft{metalogo}
545 \LWR@loadaft{metalogox}
546 \LWR@loadaft{mhchem}
547 \LWR@loadaft{microtype}
548 \LWR@loadaft{midfloat}
549 \LWR@loadaft{midpage}
550 \LWR@loadaft{minibox}
551 \LWR@loadaft{minitoc}
552 \LWR@loadaft{minted}
553 \LWR@loadaft{mismath}
```

```
554 \LWR@loadaft{mletright}
555 % morefloats must be allowed early for print mode
556 \LWR@notmemoirloadaft{moreverb}
557 % morewrites must be loaded before lwarf
558 \LWR@notmemoirloadaft{movie15}
559 \LWR@notmemoirloadaft{mparhack}
560 \LWR@loadaft{multibib}
561 \LWR@loadaft{multicap}
562 %\LWR@loadaft{multicol}% loaded by ltxdoc
563 \LWR@loadaft{multicolrule}
564 \LWR@loadaft{multimedia}
565 \LWR@loadaft{multiobjective}
566 \LWR@loadaft{multirow}
567 \LWR@loadaft{multitoc}
568 \LWR@loadaft{musicography}
569 \LWR@loadaft{mwe}
570 \LWR@loadaft{nameauth}
571 \LWR@loadaft{nameref}
572 \LWR@loadaft{natbib}
573 \LWR@notmemoirloadaft{nccfancyhdr}
574 \LWR@loadaft{nccfoots}
575 \LWR@loadaft{nccmath}
576 \LWR@notmemoirloadaft{needspace}
577 % newclude must be loaded before lwarf
578 % newpxmath may be preloaded
579 % newtxmath may be loaded before lwarf
580 % newtxsf may be loaded before lwarf
581 % newunicodechar must be loaded before lwarf
582 \LWR@notmemoirloadaft{nextpage}
583 \LWR@loadaft{nicefrac}
584 \LWR@loadaft{niceframe}
585 \LWR@loadaft{nicematrix}
586 \LWR@loadaft{noitcrl}
587 \LWR@loadaft{nolbreaks}
588 \LWR@loadaft{nomencn}
589 \LWR@loadaft{nonfloat}
590 \LWR@loadaft{nonumonpart}
591 \LWR@loadaft{nopageno}
592 \LWR@loadaft{notes}
593 \LWR@loadaft{notespages}
594 \LWR@loadaft{nowidow}
595 \LWR@loadaft{ntheorem}
596 \LWR@loadaft{octave}
597 \LWR@loadaft{orcidlink}
598 \LWR@loadaft{overpic}
599 \LWR@loadaft{pagegrid}
600 \LWR@notmemoirloadaft{pagenote}
601 \LWR@loadaft{pagesel}
602 \LWR@loadaft{paralist}
603 \LWR@loadaft{parallel}
604 \LWR@loadaft{parcolumns}
605 \LWR@loadaft{parnotes}
606 \LWR@notmemoirloadaft{parskip}
607 \LWR@loadaft{pbalance}
608 \LWR@loadaft{pbox}
609 \LWR@loadaft{pdfcol}
610 \LWR@loadaft{pdfcolfoot}
611 \LWR@loadaft{pdfcolmk}
612 \LWR@loadaft{pdfcolparallel}
613 \LWR@loadaft{pdfcolparcolumns}
```

```
614 \LWR@loadaft{pdfcomment}
615 \LWR@loadaft{pdfcrypt}
616 \LWR@loadaft{pdflscape}
617 \LWR@loadaft{pdfmarginpar}
618 \LWR@loadaft{pdfpages}
619 \LWR@loadaft{pdfprivacy}
620 \LWR@loadaft{pdfrender}
621 \LWR@loadaft{pdfsync}
622 \LWR@loadaft{pdftricks}
623 \LWR@loadaft{pdfx}
624 \LWR@loadaft{perpage}
625 \LWR@loadaft{pfnote}
626 \LWR@loadaft{phfqit}
627 \LWR@loadaft{physics}
628 \LWR@loadaft{physunits}
629 \LWR@loadaft{picinpar}
630 \LWR@loadaft{pifont}
631 \LWR@loadaft{pinlabel}
632 \LWR@loadaft{placeins}
633 \LWR@loadaft{plarray}
634 \LWR@loadaft{plarydshln}
635 \LWR@loadaft{plexarray}
636 \LWR@loadaft{plexarydshln}
637 \LWR@loadaft{plcolortbl}
638 \LWR@loadaft{plextdelarray}
639 \LWR@loadaft{plimsoll}
640 \LWR@loadaft{prelim2e}
641 \LWR@loadaft{prettyref}
642 \LWR@loadaft{preview}
643 \LWR@loadaft{psfrag}
644 \LWR@loadaft{psfragx}
645 \LWR@loadaft{pst-eps}
646 \LWR@loadaft{pstool}
647 \LWR@loadaft{pstricks}
648 % \LWR@loadaft{pxatbegshi} may be used by morewrites
649 \LWR@loadaft{pxeveryshi}
650 % \LWR@loadaft{pxfonts} may be loaded before lwarf
651 \LWR@loadaft{pxftnright}
652 \LWR@loadaft{pxjahyper}
653 \LWR@loadaft{quotchap}
654 \LWR@loadaft{quoting}
655 \LWR@loadaft{ragged2e}
656 \LWR@loadaft{realscripts}
657 \LWR@loadaft{refcheck}
658 \LWR@loadaft{register}
659 \LWR@loadaft{relsize}
660 \LWR@loadaft{repeatindex}
661 \LWR@loadaft{resizegather}
662 \LWR@loadaft{returntogrid}
663 \LWR@loadaft{rlepsf}
664 \LWR@loadaft{rmathbr}
665 \LWR@loadaft{rmpage}
666 \LWR@loadaft{romanbar}
667 \LWR@loadaft{romanbarpagenum}
668 \LWR@loadaft{rotating}
669 \LWR@loadaft{rotfloat}
670 \LWR@loadaft{rviewport}
671 \LWR@loadaft{savetrees}
672 % scalefnt is loaded by babel-french
673 \LWR@loadaft{scalerel}
```

```
674 \LWR@loadafterschemata}
675 \LWR@loadafterscrextend}
676 \LWR@loadafterscrhack}
677 \LWR@loadafterscrlayer}
678 \LWR@loadafterscrlayer-notecolumn}
679 \LWR@loadafterscrpage}
680 \LWR@loadafterscrpage2}
681 \LWR@loadaftersetion}
682 \LWR@loadaftersetionbreak}
683 \LWR@loadaftersetsty}
684 \LWR@loadaftersetctp}
685 \LWR@loadaftersetsemantic-markup}
686 \LWR@notmemoirloadaftersetospace}
687 \LWR@loadaftershadow}
688 \LWR@loadaftershapepar}
689 \LWR@notmemoirloadaftersetowidx}
690 \LWR@loadaftersetowlables}
691 \LWR@loadaftersetowkeys}
692 \LWR@loadaftersetowtags}
693 \LWR@loadaftersetshuffle}
694 \LWR@loadaftersetsidecap}
695 \LWR@loadafterset sidenotes}
696 \LWR@loadafterset simplebnf}
697 \LWR@loadafterset SIunits}
698 \LWR@loadafterset siunitx}
699 \LWR@loadafterset siunitx-v2}
700 \LWR@loadafterset skmath}
701 \LWR@loadafterset slantsc}
702 \LWR@loadafterset slashed}
703 \LWR@loadafterset soul}
704 \LWR@loadafterset soulpos}
705 \LWR@loadafterset soulutf8}
706 \LWR@loadafterset splitbib}
707 \LWR@loadafterset splitidx}
708 \LWR@loadafterset srcltx}
709 \LWR@loadafterset srctex}
710 \LWR@loadafterset stabular}
711 \LWR@loadafterset stackengine}
712 \LWR@loadafterset stackrel}
713 \LWR@loadafterset statex2}
714 \LWR@loadafterset statistics}
715 \LWR@loadafterset statmath}
716 \LWR@loadafterset steinmetz}
717 \LWR@notltjloadafterset stffloats}
718 \LWR@loadafterset struktex}
719 \LWR@loadafterset subcaption}
720 \LWR@loadafterset subfig}
721 \LWR@loadafterset subfigure}
722 \LWR@loadafterset subsupscripts}
723 \LWR@loadafterset supertabular}
724 \LWR@loadafterset svg}
725 \LWR@loadafterset swfigure}
726 \LWR@loadafterset sympytex}
727 \LWR@loadafterset syntonly}
728 \LWR@loadafterset t1inc}
729 \LWR@loadafterset tabfigures}
730 \LWR@loadafterset tabs}
731 \LWR@loadafterset tablefootnote}
732 \LWR@notmemoirloadafterset tabularx}
733 \LWR@loadafterset tabulary}
```

```
734 \LWR@loadafter{tagpdf}
735 \LWR@loadafter{tascmac}
736 \LWR@loadafter{tcolorbox}
737 \LWR@loadafter{tensor}
738 \LWR@loadafter{termcal}
739 \LWR@loadafter{textarea}
740 % \LWR@Loadafter{textcomp}% maybe before l warp with font packages
741 \LWR@loadafter{textfit}
742 \LWR@loadafter{textpos}
743 \LWR@loadafter{theorem}
744 \LWR@loadafter{thinsp}
745 \LWR@loadafter{thm-listof}
746 \LWR@loadafter{thm-restate}
747 \LWR@loadafter{thmbox}
748 \LWR@loadafter{thmtools}
749 \LWR@loadafter{threadcol}
750 \LWR@loadafter{threeparttable}
751 \LWR@loadafter{threeparttablex}
752 \LWR@loadafter{thumb}
753 \LWR@loadafter{thumbs}
754 \LWR@loadafter{tikz}
755 \LWR@loadafter{tikz-imagelabels}
756 \LWR@loadafter{titleps}
757 \LWR@loadafter{titlesec}
758 \LWR@loadafter{titletoc}
759 \LWR@notmemoirloadafter{titling}
760 % \LWR@loadafter{tocbasic}% preloaded by koma-script classes
761 \LWR@notmemoirloadafter{tocbibind}
762 \LWR@loadafter{tocdata}
763 \LWR@loadafter{toccenter}
764 \LWR@notmemoirloadafter{tocloft}
765 \LWR@loadafter{tocstyle}
766 \LWR@loadafter{todo}
767 \LWR@loadafter{todonotes}
768 \LWR@loadafter{topcapt}
769 \LWR@loadafter{tram}
770 \LWR@loadafter{transparent}
771 \LWR@loadafter{trimclip}
772 \LWR@loadafter{trivfloat}
773 \LWR@loadafter{truncate}
774 \LWR@loadafter{turnthepage}
775 \LWR@loadafter{twoup}
776 % \LWR@Loadafter{txfonts}% may be loaded before l warp
777 % txgreeks may be loaded before l warp

778 % \LWR@loadafter{typearea}% preloaded by koma-script classes
779 \LWR@loadafter{typicons}
780 % \LWR@loadafter{ulem}% preloaded by ctexart and related classes
781 \LWR@loadafter{umoline}
782 \LWR@loadafter{underscore}
783 % unicode-math may be loaded before l warp
784 \LWR@loadafter{units}
785 \LWR@loadafter{unitsdef}
786 \LWR@loadafter{upgreek}
787 \LWR@loadafter{upref}
788 \LWR@loadafter{url}
789 \LWR@loadafter{ushort}
790 \LWR@loadafter{uspace}
791 \LWR@loadafter{variorref}
792 \LWR@notmemoirloadafter{verse}
```

```

793 \LWR@loadaft{versonotes}
794 \LWR@loadaft{vertbars}
795 \LWR@loadaft{vmargin}
796 \LWR@loadaft{vowel}
797 \LWR@loadaft{vpe}
798 \LWR@loadaft{vwcol}
799 \LWR@loadaft{wallpaper}
800 \LWR@loadaft{watermark}
801 \LWR@loadaft{widetable}
802 \LWR@loadaft{widows-and-orphans}
803 \LWR@loadaft{witharrows}
804 \LWR@loadaft{wrapfig}
805 \LWR@loadaft{wrapfig2}
806 \LWR@loadaft{xbmks}
807 \LWR@loadaft{xcolor}
808 \LWR@loadaft{xchangebar}
809 \LWR@loadaft{xellipsis}
810 % xetexko must be loaded before l warp
811 \LWR@loadaft{xevlna}
812 \LWR@loadaft{xfakebold}
813 \LWR@loadaft{xfrac}
814 \LWR@loadaft{xltabular}
815 \LWR@loadaft{xltxtra}
816 \LWR@loadaft{xmpincl}
817 \LWR@loadaft{xpiano}
818 \LWR@loadaft{xpinyin}
819 \LWR@loadaft{xr}
820 \LWR@loadaft{xr-hyper}
821 \LWR@loadaft{xtab}
822 % xunicode must be loaded before l warp
823 \LWR@loadaft{xurl}
824 \LWR@loadaft{xy}
825 \LWR@loadaft{zwpagelayout}

```

## 21 MD5 hashing

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

```

826 \newcommand{\LWR@mdfive}[1]{%
827     \PackageError{l warp}%
828         {No MD5 macro was found}%
829         {}%
830         L warp must find the macros \protect\pdfmdfivesum\space%
831         or \protect\mdfivesum.%%
832     }%
833 }

```

The default for PDF L<sup>A</sup>T<sub>E</sub>X, DVI L<sup>A</sup>T<sub>E</sub>X, upL<sup>A</sup>T<sub>E</sub>X, etc:

```
834 \let\LWR@mdfive\pdfmdfivesum
```

For LuaL<sup>A</sup>T<sub>E</sub>X:

```

835 \ifLuaTeX
836 \RequirePackage{pdftexcmds}
837 \let\LWR@mdfive\pdf@mdfivesum
838 \fi

```

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

```
839 \ifXeTeX
840 \@ifundefined{pdffivesum}{}
841     {\let\LWR@mdfive\pdfmdfivesum}
842 \@ifundefined{mdfivesum}{}
843     {\let\LWR@mdfive\mdfivesum}
844 \fi
```

## 22 PDF LATEX T1 and UTF-8 encoding

When using PDF LATEX, l warp requires T1 font encoding, and recommends UTF-8 input encoding.

If some other input encoding is already defined, l warp will try to use it instead, and hope for the best.

X<sub>Q</sub>LATEX and LuaLATEX are both UTF-8 by nature.

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

```
845 \newcommand*\LWR@pdfencoding[%
846     \RequirePackage[T1]{fontenc}
847
848     \IfPackageLoadedTF{inputenc}{}{%
849         \IfPackageLoadedTF{inputenx}{}{%
850             \RequirePackage[utf8]{inputenc}
851         }%
852     }%
853 }%
854 \ifPDFTeX% pdflatex or dvi latex
855     \LWR@pdfencoding
856 \fi
857
858 \ifpTeX
859     \LWR@pdfencoding
860 \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.

```
861 \ifpTeX
862 \else
863 \RequirePackage{newunicodechar}
864
```

```

865 \newunicodechar{x}{\textttimes}
866
867 \ifPDFTeX% pdflatex or dvi latex
868 \newunicodechar{ff}{ff}% Here, the first arguments are ligatures.
869 \newunicodechar{fi}{fi}
870 \newunicodechar{fl}{fl}
871 \newunicodechar{ffi}{ffi}
872 \newunicodechar{ffl}{ffl}
873 \newunicodechar{-}{--}
874 \newunicodechar{-}{--}
875 \fi
876
877 \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.

```

878 \ifxetexorluatex
879 \else
880   \ifdefstring{\f@family}{cmr}{
881     \IfFileExists{type1ec.sty}{% found in cm-super
882     {}
883     {% cm-super not installed
884       \IfFileExists{lmodern.sty}{
885         \PackageInfo{l warp}{cm-super not installed, loading lmodern}
886         \RequirePackage{lmodern}
887       }{
888         \PackageError{l warp}{%
889           L warp requires a vector font.\MessageBreak
890           Install and load cm-super, lmodern, or another\MessageBreak
891           Type-1 vector font before loading l warp.\MessageBreak
892           Enter 'H' for possible solutions%
893         }
894       }
895     }%
896     Install cm-super or lmodern.\MessageBreak
897     If lmodern, load it before l warp:\MessageBreak
898     \space\space\protect\usepackage{lmodern}\MessageBreak
899     \space\space\protect\usepackage{l warp}%
900   }
901 }
902   }% cm-super not installed
903 }{}% f@family
904 \fi

```

## 25 Upright quotes

In PDF T<sub>E</sub>X, preserve upright quotes in verbatim text. `upquote` also loads `textcomp`.

```

905 \ifPDFTeX
906 \RequirePackage{upquote}
907 \fi

```

```

908
909 \ifptex
910   \RequirePackage{upquote}
911 \fi

```

## 26 Avoid bad font combinations

For X<sup>E</sup>L<sup>A</sup>T<sub>E</sub>X and L<sup>A</sup>U<sub>L</sub><sup>A</sup>T<sub>E</sub>X, certain font combinations cause problems with l warp.

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

```

912 \ifxetexorluatex
913   \AtBeginDocument{
914     \IfPackageLoadedTF{kpfonts} {
915       \PackageError{l warp}
916       {%
917         When using XeLaTeX or LuaLaTeX, \MessageBreak
918         use kpfonts-otf instead of kpfonts%
919       }
920       {%
921         Replace: \protect\usepackage{kpfonts}\MessageBreak
922         with: \protect\usepackage{kpfonts-otf}
923       }
924     } {}
925   }
926 \fi

```

## 27 Miscellaneous tools

### 27.1 Variables

```

927 \newlength{\LWR@templengthone}
928 \newlength{\LWR@templengthtwo}
929 \newlength{\LWR@templengththree}
930 \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.

```

931 \newcommand*\LWR@providelength[1]{%
932   \ifdeflength{#1}{\newlength{#1}}%
933 }

```

\LWR@convertto {<dest unit>} {<length>}

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

```

934 \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.

```
935 \newcommand*{\LWR@printpercentlength}[2]{%
936     \setcounter{\LWR@tempcountone}{100*\ratio{#1}{#2}}%
937     \arabic{\LWR@tempcountone}%
938 }
```

## 27.3 Counters

```
\defaddtocounter {⟨name⟩} {⟨value⟩}
```

Locally add to a counter.

```
939 \providecommand*{\defaddtocounter}[2]{%
940     \defcounter{#1}{\value{#1}+#2}%
941 }
```

## 27.4 Patching macros

```
\LWR@patcherror {⟨packagename⟩} {⟨macro⟩}
```

Prints an error if could not patch a macro.

```
942 \newcommand*{\LWR@patcherror}[2]{%
943     \PackageError{lwarp}{%
944         {%
945             Unable to patch package #1,\MessageBreak
946             macro \LWRbackslash #2.\MessageBreak
947             Lwarp or #1 may need to be updated%
948         }%
949         {Please contact the maintainer of the Lwarp package.}%
950 }}
```

## 27.5 Copying macros

```
\csNewCommandCopycs {⟨dest csname⟩} {⟨source csname⟩}
```

Given a cs-name for each, copies a macro to a new definition.

```
951 \providecommand*{\csNewCommandCopycs}[2]{%
952     \expandafter\NewCommandCopy\csname#1\expandafter\endcsname%
953         \csname#2\endcsname%
954 }
```

```
\NewEnvironmentCopy {⟨dest⟩} {⟨source⟩}
```

Copies an environment to a new definition.

```
955 \providecommand*{\NewEnvironmentCopy}[2]{%
956     \csNewCommandCopycs{#1}{#2}%
957     \csNewCommandCopycs{end#1}{end#2}%
958 }
```

## 27.6 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.

```
959 \newcommand{\LWR@isolate}[1]{#1}%
960
961 \IfPackageLoadedTF{ctexpatch}{%
962     \renewcommand{\LWR@isolate}[1]{\null#1\null}%
963 }{}%
964
965 \IfPackageLoadedTF{xecjk}{%
966     \renewcommand{\LWR@isolate}[1]{\null#1\null}%
967 }{}
```

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

```
968 \newcommand*{\LWR@disablepinyin}{}%
```

## 27.7 Inserting vertical space

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

```
969 \newcommand*{\LWR@forceemptyline}{}%
970     \LWR@origrule{0pt}{1\baselineskip}%
971     \LWR@orignewline%
972 }
```

## 27.8 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.

```
973 \long\def\LWR@firstoffive#1#2#3#4#5{#1}%
974 \long\def\LWR@secondoffive#1#2#3#4#5{#2}%
975 \long\def\LWR@thirdoffive#1#2#3#4#5{#3}%
976 \long\def\LWR@fourthoffive#1#2#3#4#5{#4}%
977 \long\def\LWR@fifthoffive#1#2#3#4#5{#5}
```

## 27.9 Inside boxes

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

```
978 \newcounter{LWR@texboxdepth}
979 \setcounter{LWR@texboxdepth}{0}
```

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

```
980 \newcommand*{\LWR@maybe@orignewpage}{%
981     \LWR@traceinfo{LWR@maybe@orignewpage}%
982     \ifnumgreater{\value{LWR@texboxdepth}}{0}%
983         {}%
984         {\LWR@orignewpage}%
985     \LWR@traceinfo{LWR@maybe@orignewpage done}%
986 }
```

## 27.10 Global boxes

`\LWR@gsavebox` {*macroname*} {*contents*}

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

```
987 \DeclareRobustCommand\lwr@gsavebox[1]{%
988     \@ifnextchar(%)
989         {\lwr@gsavepicbox#1}{\@ifnextchar[\{\lwr@gsavebox#1\}\}{\lwr@gbox#1}%
990 \long\def\lwr@gbox#1#2{\global\setbox#1\hbox{%
991     \color@setgroup#2\color@endgroup}}
992 \def\lwr@gsavebox#1[#2]{%
993     \@ifnextchar[\{\lwr@igsavebox#1[#2]\}{\lwr@igsavebox#1[#2][c]}%
994 \long\def\lwr@igsavebox#1[#2][#3]{%
995     \lwr@gbox#1{\imakebox[#2][#3]{#4}}%
996 \def\lwr@gsavepicbox#1(#2,#3){%
997     \@ifnextchar[%]
998         {\lwr@igsavepicbox#1(#2,#3)\{\lwr@igsavepicbox#1(#2,#3)[\]}}%
999 \long\def\lwr@igsavepicbox#1(#2,#3)[#4]{%
1000     \lwr@gbox#1{\imakepicbox(#2,#3)[#4]{#5}}}}
```

Env `\LWR@glrbox` {*macroname*}

```
1001 \def\lwr@glrbox#1{%
1002     \edef\reserved@a{%
1003         \endgroup
1004         \global\setbox#1\hbox{%
1005             \begingroup\aftergroup}%
1006             \def\noexpand\@currenvir{\currenvir}%
1007             \def\noexpand\@currenvline{\on@line}%
1008     \reserved@a
1009     \endpfalse
1010     \color@setgroup
1011     \ignorespaces}
1012 \let\lwr@endglrbox\lwr@endlrbox
```

## 27.11 Converting a macro name to a cs name

```
\macro{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>

```
1013 \newcommand*{\macro{macro}{csname}}[1]{%
1014   \ifcat\relax\noexpand#1%
1015     \expandafter\expandafter\expandafter\@gobble\expandafter\string
1016   \fi
1017   #1%
1018 }
```

## 27.12 Title case

```
\LWR{texttitlecase}
```

```
1019 \ExplSyntaxOn
1020 \newcommand*{\LWR{texttitlecase}}[1]{%
1021   \text_titlecase:n{#1}%
1022 }
1023 \ExplSyntaxOff
```

## 27.13 LetLtxMacros

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

\LetLtxMacro with cs names.

```
1024 \newcommand*{\LWR@LetLtxMacros}[2]{%
1025   \expandafter\LetLtxMacro\csname #1\expandafter\endcsname%
1026   \csname#2\endcsname%
1027 }
```

## 27.14 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`.

```
1028 \newcommand*{\LWR@absorbstar}[1]{%
1029   \LWR@LetLtxMacros{\LWR@origns@#1}{#1}%
1030   \csdef{#1}{\@ifstar{\csuse{\LWR@origns@#1}}{\csuse{\LWR@origns@#1}}}
1031   \expandafter\robustify\csname #1\endcsname
1032 }
```

## 28 Operating-System portability

```

Prog Unix
Prog Mac OS
Prog Linux
Prog MS-Windows
Prog Windows
Opt OSWindows

```

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.

If MS-WINDOWS is not correctly detected, use the `lwarp` option `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:

```
1033 \let\LWRpercent\@percentchar
```

The literal \$ character:

```

1034 \catcode`\$=12
1035 \def\LWRdollar{\$}
1036 \catcode`\$=3

```

The literal & character:

```

1037 \catcode`\&=12
1038 \def\LWRamp{\&}
1039 \catcode`\&=4

```

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

```

1040 \catcode`\&=0
1041 &\catcode`\&=12
1042 &\def&\LWRbackslash{\}
1043 &\catcode`\&=0
1044 \catcode`\&=4

```

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

```

1045 \catcode`\&=1
1046 \catcode`\{=12
1047 \def\LWRleftbrace&{}
1048 \catcode`\{=1
1049 \catcode`\&=4

```

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

```
1050 \catcode`\&=2
```

---

```
1051 \catcode`\}=12
1052 \def\LWRrightbrace{}&
1053 \catcode`\}=2
1054 \catcode`\&=4
```

The literal # character:

```
1055 \catcode`\#=12
1056 \def\LWRhash{#}
1057 \catcode`\#=6
```

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

```
1058 \def\LWRopquote{'}
```

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

```
1059 \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.

```
1060 \newbool{usingOSWindows}
1061 \boolfalse{usingOSWindows}
```

## 28.3 UNIX, LINUX, and Mac OS

\OSPathSymbol Symbol used to separate directories in a path.

```
1062 \newcommand*{\OSPathSymbol}{/}
```

## 28.4 MS-WINDOWS

For MS-WINDOWS:

\LWR@setOSWindows Set defaults for the MS-WINDOWS operating system. lwarf attempts to auto-detect the operatings system, and the OSWindows option may also be used to force MS-WINDOWS compatibility.

```
1063 \newcommand*{\LWR@setOSWindows}
1064 {
1065 \booltrue{usingOSWindows}
1066 \renewcommand*{\OSPathSymbol}{\@backslashchar}
1067 \def\LWRopquote{"}
1068 \def\LWRopseq{\space\LWRamp\space\space}
1069 }
```

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

```
1070 \ifwindows
1071 \LWR@setOSWindows
1072 \fi
```

## 29 Package options

Pkg kvoptions

Allows key/value package options.

```
1073 \RequirePackage{kvoptions}
1074 \SetupKeyvalOptions{family=LWR,prefix=LWR@}
```

\lwarpsetup A user interface to set the keys:

```
1075 \newcommand{\lwarpsetup}[1]{\setkeys{LWR}{#1}}
```

Bool warpingprint

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

Bool warpingHTML

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

```
1076 \newbool{warpingprint}
1077 \newbool{warpingHTML}
1078 \newbool{mathjax}
1079 \newbool{LWR@origmathjax}
```

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

```
1080 \booltrue{warpingprint}%
1081 \boolfalse{warpingHTML}%
1082 \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.

```
1083 \DeclareVoidOption{warpprint}{%
1084     \PackageInfo{lwarp}{Using option 'warpprint'}%
1085     \booltrue{warpingprint}%
1086     \boolfalse{warpingHTML}%
1087 }
```

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.

```
1088 \DeclareVoidOption{warpHTML}{%
1089     \PackageInfo{lwarp}{Using option 'warpHTML'}%
1090     \booltrue{warpingHTML}%
1091     \boolfalse{warpingprint}%
1092 }
```

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.

```
1093 \DeclareVoidOption{mathsvg}{%
1094     \PackageInfo{lwarf}{Using option 'mathsvg'}
1095     \boolfalse{mathjax}%
1096     \boolfalse{LWR@origmathjax}%
1097 }
```

Opt `mathjax`

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

```
1098 \DeclareVoidOption{mathjax}{%
1099     \PackageInfo{lwarf}{Using option 'mathjax'}
1100     \booltrue{mathjax}%
1101     \booltrue{LWR@origmathjax}%
1102 }
```

Opt `BaseJobname`

**Default:** `\jobname`

Option `BaseJobname` sets the `\BaseJobname` for this document.

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.

```
1103 \DeclareStringOption[\jobname]{BaseJobname}
```

Opt `ImagesDirectory`

**Default:** `\jobname-images`

Option `ImagesDirectory` sets the name of the directory to use for the `lateximage` images.

```
1104 \DeclareStringOption[\BaseJobname-images]{ImagesDirectory}
```

Opt `ImagesName`

**Default:** `image-`

Option `ImagesName` sets the prefix to use for the `lateximage` images.

```
1105 \DeclareStringOption[image-]{ImagesName}
```

Opt `makeindexStyle`

**Default:** `lwarf.ist`

Selects a custom `.ist` file. A customized file should be based on `lwarf.ist`. See section [8.6.20](#).

```
1106 \DeclareStringOption[lwarf.ist]{makeindexStyle}
```

Opt `xindyStyle`

**Default:** `lwarf.xdy`

Selects a custom `.xdy` file. A customized file should be based on `lwarf.xdy`. See section [8.6.21](#).

```
1107 \DeclareStringOption[lwarf.xdy]{xindyStyle}
```

Opt `xindyLanguage`

**Default:** `english`

Sets the `xindy` language to be assigned in `lwarfmk`'s configuration files. This is then used by `lwarfmk` while processing the index and glossary.

```
1108 \DeclareStringOption[english]{xindyLanguage}
```

Opt `xindyCodepage`

**Default:** `utf8`

Sets the `xindy` codepage to be assigned in `lwarfmk`'s configuration files. This is then used by `lwarfmk` while processing the index.

```
1109 \DeclareStringOption[utf8]{xindyCodepage}
```

Opt `xindexConfig` Selects a custom `xindex-*.lua` file. A customized file should be based on  
`Default: <empty>` `xindex-cfg.lua`. See section [8.6.22](#).

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

Opt `pdftotextEnc` The option `pdftotextEnc` sets the encoding used by `pdftotext`. This is passed to  
`Default: UTF-8` `pdftotext` using its `-enc` option, and is used when converting LATEX PDF output with  
HTML tags into a plain-text file with HTML tags.

```
1111 \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`:

```
1112 \newbool{LWR@creatinglwarpmk}
1113 \boolfalse{LWR@creatinglwarpmk}
1114
1115 \DeclareVoidOption{lwarpmk} {
1116     \PackageInfo{lwarf}{Using option 'lwarpmk'}
1117     \booltrue{LWR@creatinglwarpmk}
1118 }
```

Opt `OSWindows` Tells `lwarf` 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.

```
1119 \DeclareVoidOption{OSWindows} {
1120     \PackageInfo{lwarf}{Using option 'OSWindows'}
1121     \LWR@setOSWindows
1122 }
```

Opt `HomeHTMLFilename` The filename of the homepage. The default is the jobname. This option is stored  
`Default: \BaseJobname` into `\LWR@HomeHTMLFilename`, and later transferred into `\HomeHTMLFilename` for internal use.

```
1123 \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.

```
1124 \DeclareStringOption[]{HTMLFilename}
```

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

```
1125 \DeclareStringOption[]{PrintLatexCmd}
```

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

```
1126 \DeclareStringOption[]{HTMLLatexCmd}
```

|                     |   |
|---------------------|---|
| Opt PrintIndexCmd   | The shell commands to use to compile the print indexes.<br><br>Default: <empty><br><br>1127 \DeclareStringOption[] {PrintIndexCmd}  |
| Opt HTMLIndexCmd    | The shell commands to use to compile the HTML indexes.<br><br>Default: <empty><br><br>1128 \DeclareStringOption[] {HTMLIndexCmd}  |
| Opt LatexmkIndexCmd | The shell commands to be used by <i>latexmk</i> to compile the print indexes. Unlike PrintIndexCmd and HTMLIndexCmd, LatexmkIndexCmd does not include the filename, which will be provided by <i>latexmk</i> .<br><br>1129 \DeclareStringOption[] {LatexmkIndexCmd} |
| Opt makeindex       | Tells lwarf to use <i>makeindex</i> for index generation. When lwarpmk.conf and *.lwarpmkconf are generated, PrintIndexCmd and HTMLIndexCmd will be set for <i>makeindex</i> with a single index file.<br><br>1130 \DeclareBoolOption[false] {makeindex}            |
| Opt xindy           | Tells lwarf to use <i>xindy</i> for index generation. When lwarpmk.conf and *.lwarpmkconf are generated, PrintIndexCmd and HTMLIndexCmd will be set for <i>xindy</i> with a single index file.<br><br>1131 \DeclareBoolOption[false] {xindy}                        |
| Opt xindex          | Tells lwarf to use <i>xindex</i> for index generation. When lwarpmk.conf and *.lwarpmkconf are generated, PrintIndexCmd and HTMLIndexCmd will be set for <i>xindex</i> with a single index file.<br><br>1132 \DeclareBoolOption[false] {xindex}                     |
| Opt IndexRef        | Tells lwarf how to display the index entries in HTMLoutput. See section 7.5.<br><br>Default: cref<br><br>1133 \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.<br><br>Default: makeglossaries<br><br>1134 \DeclareStringOption[makeglossaries] {GlossaryCmd}                                |
| Opt latexmk         | Option latexmk tells lwarpmk to use latexmk when compiling documents.<br><br>1135 \DeclareBoolOption[false] {latexmk}   |
| Opt dvips           | Option dvips tells lwarpmk to use dvips when compiling DVI <i>latex</i> documents.<br><br>1136 \DeclareBoolOption[false] {dvips}  |
| Opt dvipdfm         | Option dvipdfm tells lwarpmk to use dvipdfm when compiling DVI <i>latex</i> documents.<br><br>1137 \DeclareBoolOption[false] {dvipdfm}  |

Opt dvipdfmx

Option `dvipdfmx` tells *l warp* to use `dvipdfmx` when compiling DVI *latex* documents.

```
1138 \DeclareBoolOption[false]{dvipdfmx}
```

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

```
1139 \ProcessKeyvalOptions*\relax
```

## 29.1 Additional options support

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

```
1140 \providecommand*{\BaseJobname}{\LWR@BaseJobname}
```

Defaults unless already over-ridden by the user:

```
1141 \ifcsempty{\LWR@HomeHTMLFilename}{%
1142     \newcommand*{\HomeHTMLFilename}{\BaseJobname}%
1143 }{%
1144     \csedef{HomeHTMLFilename}{\LWR@HomeHTMLFilename}%
1145 }%
1146 \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.

```
1148 \newcommand*{\LWR@sanitized}{}%
```

`\LWR@sanitize {<text>}`

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

```
1149 \newcommand*{\LWR@sanitize}[1]{%
1150 \edef\LWR@sanitized{\#1}%
1151 \edef\LWR@sanitized{\detokenize\expandafter{\LWR@sanitized}}%
1152 }
```

Sanitize some string options to neutralize underscores.

```
1153 \LWR@sanitize{\LWR@BaseJobname}%
1154 \edef\LWR@BaseJobname{\LWR@sanitized}%
1155 %
1156 \LWR@sanitize{\LWR@ImagesDirectory}%
1157 \edef\LWR@ImagesDirectory{\LWR@sanitized}%
1158 %
1159 \LWR@sanitize{\LWR@ImagesName}%
1160 \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 **lwarf xindy** option was selected, then likewise for *xindex* if the **xindex** option was selected.

```
1161 \ifdefempty{\LWR@PrintIndexCmd}{  
1162     \renewcommand{\LWR@PrintIndexCmd}{%  
1163         makeindex -s \LWR@makeindexStyle \space \jobname.idx%  
1164     }  
1165     \ifbool{\LWR@xindy}{  
1166         \renewcommand{\LWR@PrintIndexCmd}{%  
1167             xindy  
1168             -M \LWR@xindyStyle \space  
1169             -L \LWR@xindyLanguage \space  
1170             -C \LWR@xindyCodepage \space  
1171             \jobname.idx%  
1172         }  
1173     }{}  
1174     \ifbool{\LWR@xindex}{  
1175         \ifdefvoid{\LWR@xindexConfig}{  
1176             \renewcommand{\LWR@PrintIndexCmd}{%  
1177                 xindex  
1178                 \jobname.idx%  
1179             }  
1180         }{  
1181             \renewcommand{\LWR@PrintIndexCmd}{%  
1182                 xindex  
1183                 -c \LWR@xindexConfig \space  
1184                 \jobname.idx%  
1185             }  
1186         }  
1187     }{}  
1188 }{}  
1189  
1190 \ifdefempty{\LWR@HTMLIndexCmd}{  
1191     \renewcommand{\LWR@HTMLIndexCmd}{%  
1192         makeindex -s \LWR@makeindexStyle \space \jobname_html.idx%  
1193     }  
1194     \ifbool{\LWR@xindy}{  
1195         \renewcommand{\LWR@HTMLIndexCmd}{%  
1196             xindy  
1197             -M \LWR@xindyStyle \space  
1198             -L \LWR@xindyLanguage \space  
1199             -C \LWR@xindyCodepage \space  
1200             \jobname_html.idx%  
1201         }  
1202     }{}  
1203     \ifbool{\LWR@xindex}{  
1204         \ifdefvoid{\LWR@xindexConfig}{  
1205             \renewcommand{\LWR@HTMLIndexCmd}{%  
1206                 xindex  
1207                 \jobname_html.idx%  
1208             }  
1209         }{  
1210             \renewcommand{\LWR@HTMLIndexCmd}{%  
1211                 xindex  
1212                 -c \LWR@xindexConfig \space  
1213                 \jobname_html.idx%  
1214             }  
1215         }{}  
1216     }{}  
1217 }
```

```

1218
1219 \ifdefempty{\LWR@LatexmkIndexCmd}%
1220   \renewcommand{\LWR@LatexmkIndexCmd}{%
1221     makeindex -s \LWR@makeindexStyle%
1222   }
1223 \ifbool{\LWR@xindy}{%
1224   \renewcommand{\LWR@LatexmkIndexCmd}{%
1225     xindy
1226     -M \LWR@xindyStyle \space
1227     -L \LWR@xindyLanguage \space
1228     -C \LWR@xindyCodepage%
1229   }
1230 }{%
1231 \ifbool{\LWR@xindex}{%
1232   \ifdefvoid{\LWR@xindexConfig}{%
1233     \renewcommand{\LWR@LatexmkIndexCmd}{%
1234       xindex
1235     }
1236   }{%
1237     \renewcommand{\LWR@LatexmkIndexCmd}{%
1238       xindex
1239       -c \LWR@xindexConfig
1240     }
1241   }
1242 }{%
1243 }{%
1243 }{%

```

## 29.2 Conditional compilation

\warpprintonly {\langle contents \rangle}

Only process the contents if producing printed output.

```
1244 \newcommand{\warpprintonly}[1]{\ifbool{\warpingprint}{#1}{}}
```

\warpHTMLonly {\langle contents \rangle}

Only process the contents if producing HTML output.

```
1245 \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.

```
1246 \RequirePackage{comment}
```

\LWR@includecomment {\langle env name \rangle} {\langle partial filename \rangle}

\LWR@excludecomment {\langle env name \rangle} {\langle partial filename \rangle}

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.

```

1247 \def\LWR@includecomment
1248 #1#2{\message{Lwarf: Including comment '#1'}%
1249   \csarg\def{After#1Comment}%
1250     \CloseAndInputCutFile%
1251     \csundef{LWR@#1commentused}%
1252   }
1253   \csarg\def{#1}{%
1254     \endgroup
1255     \ifcsdef{LWR@#1commentused}{%
1256       \PackageError{lwarf}%
1257         {Nested #1 environment}%
1258       {%
1259         Environment #1 cannot be nested.\MessageBreak
1260         This can happen when a package is loaded
1261         from inside a\MessageBreak
1262         #1 environment.%}
1263       }%
1264     }{\relax}
1265     \csdef{LWR@#1commentused}{}%
1266     \message{Including '#1' comment.}%
1267     \def\CommentCutFile{comment_#2.cut}%
1268     \SetUpCutFile
1269     \ProcessComment{#1}
1270   }%
1271   \CommentEndDef{#1}
1272 }
1273
1274 \def\LWR@excludecomment
1275 #1#2{\message{Lwarf: Excluding comment '#1'}%
1276   \csarg\def{#1}{%
1277     \endgroup
1278     \message{Excluding '#1' comment.}%
1279     \begingroup
1280       \def\CommentCutFile{comment_#2.cut}%
1281       \def\ProcessCutFile{}%
1282       \def\ThisComment####1{}%
1283       \ProcessComment{#1}
1284     }%
1285   \csarg\def{After#1Comment}{\CloseAndInputCutFile \endgroup}
1286   \CommentEndDef{#1}}

```

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

```
1287 \LWR@includecomment{warpall}{all}
```

Env warpHTML For HTML output:

```

1288 \ifbool{warpingHTML}
1289   {\LWR@includecomment{warpHTML}{html}}
1290   {\LWR@excludecomment{warpHTML}{html}}

```

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

```

1291 \ifbool{warpingprint}
1292   {\LWR@includecomment{warpprint}{print}}
1293   {\LWR@excludecomment{warpprint}{print}}

```

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

```
1294 \begin{warpprint}
1295 \LWR@excludecomment{warpMathJax}{mathjax}
1296 \end{warpprint}
1297
1298 \begin{warpHTML}
1299 \ifbool{mathjax}
1300   {\LWR@includecomment{warpMathJax}{mathjax}}
1301   {\LWR@excludecomment{warpMathJax}{mathjax}}
1302 \end{warpHTML}
```

Env warpsvg Only if SVG math is being used along with HTML, or in print mode.

```
1303 \begin{warpprint}
1304 \LWR@includecomment{warpsvg}{mathsvg}
1305 \end{warpprint}
1306
1307 \begin{warpHTML}
1308 \ifbool{mathjax}
1309   {\LWR@excludecomment{warpsvg}{mathsvg}}
1310   {\LWR@includecomment{warpsvg}{mathsvg}}
1311 \end{warpHTML}
```

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

```
1312 \ifbool{LWR@creatinglwarpmk}
1313   {\LWR@includecomment{LWRcreatelwarpmk}{lwarpmk}}
1314   {\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:** 1315 \begin{warpHTML}

Pkg fontspec Load fontspec if necessary:

```
1316 \ifxetexorluatex
1317 \IfPackageLoadedTF{fontspec}{}{
1318   \usepackage[no-math]{fontspec}
1319 }
```

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

```
1320 \defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
1321 \defaultfontfeatures[\sfamily]{Ligatures={NoCommon,TeX}}
1322 \defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
1323 \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 browers but at least won't corrupt written words.

```

1324 \RequirePackage{microtype}
1325
1326 \microtypesetup{
1327     protrusion=false,
1328     expansion=false,
1329     tracking=false,
1330     kerning=false,
1331     spacing=false}
1332 %   \begin{macrocode}
1333 %
1334 % Disable ligatures for typewriter fonts.
1335 % The comma was causing issues with \MathJax\ and \cs{,} followed by a comma.
1336 % Ligatures for f, q, t, etc used to be disabled for non-typewriter fonts, but
1337 % are now allowed.
1338 % \changes{v0.89}{2020/08/01}{Disable typewriter ligatures.}
1339 % ^^A \DisableLigatures[{},f,q,t,T,Q]{encoding = *,family = *}% previous
1340 %   \begin{macrocode}
1341 \DisableLigatures{encoding = *,family = tt*}

1342 \fi

1343 \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:** 1344 \begin{warpHTML}

If **geometry** has not yet been loaded, use the preexisting page and text sizes to be preserved for later reuse. These will be replaced by **l warp \AtBeginDocument** with a very large page size to reduce HTML tag overflow off the page.

```

1345 \IfPackageLoadedTF{geometry}
1346 {}{
1347     \RequirePackage[
1348         reset,
1349         paperwidth=\paperwidth,
1350         paperheight=\paperheight,
1351         textwidth=\textwidth,
1352         textheight=\textheight,
1353         left=\oddsidemargin,
1354         top=\topmargin,
```

```

1355         marginparsep=\marginparsep,
1356         marginparwidth=\marginparwidth,
1357     ]{geometry}
1358 }
```

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.

```

1359 \LetLtxMacro{\LWR@origgeometry}{\geometry}
1360 \LetLtxMacro{\LWR@orignewgeometry}{\newgeometry}
1361 \LetLtxMacro{\LWR@origrestoregeometry}{\restoregeometry}
1362 \LetLtxMacro{\LWR@origsavegeometry}{\savegeometry}
1363 \LetLtxMacro{\LWR@origloadgeometry}{\loadgeometry}
```

`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.

```

1364 \newbool{LWR@allowanothergeometry}
1365 \booltrue{LWR@allowanothergeometry}
```

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

```
1366 \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`.

```
1367 \LWR@origsavegeometry{LWR@usergeometry}
```

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

```

1368 \newlength{\LWR@userspaperwidth}
1369 \setlength{\LWR@userspaperwidth}{\paperwidth}
1370
1371 \newlength{\LWR@userspaperheight}
1372 \setlength{\LWR@userspaperheight}{\paperheight}
1373
1374 \newlength{\LWR@usersmarginparwidth}
1375 \setlength{\LWR@usersmarginparwidth}{\marginparwidth}
1376
1377 \newlength{\LWR@userstextwidth}
1378 \setlength{\LWR@userstextwidth}{\textwidth}
1379
1380 \newlength{\LWR@userstextheight}
1381 \setlength{\LWR@userstextwidth}{\textheight}
```

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

```
1382 \LWR@origgeometry{  
1383     reset,  
1384     paperheight=190in,  
1385     paperwidth=20in,  
1386     left=2in,  
1387     right=6in,  
1388     top=1in,  
1389     bottom=1in,  
1390     heightrounded,%  
1391 }
```

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

```
1392 \LWR@origsavegeometry{\LWR@lwarfgeometry}
```

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

```
1393 \boolfalse{\LWR@allowanothergeometry}%
```

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

```
1394 \setlength{\textheight}{0.8\paperheight}  
1395 \setlength{\textwidth}{0.7\paperwidth}  
1396  
1397 \@twosidefalse  
1398 @mparswitchfalse  
1399 }% \AtEndPreamble  
1400  
1401 \end{warpHTML}
```

**for HTML & PRINT:** 1402 `\begin{warpall}`

Pkg xparse

LATEX3 command argument parsing

```
1403 \RequirePackage{xparse}
```

Pkg calc

```
1404 \RequirePackage{calc}
```

```
1405 \end{warpall}
```

**for HTML output:** 1406 `\begin{warpHTML}`

Pkg expl3

LATEX3 programming

```
1407 \RequirePackage{expl3}
```

Pkg gettitlestring

Used to emulate \nameref.

```
1408 \RequirePackage{getttitlestring}
1409
1410
1411 \end{warpHTML}
```

**for HTML & PRINT:** 1412 \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.

```
1413 \@ifundefined{filec@ntents@opt}{% older kernel, discard optional args
1414
1415     \RequirePackage{filecontents}
1416
1417     \LetLtxMacro{\LWR@orig}{\filec@ntents\filec@ntents}
1418
1419     \IfPackageAtLeastTF{filecontents}{2011/10/08}
1420     {
```

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

```
1421         \renewcommand*{\filec@ntents}[1][]{{\LWR@orig@\filec@ntents}}
1422     }
1423     {% 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>

```
1424         \newwrite\fcwrite
1425         \renewcommand*{\filec@ntents}[1][]{{%
1426             \def\chardef##1\write{\let\reserved@c\fcwrite}%
1427             \LWR@orig@\filec@ntents%
1428         }
1429     }
1430
1431 }% older kernel
1432 {% newer kernel
```

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

```
1433 }% newer kernel, filecontents env accepts optional args, do not load package
1434 \end{warpall}
```

**for HTML output:** 1435 \begin{warpHTML}

Pkg xifthen

1436 \RequirePackage{xifthen}

Pkg verbatim

1437 \RequirePackage{verbatim}

Pkg refcount

Provides \setcounterref, \setcounterpageref, etc.

1438 \RequirePackage{refcount}

Pkg newfloat

1439 \RequirePackage{newfloat}

1440 \end{warpHTML}

**for HTML & PRINT:** 1441 \begin{warpall}

Pkg xstring

There was a short-term bug in xstring regarding \IfInteger which affected l warp's index generation. The updated version is requested here.



1442 \RequirePackage{xstring}[2019/02/01]

Pkg environ

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

1443 \RequirePackage{environ}

1444 \end{warpall}

**for HTML output:** 1445 \begin{warpHTML}

Pkg printlen

Used to convert lengths for image width/height options.

1446 \RequirePackage{printlen}

\LWR@printlength {<length>}

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

```
1447 \newrobustcmd*{\LWR@printlength}[1]{%
 1448   \begingroup%
 1449   \uselengthunit{PT}%
 1450   \renewcommand*{\unitspace}{()}%
 1451   \ifdimless{#1}{10pt}{%
 1452     \printlength{#1}%
 1453   }{%
 1454     \rndprintlength{#1}%
 1455   }%
 1456   \endgroup%
 1457 }
```

1458 \end{warpHTML}

## 31 Loading packages

\RequirePackage and \usepackage are modified to error-check for certain packages, and for HTML they load the l warp- version if it exists.

**for HTML & PRINT:** 1459 \begin{warpall}

Remember the original \RequirePackage:

```
1460 \LetLtxMacro{\LWR@origRequirePackage}{\RequirePackage}
1461 \LetLtxMacro{\LWR@origRequirePackageWithOptions}{\RequirePackageWithOptions}
```

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

```
1462 \newcommand*{\LWR@requirepackagenames}{}%
```

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

```
1463 \newcommand*{\LWR@parsedrequirepackagenames}{}%
```

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

```
1464 \newcommand*{\LWR@nullifycomment}%
1465   \PackageInfo{l warp}%
1466   {Nullifying the comment environment before loading \LWR@strresulttwo,}%
1467   \let\comment\relax%
1468   \let\endcomment\relax%
1469 }
```

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

Note that argument 4 is passed directly to \StrBetween.

```
1470 \newcommand*{\LWR@findword}[3][,]{%
1471   \StrBetween[#3,\numexpr#3+1]{#1#2#1}{#1}{#1}%
1472 }
```

\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:

```
1473 \LetLtxMacro{\LWR@checkloadnever}{\LWR@afterloadnever}
```

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

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

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

```
1475 \edef{\LWR@tempone}{#1}%
```

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

```
1476 \LWR@checkloadnevers
```

The following should only be loaded before l warp:

```
1477 \LWR@checkloadbefore{ctex}
1478 \LWR@checkloadbefore{fontspec}
1479 \LWR@checkloadbefore{inputenc}
1480 \LWR@checkloadbefore{inputenx}
1481 \LWR@checkloadbefore{nfssext-cfr}
1482 \LWR@checkloadbefore{fontaxes}
1483 \LWR@checkloadbefore{kotex}
1484 \LWR@checkloadbefore{kpfonts}% textcomp option clash
1485 \LWR@checkloadbefore{luatexja}
1486 \LWR@checkloadbefore{luatexja-fontspec}
1487 \LWR@checkloadbefore{luatexko}
1488 \LWR@checkloadbefore{morewrites}
1489 \LWR@checkloadbefore{newclclude}
1490 \LWR@checkloadbefore{newunicodechar}
1491 \LWR@checkloadbefore{plex}
1492 \LWR@checkloadbefore{xeCJK}
1493 \LWR@checkloadbefore{xetexko}
1494 \LWR@checkloadbefore{zxjatype}
1495 }
```

```
\LWR@lookforpackagename {\langle index\rangle}
```

If HTML, and if this is an l warp-supported package name, re-direct it to the l warp version by renaming it l warp- 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.

```
1496 \newcommand*{\LWR@lookforpackagename}[1]{%
```

Find the index'th package name from the list:

```
1497 \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.

```
1498 \StrSubstitute[100]{\LWR@strresult}{}{}[\LWR@strresulttwo]%
```

See if the package name was found:

```
1499 \IfStrEq{\LWR@strresulttwo}{}%
1500 {}% no filename
1501 {}% 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.

```
1502 \ifdefstring{\LWR@strresulttwo}{easyReview}{\LWR@nullifycomment}{}%
1503 \ifdefstring{\LWR@strresulttwo}{changes}{\LWR@nullifycomment}{}%
```

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

```
1504     \ifbool{warpingHTML}{\LWR@checkloadfilename{\LWR@strresulttwo}}{}
```

If `HTML`, and if found, and if an `l warp`-equivalent name exists, use `l warp-*` instead.

```
1505     \ifboolexpr{
1506         bool{warpingHTML} and
1507         test{\IfFileExists{l warp-\LWR@strresulttwo.sty}}
1508     }%
1509     {%
1510         \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1511             \edef\LWR@parsedrequirepackagenames{l warp-\LWR@strresulttwo}%
1512         }{%
1513             \edef\LWR@parsedrequirepackagenames{%
1514                 \LWR@parsedrequirepackagenames,l warp-\LWR@strresulttwo%
1515             }%
1516         }%
1517     }%
1518     {%
```

Otherwise, use the current package name.

```
1519     \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1520         \edef\LWR@parsedrequirepackagenames{\LWR@strresulttwo}%
1521     }{%
1522         \edef\LWR@parsedrequirepackagenames{%
1523             \LWR@parsedrequirepackagenames,\LWR@strresulttwo}%
1524         }%
1525     }%
1526     {%
1527     }% no l warp-* file
1528 }% yes filename
```

`\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.

```
1529 \RenewDocumentCommand{\RequirePackage}{o m o}{%
```

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

```
1530 \renewcommand*{\LWR@requirepackagenames}{#2}%
1531 \renewcommand*{\LWR@parsedrequirepackagenames}{}%
1532 \LWR@lookforpackagename{1}%
1533 \LWR@lookforpackagename{2}%
1534 \LWR@lookforpackagename{3}%
1535 \LWR@lookforpackagename{4}%
1536 \LWR@lookforpackagename{5}%
1537 \LWR@lookforpackagename{6}%
1538 \LWR@lookforpackagename{7}%
1539 \LWR@lookforpackagename{8}%
1540 \LWR@lookforpackagename{9}%
1541 \LWR@lookforpackagename{10}%
1542 \LWR@lookforpackagename{11}%
```

---

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

```

1543 \LWR@lookforpackagename{12}%
1544 \LWR@lookforpackagename{13}%
1545 \LWR@lookforpackagename{14}%
1546 \LWR@lookforpackagename{15}%
1547 \LWR@lookforpackagename{16}%
1548 \LWR@lookforpackagename{17}%
1549 \LWR@lookforpackagename{18}%
1550 \LWR@lookforpackagename{19}%
1551 \LWR@lookforpackagename{20}%

```

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

```

1552 \IfSubStr{\detokenize\expandafter{#1}}{\LWRleftbrace}%
1553   {%
1554     \PackageError{lwarf}{%
1555       You used:\MessageBreak
1556       \protect\usepackage[#1]{#2}\MessageBreak
1557       Braces in the package options will fail with Lwarf.\MessageBreak
1558       Instead, use:\MessageBreak
1559       \protect\PassOptionsToPackage{#1}{#2}\MessageBreak
1560       \protect\usepackage{#2}\MessageBreak
1561       near the line number given below.\MessageBreak
1562       Enter 'h' for more info%
1563     }%
1564   {%
1565     See the Lwarf manual troubleshooting index entry for\MessageBreak
1566     ‘package, options with braces’%
1567   }%
1568 }%
1569 {}% no brace

```

\RequirePackage depending on the options and version:

```

1570 \IfValueTF{#1}%
1571 {%
1572   % options given
1573   \IfValueTF{#3}{%
1574     {\LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}{#3}}%
1575   }%
1576   % no options given
1577   \IfValueTF{#3}{%
1578     {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}{#3}}%
1579   }%
1580 }%
1581 }
1582 \LetLtxMacro\usepackage\RequirePackage
1583 \onlypreamble\RequirePackage
1584 \onlypreamble\usepackage

1585 \end{warpall}

```

**for HTML output:** 1586 \begin{warpHTML}

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

Uses the original package, including options.

```

1587 \NewDocumentCommand{\LWR@ProvidesPackagePass}{m o}%
1588     \PackageInfo{l warp}{%
1589         Using package '#1', \MessageBreak
1590         and adding l warp modifications, including options, \MessageBreak%
1591     }%
1592     \IfValueTF{#2}{%
1593         {\ProvidesPackage{l warp-#1}[#2]}%
1594         {\ProvidesPackage{l warp-#1}}%
1595     \DeclareOption*{%
1596         \PassOptionsToPackage{\CurrentOption}{#1}%
1597     }%
1598     \ProcessOptions\relax%

```

If using `catoptions`, an error occurs if a package is loaded with an option then loaded again with no options. `l warp` 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.

```

1599     \IfPackageLoadedTF{#1}{%
1600         \edef\LWR@tempone{\csuse{opt@#1.sty}}%
1601         \IfValueTF{#2}{%
1602             {%
1603                 \expandafter\LWR@origRequirePackage%
1604                 \expandafter[\LWR@tempone]{#1}[#2]%
1605             }%
1606             {%
1607                 \expandafter\LWR@origRequirePackage%
1608                 \expandafter[\LWR@tempone]{#1}%
1609             }%
1610         }{%
1611             \IfValueTF{#2}{%
1612                 {\LWR@origRequirePackage[#1][#2]}%
1613                 {\LWR@origRequirePackage[#1]}%
1614         }%

```

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

```

1615     \DeclareOption*{}%
1616     \ProcessOptions\relax%
1617 }

```

\LWR@ProvidesPackageDropA {*(name)*} {*(date or -NoValue-)*}

Declares the package. Factored for reuse.

```

1618 \newcommand*{\LWR@ProvidesPackageDropA}[2]{%
1619     \PackageInfo{l warp}{%
1620         Replacing package '#1' with the l warp version, \MessageBreak
1621         and discarding options, %
1622     }%
1623     \IfValueTF{#2}{%
1624         {\ProvidesPackage{l warp-#1}[#2]}%
1625         {\ProvidesPackage{l warp-#1}}%
1626     }%

```

\LWR@ProvidesPackageDropB Nullifies then processes the options.

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

```
1627 \newcommand*{\LWR@ProvidesPackageDropB}{%
1628 % \ProcessOptions\relax% original LaTeX code
1629 \let\ds@\emptyset% from the original \ProcessOptions
1630 \edef\@curroptions{}% l warp modification to \ProcessOptions
1631 \@process@ptions\relax% from the original \ProcessOptions
1632 }
```

\LWR@ProvidesPackageDrop {*pkgnname*} [*version*]

Ignores the original package and uses l warp’s version instead. Drops/discards all options.

```
1633 \NewDocumentCommand{\LWR@ProvidesPackageDrop}{m o}{
```

Declare the package:

```
1634 \LWR@ProvidesPackageDropA{#1}{#2}
```

Ignore all options:

```
1635 \DeclareOption*{}
```

Process the options:

```
1636 \LWR@ProvidesPackageDropB
1637 }
```

```
1638 \end{warpHTML}
```

## 32 File handles

Defines file handles for writes.

**for HTML & PRINT:** 1639 \begin{warpall}

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

```
1640 \newwrite\LWR@quickfile%
```

```
1641 \end{warpall}
```

**for HTML output:** 1642 \begin{warpHTML}

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

```
1643 \newwrite\LWR@lateximagesfile
```

```
1644 \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:** 1645 `\begin{warpHTML}`

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

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

```
1646 \def\@include#1 {%
1647 \immediate\openout\LWR@quickfile #1_html_inc.tex% lwarp
1648 \immediate\write\LWR@quickfile{\string\input{#1.tex}}% lwarp
1649 \immediate\closeout\LWR@quickfile% lwarp
1650 \LWR@maybe@orignewpage% changed from clearpage
1651 \if@files
1652   \immediate\write\@mainaux{\string\@input{#1_html_inc.aux}}% changed
1653 \fi
1654 \@tempswatru
1655 \if@partsw
1656   \@tempswafalse
1657   \edef\reserved@b{#1}%
1658   \@for\reserved@a:=\@partlist\do
1659     {\ifx\reserved@a\reserved@b\@tempswatru\fi}%
1660 \fi
1661 \if@tempswa
1662   \let\@auxout\@partaux
1663   \if@files
1664     \immediate\openout\@partaux #1_html_inc.aux % changed
1665     \immediate\write\@partaux{\relax}%
1666   \fi
1667   \input{#1_html_inc.tex}% changed
1668   \LWR@maybe@orignewpage% changed from clearpage
1669   \@writeckpt{#1}%
1670   \if@files
1671     \immediate\closeout\@partaux
1672   \fi
1673 \else
1674   \deadcycles\z@
1675   \nameuse{cp@#1}%
1676 \fi
1677 \let\@auxout\@mainaux%
1678 }

1679 \end{warpHTML}
```

## 34 Copying a file

**for HTML output:** 1680 \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.

```

1681 \newwrite\LWR@copyoutfile    % open the file to write to
1682 \newread\LWR@copyinfile     % open the file to read from
1683
1684 \newcommand*\{\LWR@copyfile}[2]{%
1685     \LWR@traceinfo{\LWR@copyfile: copying #1 to #2}
1686
1687     \immediate\openout\LWR@copyoutfile=#2
1688     \openin\LWR@copyinfile=#1
1689     \begingroup\endlinechar=-1
1690     \makeatletter
1691
1692     \LWR@traceinfo{\LWR@copyfile: about to loop}
1693
1694     \loop\unless\ifeof\LWR@copyinfile
1695         \LWR@traceinfo{\LWR@copyfile: one line}
1696         \read\LWR@copyinfile to\LWR@fileline % Read one line and store it into \LWR@fileline
1697 % \LWR@fileline\par                                % print the content into the pdf
1698 % print the content:
1699     \immediate\write\LWR@copyoutfile{\unexpanded\expandafter{\LWR@fileline}}%
1700     \repeat
1701     \immediate\closeout\LWR@copyoutfile
1702     \LWR@traceinfo{\LWR@copyfile: done}
1703     \endgroup
1704 }

1705 \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:** 1706 \begin{warpall}

Bool LWR@tracinglwarp True if tracing is turned on.

1707 \newbool{LWR@tracinglwarp}

\tracinglwarp Turns on the debug tracing messages.

---

```
1708 \newcommand{\tracingl warp}{\booltrue{LWR@tracingl warp}}
```

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

```
1709 \newcommand{\LWR@traceinfo}[1]{%
1710 \ifbool{LWR@tracingl warp}%
1711 {%
1712   \typeout{*** l warp: #1}%
1713 }%
1714 {}%
1715 }
```

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

**Default:** false

```
1716 \newbool{HTMLDebugComments}
1717 \boolfalse{HTMLDebugComments}
```

If \tracingl warp, show where preamble hooks occur:

```
1718 \AfterEndPreamble{%
1719 \LWR@traceinfo{AfterEndPreamble}%
1720 }%
1721 %
1722 \AtBeginDocument{%
1723 \LWR@traceinfo{AtBeginDocument}%
1724 }
```

```
1725 \end{warpall}
```

## 36 Defining print and HTML versions of macros and environments

The following refers to defining objects inside l warp, and may also be of some use for package authors to adapt their packages for l warp. The following is not for the user's document.

Many macros and environments must be provided as both print and HTML versions.

While generating the print version of a document, the original macros as defined by L<sup>A</sup>T<sub>E</sub>X and its packages are used as-is.

While generating the HTML version of a document, the original macro or environment is redefined to call a new HTML version or a copy of the original print version. The new HTML versions of macros and environments are used most of the time. Copies of the print versions are used inside a *lateximage* environment, which draws and remembers an image of the printed output, and also several other places.

The general structure for providing print and HTML versions of a macro or environment is as follows:

**For a preexisting macro:** 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}{...}

\LWR@formatted{name}
\end{warpHTML}
```

`\LWR@formatted{name}` copies the original print version to a new name `\LWR@print@<name>`, then redefines `\name` to use either the print or HTML version depending on which mode `lwarf` is using.

**For a preexisting environment:** The process is similar. Note the use of `\LWR@formattedenv` instead of `\LWR@formatted`.

```
\begin{warpHTML}
\newenvironment{\LWR@HTML@name}{...}{...}

\LWR@formattedenv{name}
\end{warpHTML}
```

**For a new macro or environment:** The print version is defined inside `warpall`, so that it can also be seen and modified by during HTML output.

```
\begin{warpall}
\newcommand{\name}{...}% The print version.
\end{warpall}

\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}

\LWR@formatted{name}
\end{warpHTML}
```

Similar for an environment, using `\formattedenv`.

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 `lwarf` is producing a print document, the original definitions are used, as well as any new definitions defined in `warpall` above.
- When `lwarf` is generating HTML output, `\LWR@formatting` is set to “HTML”, and `\name` is directed to `\LWR@HTML@<name>`. For an environment, `\endname` is directed to `\endLWR@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 the new `\name` does not process any arguments, they are processed by `\LWR@print@name` or `\LWR@HTML@name`.

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:** 1726 `\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”.

```
1727 \newcommand*{\LWR@formatting}{HTML}
```

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

```
1728 \newcommand*{\LWR@formatted@checkname}[1]{%
1729     \ifcsundef{#1}{%
1730         \ifcsundef{\LWR@print@#1}{%
1731             \PackageError{lwarp}{%
1732                 \LWRbackslash#1 or \protect\LWR@print@#1\MessageBreak
1733                 must be defined before using \protect\LWR@formatted, etc%
1734             }{%
1735                 \{Perhaps #1 is misspelled.\}%
1736             }{\relax}%
1737         }{\relax}%
1738     \ifcsundef{\LWR@HTML@#1}{%
1739         \PackageError{lwarp}{%
1740             \LWRbackslash#1 must be defined
1741             before using \protect\LWR@formatted, etc%
1742         }{%
1743             \{Perhaps #1 is misspelled.\}%
1744         }{\relax}%
1745     }{\relax}%
1746 }{\relax}%
1747 }
```

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

```
1748 \newcommand*{\LWR@formatted@checkendname}[1]{%
1749     \ifcsundef{end#1}{%
1750         \ifcsundef{endLWR@print@#1}{%
1751             \PackageError{lwarp}{%
```

```

1752           {%
1753             \protect\end#1 or \protect\endLWR@print@#1\MessageBreak
1754             must be defined before using \protect\LWR@formatted, etc%
1755           }
1756           {Perhaps #1 is misspelled.}
1757           }{\relax}%
1758       }{\relax}%
1759     \ifcsundef{endLWR@HTML@#1}{%
1760       \PackageError{l warp}{%
1761         \%
1762           \protect\endLWR@HTML@#1 must be defined
1763           before using \protect\LWR@formatted, etc%
1764         }
1765         {Perhaps #1 is misspelled.}
1766       }{\relax}%
1767     }

```

\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.

```

1768 \newcommand*{\LWR@formatted}[1]{%
1769   \LWR@formatted@checkname{#1}%
1770   \ifcsundef{LWR@print@#1}{%
1771     \csNewCommandCopy\cs{LWR@print@#1}{#1}%
1772   }{%
1773     \ifcsundef{#1}{%
1774       \expandafter\newrobustcmd\csname #1\endcsname{%
1775         \@nameuse{LWR@\LWR@formatting @#1}%
1776       }%
1777     }{%
1778       \expandafter\renewrobustcmd\csname #1\endcsname{%
1779         \@nameuse{LWR@\LWR@formatting @#1}%
1780       }%
1781     }%
1782   }

```

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

An expandable version of \LWR@formatted.

```

1783 \newcommand*{\LWR@expandableformatted}[1]{%
1784   \LWR@formatted@checkname{#1}%
1785   \ifcsundef{LWR@print@#1}{%
1786     \csNewCommandCopy\cs{LWR@print@#1}{#1}%
1787   }{%
1788     \ifcsundef{#1}{%
1789       \expandafter\newcommand\csname #1\endcsname{%
1790         \@nameuse{LWR@\LWR@formatting @#1}%
1791       }%
1792     }{%
1793       \expandafter\renewcommand\csname #1\endcsname{%
1794         \@nameuse{LWR@\LWR@formatting @#1}%
1795       }%
1796     }%
1797   }

```

---

\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.

```

1798 \newcommand*{\LWR@formattedenv}[1]{%
1799     \LWR@formatted@checkname{#1}%
1800     \LWR@formatted@checkendname{#1}%
1801     \ifcsundef{\LWR@print@#1}{%
1802         \NewEnvironmentCopy{\LWR@print@#1}{#1}%
1803     }{%
1804         \DeclareDocumentEnvironment{#1}{}{%
1805             {%
1806                 \nameuse{\LWR@\LWR@formatting @#1}%
1807             }%
1808             {%
1809                 \nameuse{\endLWR@\LWR@formatting @#1}%
1810             }%
1811         }%

```

\LWR@expandableformattedenv {*environmentname*}

An expandable version of \LWR@formattedenv.

```

1812 \newcommand*{\LWR@expandableformattedenv}[1]{%
1813     \LWR@formatted@checkname{#1}%
1814     \LWR@formatted@checkendname{#1}%
1815     \ifcsundef{\LWR@print@#1}{%
1816         \NewEnvironmentCopy{\LWR@print@#1}{#1}%
1817     }{%
1818         \DeclareExpandableDocumentEnvironment{#1}{}{%
1819             {%
1820                 \nameuse{\LWR@\LWR@formatting @#1}%
1821             }%
1822             {%
1823                 \nameuse{\endLWR@\LWR@formatting @#1}%
1824             }%
1825         }%

```

```
1826 \end{warpHTML}
```

Print versions.

**for PRINT output:** 1827 \begin{warpprint}

```

1828 \newcommand*{\LWR@formatted}[1]{}%
1829 \newcommand*{\LWR@expandableformatted}[1]{}%
1830 \newcommand*{\LWR@formattedenv}[1]{}%
1831 \newcommand*{\LWR@expandableformattedenv}[1]{}%

1832 \end{warpprint}

```

## 37 HTML-conversion output modifications

These booleans modify the HTML output in various ways to improve conversion to EPUB or word processor imports.

**for HTML & PRINT:** 1833 \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**

1834 \newbool{FormatEPUB}  
1835 \boolefalse{FormatEPUB}

Bool FormatWP Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments.  
**Default: false**

1836 \newbool{FormatWP}  
1837 \boolefalse{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>

1838 \newbool{WPMarkFloats}  
1839 \boolefalse{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.

1840 \newbool{WPMarkMinipages}  
1841 \boolefalse{WPMarkMinipages}

Bool WPMarkTOC While formatting for word processors, adds  
**Default: true**

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

---

```
==== 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.*

```
1842 \newbool{WPMarkTOC}
1843 \booltrue{WPMarkTOC}
```

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.*

```
1844 \newbool{WPMarkLOFT}
1845 \boolfalse{WPMarkLOFT}
```

Bool WPMarkMath

Default: false

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.

```
1846 \newbool{WPMarkMath}
1847 \boolfalse{WPMarkMath}
```

Bool WPTitleHeading

Default: false

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 183.

```
1848 \newbool{WPTitleHeading}
1849 \boolfalse{WPTitleHeading}
```

```
1850 \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: 1851 \begin{warpHTML}

```
1852 \AtBeginDocument{
1853 \ifbool{FormatWP}{
1854 \@ifundefined{chapter}{
```

```
1855 \ifbool{WPTitleHeading}{% part and section starting at h2
1856 \renewcommand*\{\LWR@tagtitle\}{h1}
1857 \renewcommand*\{\LWR@tagtitleend\}{/h1}
1858 \renewcommand*\{\LWR@tagpart\}{h2}
1859 \renewcommand*\{\LWR@tagpartend\}{/h2}
1860 \renewcommand*\{\LWR@tagsection\}{h3}
1861 \renewcommand*\{\LWR@tagsectionend\}{/h3}
1862 \renewcommand*\{\LWR@tagsubsection\}{h4}
1863 \renewcommand*\{\LWR@tagsubsectionend\}{/h4}
1864 \renewcommand*\{\LWR@tagsubsubsection\}{h5}
1865 \renewcommand*\{\LWR@tagsubsubsectionend\}{/h5}
1866 \renewcommand*\{\LWR@tagparagraph\}{h6}
1867 \renewcommand*\{\LWR@tagparagraphend\}{/h6}
1868 \renewcommand*\{\LWR@tagsubparagraph\}{span class=\textquotedbl{}subparagraph\textquotedbl{}}
1869 \renewcommand*\{\LWR@tagsubparagraphend\}{/span}
1870 }% WPTitleHeading
1871 {% not WPTitleHeading, part and section starting at h1
1872 \renewcommand*\{\LWR@tagtitle\}{div class=\textquotedbl{}title\textquotedbl{}}
1873 \renewcommand*\{\LWR@tagtitleend\}{/div}
1874 \renewcommand*\{\LWR@tagpart\}{h1}
1875 \renewcommand*\{\LWR@tagpartend\}{/h1}
1876 \renewcommand*\{\LWR@tagsection\}{h2}
1877 \renewcommand*\{\LWR@tagsectionend\}{/h2}
1878 \renewcommand*\{\LWR@tagsubsection\}{h3}
1879 \renewcommand*\{\LWR@tagsubsectionend\}{/h3}
1880 \renewcommand*\{\LWR@tagsubsubsection\}{h4}
1881 \renewcommand*\{\LWR@tagsubsubsectionend\}{/h4}
1882 \renewcommand*\{\LWR@tagparagraph\}{h5}
1883 \renewcommand*\{\LWR@tagparagraphend\}{/h5}
1884 \renewcommand*\{\LWR@tagsubparagraph\}{h6}
1885 \renewcommand*\{\LWR@tagsubparagraphend\}{/h6}
1886 }% not WPTitleHeading
1887 }% chapter undefined
1888 {% chapter defined
1889 \ifbool{WPTitleHeading}{}
1890 {% not WPTitleHeading, part and chapter starting at h1
1891 \renewcommand*\{\LWR@tagtitle\}{div class=\textquotedbl{}title\textquotedbl{}}
1892 \renewcommand*\{\LWR@tagtitleend\}{/div}
1893 \renewcommand*\{\LWR@tagpart\}{h1}
1894 \renewcommand*\{\LWR@tagpartend\}{/h1}
1895 \renewcommand*\{\LWR@tagchapter\}{h2}
1896 \renewcommand*\{\LWR@tagchapterend\}{/h2}
1897 \renewcommand*\{\LWR@tagsection\}{h3}
1898 \renewcommand*\{\LWR@tagsectionend\}{/h3}
1899 \renewcommand*\{\LWR@tagsubsection\}{h4}
1900 \renewcommand*\{\LWR@tagsubsectionend\}{/h4}
1901 \renewcommand*\{\LWR@tagsubsubsection\}{h5}
1902 \renewcommand*\{\LWR@tagsubsubsectionend\}{/h5}
1903 \renewcommand*\{\LWR@tagparagraph\}{h6}
1904 \renewcommand*\{\LWR@tagparagraphend\}{/h6}
1905 \renewcommand*\{\LWR@tagsubparagraph\}{span class=\textquotedbl{}subparagraph\textquotedbl{}}
1906 \renewcommand*\{\LWR@tagsubparagraphend\}{/span}
1907 }% not WPTitleHeading
1908 }% chapter defined
1909 }% FormatWP
1910 }% AtBeginDocument
1911 \end{warpHTML}
```

## 38 Remembering original formatting macros

**for HTML output:** 1912 \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 lateximage environment. Also nullify unused commands.

Some packages redefine \#, which is used to generate HTML, so the original must be remembered here.

```

1913 \chardef\LWR@origpound='#
1914 \let\LWR@origcomma\
1915 \let\LWR@origthinspace\thinspace
1916 \let\LWR@orignegthinspace\negthinspace
1917 \let\LWR@origtilde\
1918 \let\LWR@origskip\enskip
1919 \let\LWR@origquad\quad
1920 \let\LWR@origqquad\qquad
1921 \let\LWR@orighfil\hfil
1922 \let\LWR@orighss\hss
1923 \let\LWR@origllap\llap
1924 \let\LWR@origrlap\rlap
1925 \let\LWR@orighfilneg\hfilneg
1926 \let\LWR@orighspace\hspace
1927
1928 \let\LWR@origrule\rule
1929
1930 \let\LWR@origmedskip\medskip
1931 \let\LWR@origbigskip\bigskip
1932
1933 \let\LWR@origtextellipsis\textellipsis
1934 \let\LWR@origvdots\vdots

```

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

```

1935 \LetLtxMacro\LWR@orig@@textquotedbl\textquotedbl
1936 \LetLtxMacro\LWR@orig@textquotedbl\LWR@orig@@textquotedbl
1937
1938 \AtEndPreamble{
1939 \IfPackageLoadedTF{libertinus-otf}{
1940   \renewcommand{\LWR@orig@textquotedbl}{\LWR@orig@@textquotedbl\kern-.15em}
1941   \LetLtxMacro\textquotedbl\LWR@orig@textquotedbl
1942 }{}}
1943 }

1944 \LetLtxMacro\LWR@origttfamily\ttfamily
1945
1946 \LetLtxMacro\LWR@origem\em
1947
1948 \LetLtxMacro\LWR@orignormalfont\normalfont
1949
1950 \let\LWR@origonecolumn\onecolumn
1951
1952 \let\LWR@origsp\sp

```

```

1953 \let\LWR@origsb\sb
1954
1955 \LetLtxMacro{\LWR@origunderline}{\underline}

1956 \let\LWR@orignewpage{\newpage}
1957
1958 \let\LWR@origpagestyle{\pagestyle}
1959 \let\LWR@origthispagestyle{\thispagestyle}
1960 \LetLtxMacro{\LWR@origpagenumbering}{\pagenumbering}
1961
1962 \let\LWR@orignewline{\newline}
1963
1964 \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@orig@donoparitem{\donoparitem}
  \LetLtxMacro{\LWR@orig@item}{\@item}
  \let\LWR@orig@nbitem{\@nbitem}
}
1980 }
1981
1982 \let\LWR@origpar{\par}
1983
1984 \LetLtxMacro{\LWR@origfootnote}{\footnote}
1985 \let\LWR@orig@mpfootnotetext{\@mpfootnotetext}
1986
1987
1988 \AtBeginDocument{%
  % in case packages change definition
  \LetLtxMacro{\LWR@orighline}{\hline}
  \LetLtxMacro{\LWR@origcline}{\cline}
}
1991 }

1992 \end{warpHTML}

```

## 39 Accents

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

**for HTML output:** 1993 \begin{warpHTML}

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

1994 \AtBeginDocument{

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

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

```
1995 \LetLtxMacro{\LWR@origtie}{\t}
```

For PDF L<sup>A</sup>T<sub>E</sub>X, additional work is required:

```
1996 \ifPDFTeX% pdflatex or dvi latex
1997 \LetLtxMacro{\LWR@origgraveaccent}{`}
1998 \LetLtxMacro{\LWR@origacuteaccent}{`}
1999 \LetLtxMacro{\LWR@origcircumflexaccent}{^}
2000 \LetLtxMacro{\LWR@origtildeaccent}{\~{}}
2001 \LetLtxMacro{\LWR@origmacronaccent}{=}
2002 \LetLtxMacro{\LWR@origbreve}{\u}
2003 \LetLtxMacro{\LWR@origdotaccent}{\.}
2004 \LetLtxMacro{\LWR@origdiaeresisaccent}{\"
2005 \LetLtxMacro{\LWR@origdoubleacuteaccent}{\H}
2006 \LetLtxMacro{\LWR@origcaronaccent}{\v}
2007 \LetLtxMacro{\LWR@origdotbelowaccent}{\d}
2008 \LetLtxMacro{\LWR@origcedillaaccent}{\c}
2009 \LetLtxMacro{\LWR@origmacronbelowaccent}{\b}
```

The HTML redefinitions follow.

For PDF L<sup>A</sup>T<sub>E</sub>X, Unicode diacritical marks are used:

```
2010 \renewcommand*{'[1]{\#1\HTMLunicode{0300}}}
2011 \renewcommand*{'[1]{\#1\HTMLunicode{0301}}}
2012 \renewcommand*{'^}[1]{\#1\HTMLunicode{0302}}
2013 \renewcommand*{'~}[1]{\#1\HTMLunicode{0303}}
2014 \renewcommand*{'=}[1]{\#1\HTMLunicode{0304}}
2015 \renewcommand*{'u}[1]{\#1\HTMLunicode{0306}}
2016 \renewcommand*{' . }[1]{\#1\HTMLunicode{0307}}
2017 \renewcommand*{' " }[1]{\#1\HTMLunicode{0308}}
2018 \renewcommand*{'H}[1]{\#1\HTMLunicode{030B}}
2019 \renewcommand*{'v}[1]{\#1\HTMLunicode{030C}}
2020 \renewcommand*{'d}[1]{\#1\HTMLunicode{0323}}
2021 \renewcommand*{'c}[1]{\#1\HTMLunicode{0327}}
2022 \renewcommand*{'b}[1]{\#1\HTMLunicode{0331}}
2023 \fi
```

For all engines, a Unicode diacritical tie is used:

```
2024 \def{\LWR@t}{\#2{\#1\HTMLunicode{0361}}\#2}
2025 \renewcommand*{'t}[1]{\LWR@t\#1}
```

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

```
2026 \ifPDFTeX% pdflatex or dvi latex
2027 \newcommand*{\LWR@restoreorigaccents}{%
2028   \LetLtxMacro{'\LWR@origgraveaccent}{`}
2029   \LetLtxMacro{'\LWR@origacuteaccent}{`}
2030   \LetLtxMacro{^'\LWR@origcircumflexaccent}{^}
2031   \LetLtxMacro{'\LWR@origtildeaccent}{\~{}}
2032   \LetLtxMacro{'=\LWR@origmacronaccent}{=}
2033   \LetLtxMacro{'\LWR@origbreve}{\u}
2034   \LetLtxMacro{'.\LWR@origdotaccent}{\.}
2035   \LetLtxMacro{"\LWR@origdiaeresisaccent}{\\"}
```

```

2036     \LetLtxMacro{H}{\LWR@origdoubleacuteaccent}
2037     \LetLtxMacro{v}{\LWR@origcaronaccent}
2038     \LetLtxMacro{t}{\LWR@origtie}
2039     \LetLtxMacro{d}{\LWR@origdotbelowaccent}
2040     \LetLtxMacro{c}{\LWR@origcedillaaccent}
2041     \LetLtxMacro{b}{\LWR@origmacronbelowaccent}
2042 }%
2043 \else% XeLaTeX, LuaLaTeX:
2044 \newcommand*{\LWR@restoreorigaccents}{%
2045     \LetLtxMacro{t}{\LWR@origtie}%
2046 }%
2047 \fi%
2048 }% AtBeginDocument

2049 \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:

```
2050 \LWR@excludedcomment{\LWRwriteconf}{\writeconf}
```

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

```

for PRINT output: 2051 \begin{warpprint}
2052 \fullexpandarg%
2053 \IfSubStr*{\jobname}{-pstool}
2054 {
2055     \PackageInfo{lwarp}{%
2056         Jobname with -pstool is found.\MessageBreak
2057         Not generating lwarp configuration files,%
2058     }
2059 }
2060 {
2061     \PackageInfo{lwarp}{Generating lwarp configuration files,}%
2062     \LWR@includedcomment{\LWRwriteconf}{\writeconf}
2063 }
2064 \end{warpprint}

```

### 40.2 <project>.html.tex

Used to allow an HTML version of the document to exist alongside the print version.

**Config file:**

```

2065 \begin{LWRwriteconf}
2066 \immediate\openout\LWR@quickfile=\jobname_html.tex
2067 \immediate\write\LWR@quickfile{%
2068 \detokenize{\PassOptionsToPackage}{%

```

---

```

2069 {warpHTML,BaseJobname=\jobname}{\l warp}%
2070 }
2071 \immediate\write\LWR@quickfile{%
2072 \detokenize{\input}\string{\jobname.tex}\string }%
2073 }
2074 \immediate\closeout\LWR@quickfile
2075 \end{\LWR@writeconf}
```

### 40.3 *lwarpmk* configuration files

**Config file:** 2076 \begin{\LWR@writeconf}

\LWR@lwarpcfversion 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 l warp version number.)

```
2077 \newcommand*{\LWR@lwarpcfversion}{2}%
also in lwarpmk.lua
```

#### 40.3.1 Helper macros

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

```

2078 \ifshellescape
2079   \def\LWR@shellescapecmd{--shell-escape }
2080 \else
2081   \def\LWR@shellescapecmd{}
2082 \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

```
2083 \newcommand*{\LWR@compilecmd}[2]{%
2084   #1 \LWR@shellescapecmd \jobname#2%
2085 }
```

\LWR@addcompilecmd {\langle cmd\rangle} {\langle suffix\rangle}

Adds to the compilation command.

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

```
2086 \newcommand*{\LWR@addcompilecmd}[2]{%
2087   \LWRopseq
2088   #1 \jobname#2%
2089 }
```

\LWR@unknownengine Error message if not sure which L<sup>A</sup>T<sub>E</sub>X engine is being used.

```
2090 \newcommand*{\LWR@unknownengine}{%
```

---

```

2091      \PackageError{l warp}{%
2092          {Unknown LaTeX engine}%
2093          {%
2094              L warp only knows about pdflatex, DVI latex,
2095              xelatex, lualatex, and upLateX.%%
2096          }%
2097      }

```

\LWR@latexmkvar {*varname*} {*value*}

Adds a *latexmk* variable assignment.

```

2098 \newcommand*{\LWR@latexmkvar}[2]{%
2099     -e
2100     \LWRopquote%
2101     \LWRdollar #1=q/#2/%
2102     \LWRopquote
2103 }

```

\LWR@latexmkcmd {*latexmk options*}

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

```

2104 \newcommand*{\LWR@latexmkcmd}[1]{%
2105     latexmk \space \LWR@shellescapecmd \space #1 \space
2106     -recorder \space
2107     \LWR@latexmkvar{makeindex}{\LWR@LatexmkIndexCmd}%
2108 }

```

\LWR@latexmkdvipdfm {*dvipdfm or dvipdfmx*}

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

```

2109 \newcommand*{\LWR@latexmkdvipdfm}[1]{%
2110     -pdfdvi \space
2111     \LWR@latexmkvar{dvipdf}{%
2112         #1
2113         \@percentchar 0
2114         -o \@percentchar D
2115         \@percentchar S%
2116     }%
2117 }

```

\LWR@compileuplatex Sets compile options for upLATEX with uarticle or related classes.

```

2118 \newcommand*{\LWR@compileuplatex}{%
2119     \def\LWR@tempprintlatexcmd{%
2120         \LWR@compilecmd{uplatex}{}%
2121         \LWR@addcompilecmd{dvipdfmx}{}%
2122     }%
2123     \def\LWR@tempHTMLlatexcmd{%
2124         \LWR@compilecmd{uplatex}{_html}%
2125         \LWR@addcompilecmd{dvipdfmx}{_html}%
2126     }%
2127 }

```

---

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

If using *latexmk*, a complicated string is created, eventually resulting in something such as:

For *xelatex* with --shell-escape:

---

```
[[ latexmk -xelatex --shell-escape -recorder
-e '$makeindex = q/makeindex -s lwarp.ist/' <jobname>.html]]
```

---

For *dvipdfmx*:

---

```
[[ latexmk -pdfdvi -e '$dvipdf=q/dvipdfmx %0 -o %D %S/'
-recorder
-e '$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.

2128 \ifbool{\LWR@latexmk}{

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

2129 \ifpdf

For *latexmk* with *pdflatex*:

2130 \ifPDFTeX
2131 \def{\LWR@Latexcmd}{\LWR@latexmkcmd{-pdf -dvi- -ps-}}
2132 \else

For *latexmk* with *lualatex*:

2133 \ifLuaTeX
2134 \def{\LWR@Latexcmd}{\LWR@latexmkcmd{-lualatex}}
2135 \else
2136 \LWR@unknownengine
2137 \fi
2138 \fi
2139 \else% \ifpdf

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

2140 \ifXeTeX

For *latexmk* with *xelatex*:

2141 \def{\LWR@Latexcmd}{\LWR@latexmkcmd{-xelatex}}
2142 \else% \ifXeTeX

For *latexmk* with *DVI latex*:

```

2143          \ifbool{LWR@dvipdfm}{
2144              \def\LWR@latexcmd{%
2145                  \LWR@latexmkcmd{%
2146                      \LWR@latexmkdvipdfm{dvipdfm}}%
2147                  }
2148          }
2149      }
2150      \ifbool{LWR@dvipdfmx}{
2151          \def\LWR@latexcmd{%
2152              \LWR@latexmkcmd{%
2153                  \LWR@latexmkdvipdfm{dvipdfmx}}%
2154              }
2155          }
2156      }
2157      \def\LWR@latexcmd{\LWR@latexmkcmd{-pdfps}}
2158  }
2159  }
2160  \fi
2161 \fi% \ifpdf

```

The final assignment if *latexmk*:

```

2162 \def\LWR@tempprintlatexcmd{\LWR@latexcmd \space \jobname}
2163 \def\LWR@tempHTMLlatexcmd{\LWR@latexcmd \space \jobname_html}
2164 }% latexmk

```

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

```

2165 {%
2166     \ifpdf

```

For *pdflatex* or *lualatex*:

```

2167     \ifPDFTeX

```

For *pdflatex*:

```

2168         \def\LWR@tempprintlatexcmd{\LWR@compilecmd{pdflatex}{}}
2169         \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{pdflatex}{_html}}
2170     \else
2171         \ifLuaTeX

```

For *lualatex*:

```

2172             \def\LWR@tempprintlatexcmd{\LWR@compilecmd{lualatex}{}}
2173             \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{lualatex}{_html}}
2174         \else
2175             \LWR@unknownengine
2176         \fi
2177     \fi
2178 \else% \ifpdf

```

For DVI *latex* or *xelatex*:

```

2179     \ifXeTeX

```

For *xelatex*:

```

2180           \def\LWR@tempprintlatexcmd{\LWR@compilecmd{xelatex}{}}
2181           \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{xelatex}{_html}}
2182       \else

```

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

```

2183           \ifbool{\LWR@dvipdfm}{%

```

For dvi *latex* with *dvipdfm*:

```

2184           \def\LWR@tempprintlatexcmd{%
2185               \LWR@compilecmd{latex}{}
2186               \LWR@addcompilecmd{dvipdfm}{}
2187           }
2188           \def\LWR@tempHTMLlatexcmd{%
2189               \LWR@compilecmd{latex}{_html}
2190               \LWR@addcompilecmd{dvipdfm}{_html}
2191           }
2192       }{
2193           \ifbool{\LWR@dvipdfmx}{%

```

For dvi *latex* with *dvipdfmx*:

```

2194           \def\LWR@tempprintlatexcmd{%
2195               \LWR@compilecmd{latex}{}
2196               \LWR@addcompilecmd{dvipdfmx}{}
2197           }
2198           \def\LWR@tempHTMLlatexcmd{%
2199               \LWR@compilecmd{latex}{_html}
2200               \LWR@addcompilecmd{dvipdfmx}{_html}
2201           }
2202       }% dvips

```

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

```

2203           \def\LWR@tempprintlatexcmd{%
2204               \LWR@compilecmd{latex}{}
2205               \LWR@addcompilecmd{dvips}{}
2206               \LWR@addcompilecmd{ps2pdf -dALLOWPSTRANSPARENCY}{}.ps
2207           }
2208           \def\LWR@tempHTMLlatexcmd{%
2209               \LWR@compilecmd{latex}{_html}
2210               \LWR@addcompilecmd{dvips}{_html}
2211               \LWR@addcompilecmd{ps2pdf -dALLOWPSTRANSPARENCY}{_html}.ps
2212           }
2213       }
2214   }
2215   \fi% \ifXeTeX
2216   \fi% \ifpdf
2217 }% latexmk

```

For *ujarticle*, *utarticle*, and related, using up<sup>L</sup>ATEX and *dvipdfmx*:

```

2218 \IfClassLoadedTF{ujarticle}{\LWR@compileuplateX}{}
2219 \IfClassLoadedTF{ujbook}{\LWR@compileuplateX}{}
2220 \IfClassLoadedTF{ujreport}{\LWR@compileuplateX}{}
2221 \IfClassLoadedTF{utarticle}{\LWR@compileuplateX}{}
2222 \IfClassLoadedTF{utbook}{\LWR@compileuplateX}{}
2223 \IfClassLoadedTF{utreport}{\LWR@compileuplateX}{}

```

Only make the setting permanent if the original was empty:

```
2224 \ifdefempty{\LWR@PrintLatexCmd}{  
2225     \def\LWR@PrintLatexCmd{\LWR@tempprintlatexcmd}  
2226 }{}  
2227 \ifdefempty{\LWR@HTMLLatexCmd}{  
2228     \def\LWR@HTMLLatexCmd{\LWR@tempHTMLlatexcmd}  
2229 }{}
```

\LWR@writeconf {<filename>}

Common code for each of `lwarpmk.conf` and `<project>.lwarpmkconf`. 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.

```
2230 \newcommand{\LWR@writeconf}[1]{  
2231 \ifcsdef{\LWR@quickfile}{}{\newwrite{\LWR@quickfile}}  
2232 \immediate\openout\LWR@quickfile=#1  
2233 \immediate\write{\LWR@quickfile{confversion = [[\LWR@lwarpmkversion]]}}  
2234 \ifbool{usingOSWindows}{  
2235     \immediate\write{\LWR@quickfile{opsystem = [[Windows]]}}  
2236 }{  
2237     \immediate\write{\LWR@quickfile{opsystem = [[Unix]]}}  
2238 }  
2239 \immediate\write{\LWR@quickfile{sourcename = [[\jobname]]}}  
2240 \immediate\write{\LWR@quickfile{homehtmlfilename = [[\HomeHTMLFilename]]}}  
2241 \immediate\write{\LWR@quickfile{htmlfilename = [[\HTMLFilename]]}}  
2242 \immediate\write{\LWR@quickfile{imagesdirectory = [[\LWR@ImagesDirectory]]}}  
2243 \immediate\write{\LWR@quickfile{imagesname = [[\LWR@ImagesName]]}}  
2244 \immediate\write{\LWR@quickfile{latexmk = [[\ifbool{\LWR@latexmk}{true}{false}]]}}  
2245 \immediate\write{\LWR@quickfile{printlatexcmd = [[\LWR@PrintLatexCmd]]}}  
2246 \immediate\write{\LWR@quickfile{HTMLlateXcmd = [[\LWR@HTMLLatexCmd]]}}  
2247 \immediate\write{\LWR@quickfile{printindexcmd = [[\LWR@PrintIndexCmd]]}}  
2248 \immediate\write{\LWR@quickfile{HTMLindexcmd = [[\LWR@HTMLIndexCmd]]}}  
2249 \immediate\write{\LWR@quickfile{latexmkindexcmd = [[\LWR@LatexmkIndexCmd]]}}  
2250 \immediate\write{\LWR@quickfile{glossarycmd = [[\LWR@GlossaryCmd]]}}  
2251 \immediate\write{\LWR@quickfile{pdftotextenc = [[\LWR@pdftotextEnc]]}}  
2252 \immediate\closeout{\LWR@quickfile}  
2253 }  
2254  
2255 \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:**

```
2256 \begin{LWRwriteconf}  
2257  
2258 \AtBeginDocument{\LWR@writeconf{lwarpmk.conf}}  
2259  
2260 \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 `lwarp.conf`.

**Config file:**

```
2261 \begin{LWRwriteconf}
2262
2263 \AtBeginDocument{\LWR@writeconf{\jobname.lwarpmkconf}}
2264
2265 \end{LWRwriteconf}
```

## 40.4 lwarp.css

File lwarp.css

This is the base css layer used by *lwarp*.

This must be present both when compiling the project and also when distributing the HTML files.

**Config file:**

```
2266 \begin{LWRwriteconf}
2267 \begin{filecontents*}[overwrite]{lwarp.css}
2268 /*
2269   CSS stylesheet for the LaTeX Lwarp package
2270   Copyright 2016-2022 Brian Dunn – BD Tech Concepts LLC
2271 */
2272
2273
2274 /* a fix for older browsers: */
2275 header, section, footer, aside, nav, main,
2276   article, figure { display: block; }
2277
2278
2279 A:link {color:#000080 ; text-decoration: none ; }
2280 A:visited {color:#800000 ; }
2281 A:hover {color:#000080 ; text-decoration: underline ; }
2282 A:active {color:#800000 ; }
2283
2284 a.tocbook {display: inline-block ; margin-left: 0em ;
2285   font-weight: bold ; margin-top: 1ex ; margin-bottom: 1ex ; }
2286 a.tocpart {display: inline-block ; margin-left: 0em ;
2287   font-weight: bold ;}
2288 a.tocchapter {display: inline-block ; margin-left: 0em ;
2289   font-weight: bold ;}
2290 a.tocsection {display: inline-block ; margin-left: 1em ;
2291   text-indent: -.5em ; font-weight: bold ;}
2292 a.tocsubsection {display: inline-block ; margin-left: 2em ;
2293   text-indent: -.5em ;}
2294 a.tocsubsubsection {display: inline-block ; margin-left: 3em ;
2295   text-indent: -.5em ;}
2296 a.tocparagraph {display: inline-block ; margin-left: 4em ;
2297   text-indent: -.5em ;}
2298 a.tocsubparagraph {display: inline-block ; margin-left: 5em ;
2299   text-indent: -.5em ;}
2300 a.tocfigure {margin-left: 0em}
2301 a.tocsubfigure {margin-left: 2em}
2302 a.toctable {margin-left: 0em}
2303 a.tocsubtable {margin-left: 2em}
2304 a.toctheorem {margin-left: 0em}
```

```
2305 a.toclstlisting {margin-left: 0em}
2306
2307 body {
2308     font-family: "DejaVu Serif", "Bitstream Vera Serif",
2309         "Lucida Bright", Georgia, serif;
2310     background: #FAF7F4 ;
2311     color: black ;
2312     margin:0em ;
2313     padding:0em ;
2314     font-size: 100% ;
2315     line-height: 1.2 ;
2316 }
2317
2318 p {margin: 1.5ex 0em 1.5ex 0em ;}
2319 table p {margin: .5ex 0em .5ex 0em ;}
2320
2321 /* Holds a section number */
2322 span.sectionnumber { margin-right: 0em }
2323
2324 /* Inserted in front of index lines */
2325 span.indexitem {margin-left: 0em}
2326 span.indexsubitem {margin-left: 2em}
2327 span.indexsubsubitem {margin-left: 4em}
2328 div.indexheading {margin-top: 2ex ; font-weight: bold}
2329
2330 div.hidden, span.hidden { display: none ; }
2331
2332 kbd, span.texttt, p span.texttt {
2333     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2334         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2335         "Courier New", monospace;
2336     font-size: 100% ;
2337 }
2338
2339 pre { padding: 3pt ; }
2340
2341 span.strong, span.textbf, div.strong, div.textbf, table td.tdbfseries { font-weight: bold; }
2342
2343 span.textit, div.textit, table td.tditshape { font-style: italic; }
2344
2345 table td.tdbfit { font-weight: bold ; font-style:italic }
2346
2347 span.textnormal, div.textnormal {
2348     font-weight: normal;
2349     font-style: normal;
2350     font-variant: normal;
2351     font-variant-numeric: normal ;
2352     font-family: "DejaVu Serif", "Bitstream Vera Serif",
2353         "Lucida Bright", Georgia, serif;
2354 }
2355
2356 span.textmd, div.textmd { font-weight: normal; }
2357
2358 span.textup, div.textup {
2359     font-style: normal;
2360     font-variant: normal;
2361     font-variant-numeric: normal ;
2362 }
2363
2364 span.textsc, div.textsc {
```

```
2365     font-variant: small-caps;
2366     font-variant-numeric: oldstyle-nums ;
2367 }
2368
2369 span.textluc, div.textluc {
2370     font-variant: normal ;
2371     font-variant-numeric: normal ;
2372 }
2373
2374 span.textsl, div.textsl { font-style: oblique; }
2375
2376 span.textrm, div.textrm {
2377     font-family: "DejaVu Serif", "Bitstream Vera Serif",
2378     "Lucida Bright", Georgia, serif;
2379 }
2380
2381 span.textsf, div.textsf {
2382     font-family: "DejaVu Sans", "Bitstream Vera Sans",
2383     Geneva, Verdana, sans-serif ;
2384 }
2385
2386 /* nfssext-cfr lining figures */
2387 span.textln, div.textln {
2388     font-variant-numeric: lining-nums ;
2389 }
2390
2391 /* nfssext-cfr proportional figures */
2392 span.textp, div.textp {
2393     font-variant-numeric: proportional-nums ;
2394 }
2395
2396 /* nfssext-cfr tabular figures */
2397 span.texttt, div.texttt {
2398     font-variant-numeric: tabular-nums ;
2399 }
2400
2401 /* nfssext-cfr font weights */
2402 span.textdb, div.textdb {
2403     font-weight: 500 ;
2404 }
2405
2406 span.textsb, div.textsb {
2407     font-weight: 600 ;
2408 }
2409
2410 span.texteb, div.texteb {
2411     font-weight: 800 ;
2412 }
2413
2414 span.textub, div.textub {
2415     font-weight: 900 ;
2416 }
2417
2418 span.textlg, div.textlg {
2419     font-weight: 300 ;
2420 }
2421
2422 span.textel, div.textel {
2423     font-weight: 200 ;
2424 }
```

```
2425
2426 span.textul, div.textul {
2427     font-weight: 100 ;
2428 }
2429
2430
2431
2432 span.textcircled { border: 1px solid black ; border-radius: 1ex ; }
2433
2434 span.underline {
2435     text-decoration: underline ;
2436     text-decoration-skip: auto ;
2437 }
2438
2439 span.overline {
2440     text-decoration: overline ;
2441     text-decoration-skip: auto ;
2442 }
2443
2444 div.hrule { border-top: 1px solid silver }
2445
2446
2447 /* for vertical text: */
2448 div.verticalrl { writing-mode: vertical-rl }
2449 div.horizontaltb { writing-mode: horizontal-tb }
2450
2451
2452 /* for diagbox */
2453 div.diagboxtileN { border-bottom: 1px solid gray }
2454 div.diagboxtileS { border-top: 1px solid gray }
2455
2456 div.diagboxE {
2457     padding-left: 2em ;
2458     text-align: right ;
2459 }
2460
2461 div.diagboxW {
2462     padding-right: 2em ;
2463     text-align: left ;
2464 }
2465
2466
2467
2468 /* For realscripts */
2469 .supsubscript {
2470     display: inline-block;
2471     text-align:left ;
2472 }
2473
2474 .supsubscript sup,
2475 .supsubscript sub {
2476     position: relative;
2477     display: block;
2478     font-size: .7em;
2479     line-height: 1;
2480 }
2481
2482 .supsubscript sup {
2483     top: .3em;
2484 }
```

```
2485
2486.supsubscript sub {
2487    top: .3em;
2488}
2489
2490div.attribution p {
2491    text-align: right ;
2492    font-size: 80%
2493}
2494
2495span.poemtitle {
2496    font-size: 120% ; font-weight: bold;
2497}
2498
2499pre.tabbing {
2500    font-family: "Linux Libertine Mono O", "Lucida Console",
2501        "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2502        "Liberation Mono", "FreeMono", "Andale Mono",
2503        "Nimbus Mono L", "Courier New", monospace;
2504}
2505
2506blockquote {
2507    display: block ;
2508    margin-left: 2em ;
2509    margin-right: 2em ;
2510}
2511
2512/* quotchap is for the quotchap package */
2513div.quotchap {
2514    display: block ;
2515    font-style: oblique ;
2516    overflow-x: auto ;
2517    margin-left: 2em ;
2518    margin-right: 2em ;
2519}
2520
2521blockquote p, div.quotchap p {
2522    line-height: 1.5;
2523    text-align: left ;
2524    font-size: .85em ;
2525}
2526
2527/* qauthor is for the quotchap package */
2528div.qauthor {
2529    display: block ;
2530    text-align: right ;
2531    margin-left: auto ;
2532    margin-right: 2em ;
2533    font-size: 80% ;
2534    font-variant: small-caps;
2535}
2536
2537div.qauthor p {
2538    text-align: right ;
2539}
2540
2541div.epigraph, div.dictum {
2542    line-height: 1.2;
2543    text-align: left ;
2544    padding: 3ex 1em 0ex 1em ;
```

```
2545 /*      margin: 3ex auto 3ex auto ; */ /* Epigraph centered */
2546     margin: 3ex 1em 3ex auto ; /* Epigraph to the right */
2547 /*      margin: 3ex 1em 3ex 1em ; */ /* Epigraph to the left */
2548     font-size: .85em ;
2549     max-width: 27em ;
2550 }
2551
2552 div.epigraphsource, div.dictumauthor {
2553     text-align:right ;
2554     margin-left:auto ;
2555 /*      max-width: 50% ; */
2556     border-top: 1px solid #A0A0A0 ;
2557     padding-bottom: 3ex ;
2558     line-height: 1.2;
2559 }
2560
2561 div.epigraph p, div.dictum p { padding: .5ex ; margin: 0ex ;}
2562 div.epigraphsource p, div.dictumauthor p { padding: .5ex 0ex 0ex 0ex ; margin: 0ex ;}
2563 div.dictumauthor { font-style:italic }
2564
2565
2566 /* copyrightbox package: */
2567 div.copyrightbox { margin: .5ex .5em }
2568 div.copyrightbox p {margin: 0px .5em ; padding: 0px}
2569 div.copyrightboxnote {text-align: left ; font-size: 60%}
2570
2571
2572 /* lettrine package: */
2573 span.lettrine { font-size: 4ex ; float: left ; }
2574 span.lettrinetext { font-variant: small-caps ; }
2575
2576 /* ulem, soul, umoline packages: */
2577 span.uline {
2578     text-decoration: underline ;
2579     text-decoration-skip: auto ;
2580 }
2581
2582 span.uline {
2583     text-decoration: underline ;
2584     text-decoration-skip: auto ;
2585     text-decoration-style: double ;
2586 }
2587
2588 span.uwave {
2589     text-decoration: underline ;
2590     text-decoration-skip: auto ;
2591     text-decoration-style: wavy ;
2592 }
2593
2594 span.sout {
2595     text-decoration: line-through ;
2596 }
2597
2598 span.oline {
2599     text-decoration: overline ;
2600     text-decoration-skip: auto ;
2601 }
2602
2603 span.xout {
2604     text-decoration: line-through ;
```

```
2605 }
2606
2607 span.dashuline {
2608     text-decoration: underline ;
2609     text-decoration-skip: auto ;
2610     text-decoration-style: dashed ;
2611 }
2612
2613 span.dotuline {
2614     text-decoration: underline ;
2615     text-decoration-skip: auto ;
2616     text-decoration-style: dotted ;
2617 }
2618
2619 span.letterspacing { letter-spacing: .2ex ; }
2620
2621 span.capsspacing {
2622     font-variant: small-caps ;
2623     letter-spacing: .1ex ;
2624 }
2625
2626 span.highlight { background: #F8E800 ; }
2627
2628
2629 /* keystroke package: */
2630 span.keystroke {
2631     border-style: outset ;
2632     padding: 0pt .5em 0pt .5em ;
2633 }
2634
2635
2636 html body {
2637     margin: 0 ;
2638     line-height: 1.2;
2639 }
2640
2641
2642 body div {
2643     margin: 0ex;
2644 }
2645
2646
2647 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
2648 {
2649     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
2650                 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
2651                 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
2652                 "Times New Roman", serif;
2653     font-style: normal ;
2654     font-weight: bold ;
2655     text-align: left ;
2656 }
2657
2658 h1 { /* title of the entire website, used on each page */
2659     text-align: center ;
2660     font-size: 2.5em ;
2661     padding: .4ex 0em 0ex 0em ;
2662 }
2663
2664 div.book {
```

```
2665     text-align: center ;
2666     font-size: 2.325em ;
2667     padding: .4ex 0em 0ex 0em ;
2668 }
2669
2670 h2 { font-size: 2.25em }
2671 h3 { font-size: 2em }
2672 h4 { font-size: 1.75em }
2673 h5 { font-size: 1.5em }
2674 h6 { font-size: 1.25em }
2675 span.paragraph {font-size: 1em ; font-variant: normal ;
2676     margin-right: 1em ; }
2677 span.subparagraph {font-size: 1em ; font-variant: normal ;
2678     margin-right: 1em ; }
2679
2680 div.minisec {
2681     font-family: "DejaVu Sans", "Bitstream Vera Sans",
2682         Geneva, Verdana, sans-serif ;
2683     font-style: normal ;
2684     font-weight: bold ;
2685     text-align: left ;
2686 }
2687
2688 h1 {
2689     margin: 0ex 0em 0ex 0em ;
2690     line-height: 1.3;
2691     text-align: center ;
2692 }
2693
2694 h2 {
2695     margin: 1ex 0em 1ex 0em ;
2696     line-height: 1.3;
2697     text-align: center ;
2698 }
2699
2700 h3 {
2701     margin: 3ex 0em 1ex 0em ;
2702     line-height: 1.3;
2703 }
2704
2705 h4 {
2706     margin: 3ex 0em 1ex 0em ;
2707     line-height: 1.3;
2708 }
2709
2710 h5 {
2711     margin: 3ex 0em 1ex 0em ;
2712     line-height: 1.3;
2713 }
2714
2715 h6 {
2716     margin: 3ex 0em 1ex 0em ;
2717     line-height: 1.3;
2718 }
2719
2720
2721 div.titlepage {
2722     text-align: center ;
2723 }
2724
```

```
2725 .footnotes {
2726     text-align: left ;
2727     font-size: .85em ;
2728     margin: 3ex 2em 0ex 2em ;
2729     border-top: 1px solid silver ;
2730 }
2731
2732 .marginpar, .marginparblock {
2733     max-width: 50%;
2734     float: right ;
2735     clear: both ;
2736     text-align: left ;
2737     margin: 1ex 0.5em 1ex 1em ;
2738     padding: 1ex 0.5em 1ex 0.5em ;
2739     font-size: 85% ;
2740     border-top: 1px solid silver ;
2741     border-bottom: 1px solid silver ;
2742     overflow-x: auto ;
2743 }
2744
2745 .marginpar br { margin-bottom: 2ex ; }
2746
2747 div.marginblock, div.marginparblock {
2748     max-width:50%;
2749     min-width: 10em; /* room for caption */
2750     float:right;
2751     text-align:left;
2752     margin: 1ex 0.5em 1ex 1em ;
2753     padding: 1ex 0.5em 1ex 0.5em ;
2754     overflow-x: auto;
2755 }
2756
2757 div.marginblock div.minipage,
2758 div.marginparblock div.minipage {
2759     display: inline-block ;
2760     margin: 0pt auto 0pt auto ;
2761 }
2762
2763 div.marginblock div.minipage p ,
2764 div.marginparblock div.minipage p
2765     { font-size: 85%}
2766
2767 div.marginblock br ,
2768 div.marginparblock br
2769     { margin-bottom: 2ex ; }
2770
2771 main.bodycontainer {
2772     float: left ;
2773     width: 80% ;
2774 }
2775
2776 div.bodywithoutsidetoc main.bodycontainer {
2777     float: none ;
2778     width: 100% ;
2779 }
2780
2781 section.textbody div.footnotes{
2782     margin: 1ex 2em 2ex 2em ;
2783     border-bottom: 2px solid silver ;
2784 }
```

```
2785
2786 .footnoteheader {
2787     border-top: 2px solid silver ;
2788     margin-top: 3ex ;
2789     padding-top: 1ex ;
2790     font-weight: bold ;
2791 }
2792
2793 .mpfootnotes {
2794     text-align: left ;
2795     font-size: .85em ;
2796     margin-left: 1em ;
2797     border-top: 1px solid silver ;
2798 }
2799
2800 /* Remove footnote top border in the title page. */
2801 div.titlepage div.mpfootnotes {
2802     border-top: none ;
2803 }
2804
2805
2806
2807 ul, ol {
2808     margin: 1ex 1em 1ex 0em;
2809     line-height: 1.2;
2810 }
2811
2812 body dir, body menu {
2813     margin: 3ex 1em 3ex 0em;
2814     line-height: 1.2;
2815 }
2816
2817 li { margin: 0ex 0em 1ex 0em; }
2818
2819 li.p { display: inline ; }
2820
2821 html {
2822     margin: 0;
2823     padding: 0;
2824 }
2825
2826 .programlisting {
2827     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2828                 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2829                 "Courier New", monospace;
2830     margin: 1ex 0ex 1ex 0ex ;
2831     padding: .5ex 0pt .5ex 0pt ;
2832     overflow-x: auto;
2833 }
2834
2835 section.textbody>pre.programlisting {
2836 border-top: 1px solid silver ;
2837 border-bottom: 1px solid silver ;
2838 }
2839
2840
2841 div.displaymath {
2842     text-align: center ;
2843 }
2844
```

```
2845 div.displaymathnumbered {
2846     text-align: right ;
2847     margin-left: 5% ;
2848     margin-right: 5% ;
2849     min-width: 2.5in ;
2850 }
2851
2852 @media all and (min-width: 400px) {
2853     div.displaymathnumbered {
2854         margin-left: 10% ;
2855         margin-right: 10% ;
2856     }
2857 }
2858
2859 @media all and (min-width: 800px) {
2860     div.displaymathnumbered {
2861         margin-right: 20% ;
2862     }
2863 }
2864
2865 @media all and (min-width: 1200px) {
2866     div.displaymathnumbered {
2867         margin-right: 30% ;
2868     }
2869 }
2870
2871
2872 .inlineprogramlisting {
2873     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2874             "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2875             "Courier New", monospace;
2876     overflow-x: auto;
2877 }
2878
2879 span.listinglabel {
2880     display: inline-block ;
2881     font-size: 70% ;
2882     width: 4em ;
2883     text-align: right ;
2884     margin-right: 2em ;
2885 }
2886
2887 div.abstract {
2888     margin: 2em 5% 2em 5% ;
2889     padding: 1ex 1em 1ex 1em ;
2890 /* font-weight: bold ; */
2891     font-size: 90% ;
2892     text-align: left ;
2893 }
2894
2895 div.abstract dl {line-height:1.5;}
2896 div.abstract dt {color:#304070;}
2897
2898 div.abstracttitle{
2899     font-family: "URW Classico", Optima, "Linux Biolinum 0",
2900             "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
2901             "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2902     font-weight:bold;
2903     font-size:1.25em;
2904     text-align: center ;
```

```
2905 }
2906
2907 span.abstractrunintitle{
2908     font-family: "URW Classico", Optima, "Linux Biolinum 0",
2909     "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
2910     "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2911     font-weight:bold;
2912 }
2913
2914
2915 .verbatim {
2916     overflow-x: auto ;
2917 }
2918
2919 .alltt {
2920     overflow-x: auto ;
2921 }
2922
2923
2924 .bverbatim {
2925     margin: 1ex 0pt 1ex 0pt ;
2926     padding: .5ex 0pt .5ex 0pt ;
2927     overflow-x: auto ;
2928 }
2929
2930 .lverbatim {
2931     margin: 1ex 0pt 1ex 0pt ;
2932     padding: .5ex 0pt .5ex 0pt ;
2933     overflow-x: auto ;
2934 }
2935
2936 .fancyvrb {
2937     font-size:.85em ;
2938     margin: 3ex 0pt 3ex 0pt
2939 }
2940
2941 .fancyvrblabel {
2942     font-size: .85em ;
2943     text-align: center ;
2944     font-weight: bold ;
2945     margin-top: 1ex ;
2946     margin-bottom: 1ex ;
2947 }
2948
2949
2950 .verse {
2951     font-family: "Linux Libertine Mono 0", "Lucida Console",
2952     "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2953     "Liberation Mono", "FreeMono", "Andale Mono",
2954     "Nimbus Mono L", "Courier New", monospace;
2955     margin-left: 1em ;
2956 }
2957
2958
2959 div.singlespace { line-height: 1.2 ; }
2960 div.onehalfspace { line-height: 1.5 ; }
2961 div.doublespace { line-height: 2 ; }
2962
2963
2964 /* Word processor format output: */
```

```
2965 div.wpfigure { border: 1px solid red ; margin: .5ex ; padding: .5ex ; }
2966 div.wptable { border: 1px solid blue ; margin: .5ex ; padding: .5ex ; }
2967 div.wpminipage { border: 1px solid green ; margin: .5ex ; padding: .5ex ; }
2968
2969
2970
2971
2972 /* Minipage environments, vertically aligned to top, center, bottom: */
2973 .minipage, .fminipage, .fcolorminipage {
2974     /* display: inline-block ; */
2975     /* Mini pages which follow each other will be tiled. */
2976     text-align:left;
2977     margin: .25em .25em .25em .25em;
2978     padding: .25em .25em .25em .25em;
2979     display: inline-flex;
2980     flex-direction: column ;
2981     overflow: auto;
2982 }
2983
2984 .inlineminipage {
2985     display: inline-block ;
2986     text-align: left
2987 }
2988
2989 /* Paragraphs in the flexbox did not collapse their margins. */
2990 /* Have not yet researched this. */
2991 .minipage p {margin: .75ex 0em .75ex 0em ;}
2992
2993 .fboxBlock .minipage, .colorbox .minipage, .colorboxBlock .minipage,
2994 .fcolorbox .minipage, .fcolorboxBlock .minipage
2995     {border: none ; background: none;}
2996
2997 .fbox, .fboxBlock { border: 1px solid black ; padding: 4pt }
2998
2999 .fbox, .fboxBlock, .fcolorbox, .fcolorboxBlock, .colorbox, .colorboxBlock,
3000 .fminipage, .fcolorminipage
3001     {display: inline-block}
3002
3003 .shadowbox, .shabox {
3004     border: 1px solid black;
3005     box-shadow: 3px 3px 3px #808080 ;
3006     border-radius: 0px ;
3007     padding: .4ex .3em .4ex .3em ;
3008     margin: 0pt .3ex 0pt .3ex ;
3009     display: inline-block ;
3010 }
3011
3012 .doublebox {
3013     border: 3px double black;
3014     border-radius: 0px ;
3015     padding: .4ex .3em .4ex .3em ;
3016     margin: 0pt .3ex 0pt .3ex ;
3017     display: inline-block ;
3018 }
3019
3020 .ovalbox, .Ovalbox {
3021     border: 1px solid black;
3022     border-radius: 1ex ;
3023     padding: .4ex .3em .4ex .3em ;
3024     margin: 0pt .3ex 0pt .3ex ;
```

```
3025   display: inline-block ;
3026 }
3027
3028 .Ovalbox { border-width: 2px ; }
3029
3030 .framebox {
3031   border: 1px solid black;
3032   border-radius: 0px ;
3033   padding: .3ex .2em 0ex .2em ;
3034   margin: 0pt .1ex 0pt .1ex ;
3035   display: inline-block ;
3036 }
3037
3038
3039 /* mdframed, tcolorbox, shadebox packages */
3040 .mdframed, .tcolorbox, .shadebox {
3041   padding: 0ex ;
3042   margin: 2ex 0em 2ex 0em ;
3043   border: 1px solid black ;
3044 }
3045
3046 .tcolorbox {
3047   border-radius: 10pt ;
3048   margin: 2ex 1em 2ex 1em ;
3049 }
3050
3051 .mdframed p, .tcolorbox p { padding: 0ex .5em 0ex .5em ; }
3052
3053 .mdframed dl, .tcolorbox dl { padding: 1ex .5em 0ex .5em ; }
3054
3055 .mdframedtitle, .tcolorboxtitle {
3056   padding: .5ex 0pt 0pt 0pt ;
3057   border-radius: 10pt 10pt 0pt 0pt ;
3058   display: block ;
3059   margin-bottom: 1ex ;
3060   border-bottom: 1px solid silver ;
3061 }
3062
3063 .tcolorboxsubtitle .tcolorbox {
3064   margin: 2ex 0em 2ex 0em ;
3065   border-radius: 0pt ;
3066 }
3067
3068 .mdframedsubtitle {
3069   display: block ;
3070 }
3071
3072 .mdframedsubsubtitle {
3073   display: block ;
3074 }
3075
3076 .mdtheorem {
3077   padding: 0ex .5em 0ex .5em ;
3078   margin: 3ex 5% 3ex 5% ;
3079 }
3080
3081
3082 /* framed package */
3083 .framed, pre.boxedverbatim, fcolorbox {
3084   margin: 3ex 0em 3ex 0em ;
```

```
3085 border: 1px solid black;
3086     border-radius: 0px ;
3087     padding: .3ex 1em 0ex 1em ;
3088 display: block ;
3089 }
3090
3091 .shaded {
3092     margin: 3ex 0em 3ex 0em ;
3093     padding: .3ex 1em .3ex 1em ;
3094     display: block ;
3095 }
3096
3097 .snugframed {
3098     margin: 3ex 0em 3ex 0em ;
3099     border: 1px solid black;
3100     border-radius: 0px ;
3101 display: block ;
3102 }
3103
3104 .framedleftbar {
3105     margin: 3ex 0em 3ex 0em ;
3106     border-left: 3pt solid black;
3107     border-radius: 0px ;
3108     padding: .3ex .2em .3ex 1em ;
3109 display: block ;
3110 }
3111
3112 .framedtitle {
3113     margin: 0em ;
3114     padding: 0em ;
3115     font-size: 130%
3116 }
3117
3118 .framedtitle p { padding: .3em }
3119
3120
3121 /* For the niceframe package: */
3122
3123 div.niceframe, div.curlyframe, div.artdecoframe, div.generalframe {
3124     padding: 1ex ;
3125     margin: 2ex auto ;
3126     border-radius: 2ex ;
3127 }
3128
3129 div.niceframe {
3130     border: 6px groove black ;
3131 }
3132
3133 div.curlyframe {
3134     border-left: 3px dotted black ;
3135     border-right: 3px dotted black ;
3136     border-radius: 6ex ;
3137 }
3138
3139 div.artdecoframe {
3140     border-left: 10px double black ;
3141     border-right: 10px double black ;
3142     border-radius: 6ex ;
3143 }
3144
```

```
3145 div.generalframe {  
3146     border: 6px groove black ;  
3147 }  
3148  
3149  
3150 /* For beamerarticle: */  
3151 div.beamerframe {  
3152     margin: 3ex 1em 3ex 1em ;  
3153     border: 1px solid gray;  
3154     border-radius: 0px ;  
3155     padding: .3ex 1em 0ex 1em ;  
3156     display: block ;  
3157 }  
3158  
3159  
3160 dl {  
3161     margin: 1ex 2em 1ex 0em;  
3162     line-height: 1.3;  
3163 }  
3164  
3165 dl dt {  
3166     display: block ;  
3167     float:left ;  
3168     font-weight: bold;  
3169     padding-right: 1em ;  
3170 }  
3171  
3172 dl dd { display: block ; }  
3173  
3174 dl dd:after { content: "" ; display: block ; clear: both }  
3175  
3176 dl dd p { margin-top: 0em; }  
3177  
3178 dd ul, dd ol, dd dl {  
3179     clear: both ;  
3180 /*     padding-top: 1ex ; */  
3181 }  
3182  
3183  
3184 nav {  
3185     font-family: "URW Classico", Optima, "Linux Biolinum 0",  
3186         "DejaVu Sans", "Bitstream Vera Sans",  
3187         Geneva, Verdana, sans-serif ;  
3188     margin-bottom: 4ex ;  
3189 }  
3190  
3191 nav p {  
3192     line-height: 1.2 ;  
3193     margin-top:.5ex ;  
3194     margin-bottom:.5ex;  
3195     font-size: .9em ;  
3196 }  
3197  
3198  
3199  
3200 img, img.hyperimage, img.borderimage {  
3201     max-width: 600px;  
3202     border: 1px solid silver;  
3203     box-shadow: 3px 3px 3px #808080 ;  
3204     padding: .5% ;
```

```
3205     margin: .5% ;
3206     background: none ;
3207 }
3208
3209 img.inlineimage{
3210     padding: 0px ;
3211     box-shadow: none ;
3212     border: none ;
3213     background: none ;
3214     margin: 0px ;
3215     display: inline-block ;
3216     border-radius: 0px ;
3217 }
3218
3219 img.logoimage{
3220     max-width: 300px ;
3221     box-shadow: 3px 3px 3px #808080 ;
3222     border: 1px solid black ;
3223     background:none ;
3224     padding:0 ;
3225     margin:.5ex ;
3226     border-radius: 10px ;
3227 }
3228
3229
3230 .section {
3231 /*
3232     To have each section float relative to each other:
3233 */
3234 /*
3235     display: block ;
3236     float: left ;
3237     position: relative ;
3238     background: white ;
3239     border: 1px solid silver ;
3240     padding: .5em ;
3241 */
3242     margin: 0ex .5em 0ex .5em ;
3243     padding: 0 ;
3244 }
3245
3246
3247 figure {
3248     margin: 5ex auto 5ex auto ;
3249     padding: 1ex 1em 1ex 1em ;
3250     overflow-x: auto ;
3251 }
3252
3253
3254 /* To automatically center images in figures: */
3255 /*
3256 figure img.inlineimage {
3257     margin: 0ex auto 0ex auto ;
3258     display: block ;
3259 }
3260 */
3261
3262 /* To automatically center minipages in figures: */
3263 /*
3264 figure div.minipage, figure div.minipage div.minipage {
```

```
3265     margin: 1ex auto 1ex auto ;
3266     display: block ;
3267 }
3268 */
3269
3270 figure figure { margin: 0pt }
3271
3272 figure div.minipage p { font-size: 85% ; }
3273
3274 figure.subfigure, figure.subtable {
3275     display: inline-block ; margin: 3ex 1em 3ex 1em ;
3276 }
3277
3278 div.figurecaption .minipage { margin:0 ; padding: 0 }
3279
3280 /* for subcaptions: */
3281 figure div.minipage div.figurecaption {
3282     max-width: 100% ; /* fallback if min() does not work */
3283     max-width: min(30em,100%)
3284 }
3285
3286 div.minipage figure { border: none ; box-shadow: none ; }
3287 div.minipage figure.table { margin: 0ex }
3288 div.minipage div.footnotes { margin: 1ex 2em 0ex 2em }
3289
3290 div.floatrow { text-align: center; }
3291
3292 div.floatrow figure { display: inline-block ; margin: 1ex 2% ; }
3293
3294 div.floatfoot { font-size: .85em ;
3295     border-top: 1px solid silver ; line-height: 1.2 ; }
3296
3297 /* Center if only one line, "start" align if more than one line: */
3298 div.figurecaption , .lstlistingtitle {
3299     font-size: .85em ;
3300     font-weight: bold ;
3301     text-align: start ;
3302     margin: 1ex auto;
3303     width: max-content;
3304     max-width: 100%;
3305 }
3306
3307 /* A marginblock is small, so always center and don't mess with the width. */
3308 div.marginblock div.figurecaption {
3309     width: 100% ;
3310     text-align: center ;
3311 }
3312
3313 figure.subfigure div.figurecaption, figure.subtable div.figurecaption {
3314     border-bottom: none ; background: none ;
3315 }
3316
3317 div.nonfloatcaption {
3318     margin: 1ex auto 1ex auto ;
3319     font-size: .85em ;
3320     text-align: center ;
3321     font-weight: bold ;
3322 }
3323
3324 /* For a \RawCaption inside a minipage inside a figure's floatrow: */
```

```
3325 figure div.floatrow div.minipage div.figurecaption {  
3326     border: none ;  
3327     background: none ;  
3328 }  
3329  
3330 /* For packages such as float, rotfloat, and algorithm2e: */  
3332  
3333 figure.boxed, figure.boxruled {  
3334     border: 1px solid black ;  
3335 }  
3336  
3337 figure.ruled {  
3338     border-top: 1px solid black ;  
3339     border-bottom: 1px solid black ;  
3340     border-left: 0px ;  
3341     border-right: 0px ;  
3342     border-radius: 0px ;  
3343     background: none ;  
3344     box-shadow: none ;  
3345 }  
3346  
3347 figure.ruled div.figurecaption, figure.boxruled div.figurecaption {  
3348     border-top: 1px solid silver ;  
3349     border-bottom: 1px solid silver ;  
3350 }  
3351  
3352  
3353 table {  
3354     margin: 1ex auto 1ex auto ;  
3355     border-collapse: separate ;  
3356     border-spacing: 0px ;  
3357     line-height: 1.3 ;  
3358 }  
3359  
3360 table > tbody > tr.hline > td {border-top: 1px solid #808080 ; margin-top: 0ex ;  
3361     margin-bottom: 0ex ; } /* for \hline */  
3362  
3363 tr.tbrule td {border-top: 1px solid black ; margin-top: 0ex ;  
3364     margin-bottom: 0ex ; } /* for \toprule, \bottomrule */  
3365  
3366 td {padding: .5ex .5em .5ex .5em ;}  
3367  
3368 table td.tdl { text-align: left ; vertical-align: middle ; }  
3369 table td.tdc { text-align: center ; vertical-align: middle ; }  
3370 table td.tdat { text-align: center ; vertical-align: middle ; padding: 0px ; margin: 0px ; }  
3371 table td.tdbang { text-align: center ; vertical-align: middle ; }  
3372 table td.tdr { text-align: right ; vertical-align: middle ; }  
3373 table td.tdp { text-align: left ; vertical-align: bottom ; }  
3374 table td.tdm { text-align: left ; vertical-align: middle ; }  
3375 table td.tdb { text-align: left ; vertical-align: top ; }  
3376  
3377 table td.tvertbarl { border-left: 1px solid black }  
3378 table td.tvertbarldouble { border-left: 4px double black }  
3379 table td.tvertbarr { border-right: 1px solid black }  
3380 table td.tvertbarrdouble { border-right: 4px double black }  
3381  
3382 table td.tvertbarldash { border-left: 1px dashed black }  
3383 table td.tvertbarldoubledash { border-left: 2px dashed black }  
3384 table td.tvertbarrdash { border-right: 1px dashed black }
```

```
3385 table td.tvertbarrdoubledash { border-right: 2px dashed black }
3386
3387 table td.tdcenter { text-align: center}
3388 table td.tdleft { text-align: left}
3389 table td.tdright { text-align: right}
3390
3391
3392 /* for cmidrules: */
3393 table td.tdrule {
3394     border-top: 1px solid #A0A0A0 ;
3395 }
3396
3397 table td.tdrulel {
3398     border-top-left-radius:.5em ;
3399     border-top: 1px solid #A0A0A0 ;
3400 }
3401
3402 table td.tdruler {
3403     border-top-right-radius:.5em ;
3404     border-top: 1px solid #A0A0A0 ;
3405 }
3406
3407 table td.tdrulelr {
3408     border-top-left-radius:.5em ;
3409     border-top-right-radius:.5em ;
3410     border-top: 1px solid #A0A0A0 ;
3411 }
3412
3413
3414 /* Margins of paragraphs inside table cells: */
3415 td.tdp p , td.tdprule p , td.tdP p , td.tdPrule p { padding-top: 1ex ;
3416     padding-bottom: 1ex ; margin: 0ex ; }
3417 td.tdm p , td.tdmrule p , td.tdM p , td.tdMrule p { padding-top: 1ex ;
3418     padding-bottom: 1ex ; margin: 0ex ; }
3419 td.tdb p , td.tdbrule p , td.tdB p , td.tdBrule p { padding-top: 1ex ;
3420     padding-bottom: 1ex ; margin: 0ex ; }
3421
3422 td.tdp , td.tdprule , td.tdP , td.tdPrule
3423     { padding: 0ex .5em 0ex .5em ; }
3424 td.tdm , td.tdmrule , td.tdM , td.tdMrule
3425     { padding: 0ex .5em 0ex .5em ; }
3426 td.tdb , td.tdbrule , td.tdB , td.tdBrule
3427     { padding: 0ex .5em 0ex .5em ; }
3428
3429
3430 /* table notes: */
3431 .tnotes {
3432     margin: 0ex 5% 1ex 5% ;
3433     padding: 0.5ex 1em 0.5ex 1em;
3434     font-size:.80em;
3435     text-align: left ;
3436 }
3437
3438 .minipage .tnotes {
3439     margin: 0pt ;
3440     padding: 0pt ;
3441 }
3442
3443 .tnotes dl dt p {margin-bottom:0px;}
3444
```

```
3445 .tnoteitemheader {margin-right: 1em; }
3446
3447
3448 /* for colortbl and cell color */
3449 div.cellcolor {
3450     width: 100% ;
3451     padding: .5ex .5em .5ex .5em ;
3452     margin: -.5ex -.5em -.5ex -.5em ;
3453 }
3454
3455
3456 /* for lyluatex */
3457 span.lyluatex {
3458     display: inline-block ;
3459 }
3460
3461 div.lyluatex p span.lateximagesource img {
3462     display: block ;
3463     margin-top: 3ex ;
3464     margin-bottom: 3ex ;
3465 }
3466
3467
3468 /* for bigdelim */
3469 .ldelim, .rdelim { font-size: 200% }
3470
3471
3472 /* center, flushleft, flushright environments */
3473 div.center{text-align:center;}
3474 div.center table {margin-left:auto;margin-right:auto;}
3475 div.flushleft{text-align:left;}
3476 div.flushleft table {margin-left:0em ; margin-right:auto;}
3477 div.flushright{text-align:right;}
3478 div.flushright table {margin-left:auto ; margin-right: 0em ;}
3479
3480
3481 /* Fancybox */
3482 div.Btrivlist table tr td {
3483     padding: .2ex 0em ;
3484 }
3485
3486
3487 /* program listing callouts: */
3488 span.callout {
3489     font-family: "DejaVu Sans", "Bitstream Vera Sans",
3490             Geneva, Verdana, sans-serif ;
3491     border-radius: .5em;
3492     background-color:black;
3493     color:white;
3494     padding:0px .25em 0px .25em;
3495     margin: 0 ;
3496     font-weight: bold;
3497     font-size:.72em ;
3498 }
3499
3500 div.programlisting pre.verbatim span.callout{
3501     font-size: .85em ;
3502 }
3503
3504 span.verbatim {
```

```
3505     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
3506         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
3507         "Courier New", monospace;
3508 }
3509
3510
3511
3512 div.titlehead
3513 {
3514     text-align: left ;
3515     font-style: normal ;
3516     font-weight: normal ;
3517     font-style: normal ;
3518     font-size: .8em ;
3519     margin: 1ex 0em 1ex 0em ;
3520 }
3521
3522 div.subject
3523 {
3524     text-align: center ;
3525     font-style: normal ;
3526     font-weight: bold ;
3527     font-style: normal ;
3528     font-size: .8em ;
3529     margin: 1ex 0em 1ex 0em ;
3530 }
3531
3532 div.published
3533 {
3534     text-align: center ;
3535     font-variant: normal ;
3536     font-style: italic ;
3537     font-size: 1em ;
3538     margin: 1ex 0em 1ex 0em ;
3539 }
3540
3541 div.subtitle
3542 {
3543     text-align: center ;
3544     font-variant: normal ;
3545     font-style: italic ;
3546     font-size: 1.25em ;
3547     margin: 1ex 0em 1ex 0em ;
3548 }
3549
3550 div.subtitle p { margin: 1ex ; }
3551
3552 div.author
3553 {
3554     text-align: center ;
3555     font-variant: normal ;
3556     font-style: normal ;
3557     font-size: 1em ;
3558     margin: 1ex 0em 1ex 0em ;
3559 }
3560
3561 div.oneauthor {
3562     display: inline-block ;
3563     margin: 0ex 1em 0ex 1em ;
3564 }
```

```
3565
3566 /*
3567 div.author table {
3568     margin: 1ex auto 0ex auto ;
3569     background: none ;
3570 }
3571
3572 div.author table tbody tr td { padding: .25ex ; }
3573 */
3574
3575 span.affiliation {font-size: .85em ; font-variant: small-caps; }
3576
3577 div.titledate {
3578     text-align: center ;
3579     font-size: .85em ;
3580     font-style: italic;
3581     margin: 1ex 0em 1ex 0em ;
3582 }
3583
3584
3585 nav.topnavigation{
3586     text-align: left ;
3587     padding: 0.5ex 1em 0.5ex 1em ;
3588 /*     margin: 2ex 0em 3ex 0em ; */
3589     margin: 0 ;
3590     border-bottom: 1px solid silver ;
3591     border-top: 1px solid silver ;
3592     clear:both ;
3593 }
3594
3595 nav.botnavigation{
3596     text-align: left ;
3597     padding: 0.5ex 1em 0.5ex 1em ;
3598 /*     margin: 3ex 0em 2ex 0em ; */
3599     margin: 0 ;
3600     border-top: 1px solid silver ;
3601     border-bottom: 1px solid silver ;
3602     clear:both ;
3603 }
3604
3605
3606 header {
3607     line-height: 1.2 ;
3608     font-size: 1em ;
3609     border-bottom: 1px solid silver ;
3610     margin: 0px ;
3611     padding: 2ex 1em 2ex 1em ;
3612     text-align:left ;
3613 }
3614
3615
3616 footer {
3617     font-size: .85em ;
3618     line-height: 1.2 ;
3619     margin-top: 1ex ;
3620     border-top: 1px solid silver ;
3621     padding: 2ex 1em 2ex 1em ;
3622     clear:both ;
3623     text-align:left ;
3624 }
```

```
3625
3626
3627 /* for \LinkHome, \LinkPrevious, and \LinkNext: */
3628 a.linkhome { font-weight:bold ; font-size: 1em ;}
3629
3630
3631 div.lateximagesource { padding: 0px ; margin: 0px ; display: none; }
3632
3633 img.lateximage{
3634     padding: 0pt ;
3635     margin: 0pt ;
3636     box-shadow: none ;
3637     border: none ;
3638     background: none ;
3639     max-width: 100% ;
3640     border-radius: 0ex ;
3641     border: none ;
3642 }
3643
3644
3645 div.sidetoccontainer {
3646     font-family: "DejaVu Serif", "Bitstream Vera Serif",
3647         "Lucida Bright", Georgia, serif;
3648     float: left ;
3649     width: 19%; /* room for border-right next to 80% main */
3650     margin: 0pt 0em 3ex 0pt ;
3651     border-right: 1px solid silver;
3652     border-bottom: 1px solid silver;
3653     background: #FAF7F4 ;
3654     font-size:.9em ;
3655     border-radius: 0px 0px 20px 0px ;
3656 }
3657
3658 div.sidetoccontents {
3659     overflow-y: auto ;
3660     width: 100% ;
3661     text-align: left ;
3662 }
3663
3664
3665 nav.sidetoc p {line-height:1.2 ; margin: 1ex .5em 1ex .5em ;
3666     text-indent: 0 ; }
3667
3668 nav.sidetoc p a {color:black ; font-size: .7em ;}
3669
3670 div.sidetoctitle {font-size: 1.2em; font-weight:bold; text-align:center;
3671     border-bottom: 1px solid silver ;    }
3672
3673 nav.sidetoc a:hover {text-decoration: underline ; }
3674
3675
3676
3677 section.textbody { margin: 0ex 1em 0ex 1em ;}
3678
3679
3680 div.multicolsheading { -webkit-column-span: all;
3681     -moz-column-span: all; column-span: all; }
3682 div.multicols {
3683     -webkit-columns: 3 auto ;
3684     -moz-columns: 3 auto ;
```

```
3685     columns: 3 auto ;
3686 }
3687 div.multicols p {margin-top: 0ex}
3688
3689
3690 /* Used for xfrac and nicefrac: */
3691 span.numerator {
3692     font-size: 60% ;
3693     vertical-align: .4em ;
3694 }
3695
3696 span.denominator {
3697     font-size: 60%
3698 }
3699
3700
3701 /* Used for algorithm2e: */
3702 div.alg2evline{
3703     margin-left: 1em ;
3704     padding-left: 1em ;
3705     border-left: 1px solid black ;
3706     border-radius: 0px 0px 0px 1ex ;
3707 }
3708
3709 div.alg2evsline{
3710     margin-left: 1em ;
3711     padding-left: 1em ;
3712     border-left: 1px solid black ;
3713 }
3714
3715 div.alg2enoline{
3716     margin-left: 1em ;
3717     padding-left: 1em ;
3718 }
3719
3720 span.alg2elinenumber{
3721     margin-right: .5em ;
3722     font-size: 60% ;
3723     color: red ;
3724 }
3725
3726
3727 /* Used for algorithmicx: */
3728 span.floatright { float: right ; }
3729
3730
3731 /* keyfloat and tocdata: */
3732 .floatnotes {
3733     margin: 0ex 5% 0ex 5% ;
3734     padding: 0ex 1em 0ex 1em ;
3735     font-size:.80em ;
3736     text-align: left ;
3737 }
3738
3739 .authorartist{
3740     display:block ;
3741     font-size:.70em ;
3742     font-style: italic;
3743 }
3744
```

```
3745 nav .authorartist{ display:inline; }
3746
3747
3748
3749 /* Native LaTeX theorems: */
3750
3751 .theoremcontents {
3752     font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3753 }
3754
3755 .theoremlabel {
3756     font-style: normal; font-weight: bold ; margin-right: .5em ;
3757 }
3758
3759
3760
3761 /* theorem, amsthm, and ntheorem packages */
3762
3763 span.theoremheader,
3764 span.theoremheaderplain,
3765 span.theoremheaderdefinition,
3766 span.theoremheaderbreak,
3767 span.theoremheadermarginbreak,
3768 span.theoremheaderchangebreak,
3769 span.theoremheaderchange,
3770 span.theoremheadermargin
3771 {
3772     font-style:normal ; font-weight: bold ; margin-right: 1em ;
3773 }
3774
3775 span.amsthmnameplain,
3776 span.amsthmnamedefinition,
3777 span.amsthmnumberplain,
3778 span.amsthmnumberdefinition
3779 {
3780     font-style:normal ; font-weight: bold ;
3781 }
3782
3783
3784 span.amsthmnameremark,
3785 span.amsthmnumberremark
3786 {font-style:italic ; font-weight: normal ; }
3787
3788
3789 span.amsthmnoteplain,
3790 span.amsthmnotedefinition
3791 {font-style:normal ;}
3792
3793
3794 span.theoremheaderremark,
3795 span.theoremheaderproof,
3796 span.amsthmproofname
3797 {font-style:italic ; font-weight: normal ; margin-right: 1em ; }
3798
3799 span.theoremheadersc
3800 {
3801     font-style:normal ;
3802     font-variant: small-caps ;
3803     font-weight: normal ;
3804     margin-right: 1em ;
```

```
3805 }
3806
3807 .theoremendmark {float:right}
3808
3809 div.amsthmbodyplain, div.theorembodyplain, div.theorembodynonumberplain,
3810 div.theorembodybreak, div.theorembodynonumberbreak,
3811 div.theorembodymarginbreak,
3812 div.theorembodychangebreak,
3813 div.theorembodychange,
3814 div.theorembodymargin
3815 {
3816     font-style:italic;
3817     margin-top: 3ex ; margin-bottom: 3ex ;
3818 }
3819
3820 div.theorembodydefinition, div.theorembodyremark, div.theorembodyproof,
3821 div.theorembodyplainupright, nonumberplainuprightsc,
3822 div.amsthmbodydefinition, div.amsthmbodyremark,
3823 div.amsthmproof
3824 {
3825     font-style: normal ;
3826     margin-top: 3ex ; margin-bottom: 3ex ;
3827 }
3828
3829 span.amsthmnoteremark {}
3830
3831
3832 /* thmbox */
3833
3834 .thmbox {
3835     font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3836     border: 1px solid gray ;
3837     padding: 1ex ;
3838 }
3839
3840 .thmboxtitle {
3841     font-style: normal; font-weight: bold ; margin-right: .5em ;
3842     border-bottom: 1px solid gray ;
3843 }
3844
3845 span.thmboxproofname, span.thmboxexamplename {
3846     font-weight: bold ;
3847 }
3848
3849 div.thmboxproof, div.thmboxexample {
3850     font-size: 0.85em ;
3851     margin: 2ex ;
3852 }
3853
3854 div.thmboxleftbar {
3855     border-left: 2px solid black ;
3856     padding-left: 1em ;
3857 }
3858
3859
3860
3861 /* For the backnaur package: */
3862 div.backnaur {
3863     display: block ;
3864     margin: 2ex 2em 2ex 2em ;
```

```
3865 }
3866
3867 div.backnaur p {
3868     margin: .25ex 0ex .25ex 0ex ;
3869 }
3870
3871 div.backnaurprod {
3872     display: inline-block ;
3873     min-width: 8em ;
3874     text-align:right ;
3875 }
3876
3877 div.backnaurdesc {
3878     display: inline-block ;
3879 }
3880
3881
3882 /* For the notes package: */
3883 div.notesimportantnote, div.noteswarningnote, div.notesinformationnote {
3884     clear: both ;
3885     margin: 2ex 2em 2ex 2em ;
3886     border: 1px solid silver ;
3887 }
3888
3889 div.notesicon {
3890     float:left ;
3891     display: inline-block ;
3892     background: gold ;
3893     padding: 0ex 1em 0ex 1em ;
3894     margin-right: 1em ;
3895     font-weight: bold ;
3896 }
3897
3898 div.notescontents { font-style: italic }
3899
3900
3901 /* nolbreaks package: */
3902 span.nolbreaks { white-space: nowrap ; }
3903
3904
3905 /*
3906 For CSS LaTeX and related logos:
3907 Based on spacing demonstrated by the metafont package.
3908
3909 The subscripts are shrunk instead of lowered below the baseline,
3910 to avoid browser rendering errors with the line height in lists, etc.
3911 */
3912
3913 .latexlogofont {
3914     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3915         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3916     font-variant: normal ;
3917 }
3918
3919 .latexlogo {
3920     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3921         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3922 }
3923
3924 .latexlogosup {
```

```
3925   text-transform: uppercase;
3926   letter-spacing: .03em ;
3927   font-size: 0.7em;
3928   vertical-align: 0.25em;
3929   margin-left: -0.4em;
3930   margin-right: -0.15em;
3931 }
3932
3933 .latexlogosub {
3934   text-transform: uppercase;
3935 /* vertical-align: -0.27ex; */
3936   margin-left: -0.08em;
3937   margin-right: -0.07em;
3938 /* font-size: 1em; */
3939   font-size: .7em ;
3940 }
3941
3942 .latexlogotwoe {
3943   text-transform: none ;
3944   font-variant-numeric: oldstyle-nums ;
3945 }
3946
3947 .latexlogotwoesub {
3948   font-style:italic ;
3949 /* vertical-align: -0.27ex; */
3950   margin-left: -0.11em;
3951   margin-right: -0.1em;
3952 /* font-size: 1em; */
3953   font-size: .7em ;
3954 }
3955
3956 .xelatexlogo {
3957   font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3958         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3959   letter-spacing: .03em ;
3960 }
3961
3962 .xelatexlogosub {
3963 /* vertical-align: -0.27ex; */
3964   margin-left: -0.0667em;
3965   margin-right: -.05em;
3966 /* font-size: 1em; */
3967   font-size: .7em ;
3968   letter-spacing: .03em ;
3969 }
3970
3971 .amslogo {
3972   font-family: "TeXGyreChorus","URW Chancery L",
3973     "Apple Chancery","ITC Zapf Chancery","Monotype Corsiva",
3974     "Linux Libertine O", "Nimbus Roman No 9 L", "FreeSerif",
3975     "Hoefler Text", Times, "Times New Roman", serif ;
3976   font-style: italic ;
3977 }
3978
3979 .lyxlogo {
3980   font-family: "URW Classico", Optima, "Linux Biolinum 0",
3981     "DejaVu Sans", "Bitstream Vera Sans", Geneva,
3982     Verdana, sans-serif ;
3983 }
3984
```

```
3985
3986 /* Only display top and bottom navigation if a small screen: */
3987 /* Hide the sidetoc if a small screen: */
3988 nav.topnavigation { display:none; }
3989 nav.botnavigation { display:none; }
3990
3991 /* Only display the sidetoc's webpage title if a small screen */
3992 span.sidetocthetitle { display: none }
3993
3994 @media screen and (max-width: 100em) {
3995     div.multicols {
3996         -webkit-columns: 2 auto ;
3997         -moz-columns: 2 auto ;
3998         columns: 2 auto ;
3999     }
4000 }
4001
4002 @media screen and (max-width: 50em) {
4003     div.sidetoccontainer {
4004         float: none ;
4005         width: 100% ;
4006         padding: 0 ;
4007         border-radius: 0 ;
4008         border-bottom: 1px solid black ;
4009         border-top: 1px solid black ;
4010         box-shadow: none ;
4011     }
4012     span.sidetocthetitle { display: inline }
4013     nav.topnavigation { display:block }
4014     nav.botnavigation { display:block }
4015     main.bodycontainer { width: 100% }
4016     .marginpar {
4017         max-width: 100%;
4018         float: none;
4019         display:block ;
4020         margin: 1ex 1em 1ex 1em ;
4021     }
4022     div.multicols {
4023         -webkit-columns: 1 auto ;
4024         -moz-columns: 1 auto ;
4025         columns: 1 auto ;
4026     }
4027 }
4028
4029 @media print {
4030     body {
4031         font-family: "Linux Libertine O",
4032             "DejaVu Serif", "Bitstream Vera Serif",
4033             "Liberation Serif", "Nimbus Roman No 9 L",
4034             "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4035     }
4036     div.sidetoccontainer { display:none; }
4037     nav.topnavigation { display: none; }
4038     nav.botnavigation { display: none; }
4039     main.bodycontainer { width: 100% }
4040 }
4041
4042 @media handheld {
4043     div.sidetoccontainer { display:none; }
4044     nav.topnavigation { display:block }
```

```

4045     nav.botnavigation { display:block }
4046     main.bodycontainer { width: 100% }
4047 }
4048
4049 @media projection {
4050     div.sidetoccontainer { display:none; }
4051     nav.topnavigation { display:block }
4052     nav.botnavigation { display:block }
4053     main.bodycontainer { width: 100% }
4054 }
4055 \end{filecontents*}
4056 % \end{Verbatim} for syntax highlighting
4057 \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:**

```

4058 \begin{LWRwriteconf}
4059 \begin{filecontents*}[overwrite]{lwarp_sagebrush.css}
4060 @import url("lwarp.css") ;
4061
4062
4063 A:link {color:#105030 ; text-decoration: none ; }
4064 A:visited {color:#705030 ; text-shadow:1px 1px 2px #a0a0a0;}
4065 A:hover {color:#006000 ; text-decoration: underline ; text-shadow:0px 0px 2px #a0a0a0;}
4066 A:active {color:#00C000 ; text-shadow:1px 1px 2px #a0a0a0;}
4067
4068
4069
4070 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
4071 {
4072     font-family: "URW Classico", Optima, "Linux Biolinum O",
4073             "Linux Libertine O", "Liberation Serif",
4074             "Nimbus Roman No 9 L", "FreeSerif",
4075             "Hoefler Text", Times, "Times New Roman", serif;
4076     font-variant: small-caps ;
4077     font-weight: normal ;
4078     color: #304070 ;
4079     text-shadow: 2px 2px 3px #808080;
4080 }
4081
4082 h1 { /* title of the entire website, used on each page */
4083     font-variant: small-caps ;
4084     color: #304070 ;
4085     text-shadow: 2px 2px 3px #808080;
4086     background-color: #F7F7F0 ;
4087     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C4);
4088 }
4089
4090 h1 {
4091     border-bottom: 1px solid #304070;
4092 /* border-top: 2px solid #304070; */
4093 }
4094

```

```
4095 h2 {
4096   border-bottom: 1px solid #304070;
4097 /* border-top: 2px solid #304070; */
4098   background-color: #F7F7F0 ;
4099   background-image: linear-gradient(to bottom, #F7F7F0, #DAD0C0);
4100 }
4101
4102
4103
4104 div.abstract {
4105   background: #f5f5eb ;
4106   background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4107
4108   border: 1px solid silver;
4109   border-radius: 1em ;
4110 }
4111
4112 div.abstract dl {line-height:1.5;}
4113 div.abstract dt {color:#304070;}
4114
4115 div.abstracttitle{
4116   font-family: "URW Classico", Optima, "Linux Biolinum O",
4117     "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4118     "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4119   font-weight:bold;
4120   font-variant: small-caps ;
4121   font-size:1.5em;
4122   border-bottom: 1px solid silver ;
4123   color: #304070 ;
4124   text-align: center ;
4125   text-shadow: 1px 1px 2px #808080;
4126 }
4127
4128 span.abstractrunintitle{
4129   font-family: "URW Classico", Optima, "Linux Biolinum O",
4130     "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4131     "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4132   font-weight:bold;
4133 }
4134
4135
4136 div.epigraph, div.dictum {
4137   background: #f5f5eb ;
4138   background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4139
4140   border: 1px solid silver ;
4141   border-radius: 1ex ;
4142   box-shadow: 3px 3px 3px #808080 ;
4143 }
4144
4145
4146 .example {
4147   background-color: #f5f5eb ;
4148   background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4149
4150 }
4151
4152 div.exampletitle{
4153   font-family: "URW Classico", Optima, "Linux Biolinum O",
4154     "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
```

```
4155      "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4156      font-weight:bold;
4157      font-variant: small-caps ;
4158      border-bottom: 1px solid silver ;
4159      color: #304070 ;
4160      text-align: center ;
4161      text-shadow: 1px 1px 2px #808080;
4162 }
4163
4164
4165 .sidebar {
4166     background-color: #f5f5eb ;
4167     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4168
4169 }
4170
4171 div.sidebartitle{
4172     font-family: "URW Classico", Optima, "Linux Biolinum 0",
4173         "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
4174         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4175     font-weight:bold;
4176     font-variant: small-caps ;
4177     border-bottom: 1px solid silver ;
4178     color: #304070 ;
4179     text-align: center ;
4180     text-shadow: 1px 1px 2px #808080;
4181 }
4182
4183
4184 .fancyvrblabel {
4185     font-family: "URW Classico", Optima, "Linux Biolinum 0",
4186         "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
4187         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4188     font-weight:bold;
4189     font-variant: small-caps ;
4190     font-size: 1.5em ;
4191     color: #304070 ;
4192     text-align: center ;
4193     text-shadow: 1px 1px 2px #808080;
4194 }
4195
4196 div.minipage {
4197     background-color: #eeeeee7 ;
4198     border: 1px solid silver ;
4199     border-radius: 1ex ;
4200 }
4201
4202 table div.minipage { background: none ; border: none ; }
4203
4204 div.framebox div.minipage {border:none ; background:none}
4205
4206 section.textbody > div.minipage {
4207     box-shadow: 3px 3px 3px #808080 ;
4208 }
4209
4210 div.fboxBlock div.minipage { box-shadow: none ; }
4211
4212 .framed .minipage , .framedleftbar .minipage {
4213     border: none ;
4214     background: none ;
```

```
4215     padding: 0ex ;
4216     margin: 0ex ;
4217 }
4218
4219 figure.figure .minipage, div.figurecaption .minipage { border: none; }
4220
4221 div.marginblock div.minipage ,
4222 div.marginparblock div.minipage
4223     { border: none; }
4224
4225 figure , div.marginblock {
4226     background-color: #eeeeee7 ;
4227     border: 1px solid silver ;
4228     border-radius: 1ex ;
4229     box-shadow: 3px 3px 3px #808080 ;
4230 }
4231
4232 figure figure {
4233     border: 1px solid silver ;
4234     margin: 0em ;
4235     box-shadow: none ;
4236 }
4237
4238 /*
4239 div.figurecaption {
4240     border-top: 1px solid silver ;
4241     border-bottom: 1px solid silver ;
4242     background-color: #e8e8e8 ;
4243 }
4244 */
4245
4246
4247 div.table {
4248     box-shadow: 3px 3px 3px #808080 ;
4249 }
4250
4251 /*
4252 .tnotes {
4253     background: #e8e8e8;
4254     border: 1px solid silver;
4255 }
4256 */
4257
4258
4259 nav.topnavigation{
4260     background-color: #b0b8b0 ;
4261     background-image: linear-gradient(to bottom,#e0e0e0,#b0b8b0) ;
4262 }
4263
4264 nav.botnavigation{
4265     background-color: #b0b8b0 ;
4266     background-image: linear-gradient(to top,#e0e0e0,#b0b8b0) ;
4267 }
4268
4269
4270
4271 header{
4272     background-color: #F7F7F0 ;
4273     background-image: linear-gradient(to top, #F7F7F0, #b0b8b0);
4274 }
```

```

4275
4276 footer{
4277     background-color: #F7F7F0 ;
4278     background-image: linear-gradient(to bottom, #F7F7F0, #b0b8b0);
4279 }
4280
4281
4282
4283 div.sidetoccontainer {
4284     background-color: #F7F7F0 ;
4285     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C0);
4286     box-shadow: 3px 3px 3px #808080 ;
4287 }
4288
4289 div.sidetotitle {color: #304070 ; }
4290
4291 nav.sidetoc a:hover {
4292     color:#006000 ;
4293     text-decoration: none ;
4294     text-shadow:0px 0px 2px #a0a0a0;
4295 }
4296
4297
4298 @media screen and (max-width: 45em) {
4299     div.sidetoccontainer { border-radius: 0 ; }
4300 }
4301
4302
4303 \end{filecontents*}
4304 % \end{Verbatim}%
4305 \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:**

```

4306 \begin{LWRwriteconf}
4307 \begin{filecontents*}[overwrite]{lwarp_formal.css}
4308 @import url("lwarp.css") ;
4309
4310
4311
4312 A:link {color:#802020 ; text-decoration:none; }
4313 A:visited {color:#802020 ; text-decoration:none ;}
4314 A:hover {color:#400000 ; text-decoration:none ;}
4315 A:active {color:#C00000 ; text-decoration:none ;}
4316
4317
4318 body {
4319     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4320             "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4321             "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4322             "Times New Roman", serif;
4323     background: #ffffcf5;
4324 }

```

```
4325
4326 span.textrm {
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 }
4332
4333 span.textsf {
4334     font-family: "DejaVu Sans", "Bitstream Vera Sans",
4335         Geneva, Verdana, sans-serif ;
4336 }
4337
4338
4339
4340 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
4341 {
4342     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4343         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4344         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4345         "Times New Roman", serif;
4346     color: #800000 ;
4347     text-shadow: none ;
4348 }
4349
4350 h1, h2 {
4351     background-color: #ffffcf5 ;
4352     background-image: none ;
4353     border-bottom: 1px solid #808080;
4354 /*     border-top: 2px solid #808080; */
4355 }
4356
4357 div.abstracttitle {
4358     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4359         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4360         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4361         "Times New Roman", serif;
4362     color: black ;
4363     text-shadow: none ;
4364 }
4365
4366 span.abstractrunintitle {
4367     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4368         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4369         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4370         "Times New Roman", serif;
4371     color: black ;
4372     text-shadow: none ;
4373 }
4374
4375 div.abstract { font-size: 100% }
4376
4377 .sidebar {
4378     background: #ffffcf5;
4379     background-image: none ;
4380     margin: 2em 5% 2em 5%;
4381     padding: 0.5em 1em;
4382     border: none ;
4383     border-top : 1px solid silver;
4384     border-bottom : 1px solid silver;
```

```
4385   font-size: 90% ;
4386 }
4387
4388 div.sidebartitle{
4389   font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4390   "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4391   "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4392   "Times New Roman", serif;
4393   color: #800000 ;
4394   text-shadow: none ;
4395   border: none ;
4396 }
4397
4398 .example {
4399   background: #ffffcf5;
4400   background-image: none ;
4401   margin: 2em 5% 2em 5%;
4402   padding: 0.5em 1em;
4403   border: none ;
4404   border-top : 1px solid silver;
4405   border-bottom : 1px solid silver;
4406 }
4407
4408 div.exampletitle{
4409   font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4410   "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4411   "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4412   "Times New Roman", serif;
4413   color: #800000 ;
4414   text-shadow: none ;
4415   border: none ;
4416 }
4417
4418 div.fancyvrblabel{
4419   font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4420   "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4421   "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4422   "Times New Roman", serif;
4423   color: #800000 ;
4424   text-shadow: none ;
4425   border: none ;
4426 }
4427
4428
4429
4430 figure {
4431   margin: 5ex 5% 5ex 5% ;
4432   padding: 1ex 1em 1ex 1em ;
4433   background-color: #ffffcf5 ;
4434   overflow-x: auto ;
4435   border: none ;
4436 /*   border-top: 1px solid silver; */
4437 /*   border-bottom: 1px solid silver; */
4438 }
4439
4440
4441 div.figurecaption , .lstlisting {
4442   border: none ;
4443 /*   border-top: 1px solid silver ; */
4444 /*   border-bottom: 1px solid silver ; */
```

```
4445     background-color: #ffffcf5 ;
4446 }
4447
4448 .tnotes {
4449     background: #ffffcf5 ;
4450     border-top: 1px solid silver ;
4451     border-bottom: 1px solid silver ;
4452 }
4453
4454 .theorem {
4455     background: none ;
4456 }
4457
4458 .minipage {
4459     background-color: #ffffcf5 ;
4460     border: none ;
4461 }
4462
4463 div.floatrow figure { border: none ; }
4464
4465 figure figure { border: none ; }
4466
4467
4468 nav.toc, nav.lof, nav.lot, nav.loi {
4469     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4470         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4471         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4472         "Times New Roman", serif;
4473 }
4474
4475 div.sidetoccontainer {
4476     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4477         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4478         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4479         "Times New Roman", serif;
4480     background-image: linear-gradient(to bottom, #ffffcf5, #C0C0C0);
4481 }
4482
4483 div.sidetoctitle{
4484     color: #800000 ;
4485 }
4486
4487 header{
4488     background-color: #e0e0e0 ;
4489     background-image: linear-gradient(to top, #ffffcf5, #b0b0b0);
4490     text-align:center ;
4491 }
4492
4493 footer{
4494     background-color: #e0e0e0 ;
4495     background-image: linear-gradient(to bottom, #ffffcf5, #b0b0b0);
4496     padding: 2ex 1em 2ex 1em ;
4497     text-align:left ;
4498 }
4499
4500 nav.botnavigation {
4501     background: #dedcd5 ;
4502     border-top: 1px solid black ;
4503 }
4504 \end{filecontents*}
```

```
4505 % \end{Verbatim} for syntax highlighting
4506 \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:**

```
4507 \begin{LWRwriteconf}
4508 \begin{filecontents*}[overwrite]{sample_project.css}
4509 /* ( --- Start of project.css --- ) */
4510 /* ( --- A sample project-specific CSS file for lwarf --- ) */
4511
4512 /* Uncomment one of the following: */
4513 @import url("lwarf.css") ;
4514 /* @import url("lwarf_formal.css") ; */
4515 /* @import url("lwarf_sagebrush.css") ; */
4516
4517 /* Project-specific CSS setting follow here. */
4518 /* . . . */
4519
4520 /* ( --- End of project.css --- ) */
4521 \end{filecontents*}
4522 % \end{Verbatim} for syntax highlighting
4523 \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:**

```
4524 \begin{LWRwriteconf}
4525 \begin{filecontents*}[overwrite]{lwarf.ist}
4526 preamble
4527 "\\begin{theindex}"
4528   "\\providecommand*\\lettergroupDefault[1]{}
4529   "\\providecommand*\\lettergroup[1]{%
4530     \"\\par\\textbf{#1}\\par"
4531     \"\\nopagebreak
4532   }
4533 "
4534 headings_flag 1
4535 heading_prefix "
4536   "\\lettergroup{"
4537 heading_suffix "}"
4538 delim_0 ", \\hyperindexref{"
4539 delim_1 ", \\hyperindexref{"
4540 delim_2 ", \\hyperindexref{"
4541 delim_n "}, \\hyperindexref{"
4542 delim_r "} -- \\hyperindexref{"
4543 delim_t "}"
```

```

4544 page_compositor "."
4545 \end{filecontents*}
4546 % \end{Verbatim} for syntax highlighting
4547 \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:**

```

4548 \begin{LWRwriteconf}
4549 \begin{filecontents*}[overwrite]{lwarf.xdy}
4550 (require "tex/inputenc/latin.xdy")
4551 (merge-rule "\\PS *" "Postscript")
4552 (require "texindy.xdy")
4553 (require "page-ranges.xdy")
4554 (require "book-order.xdy")
4555 (define-location-class "arabic-page-numbers"
4556   ("arabic-numbers") :min-range-length 1)
4557 (require "makeindex.xdy")
4558 (define-atributes ((hyperindexref)))
4559 (markup-locref :open "\hyperindexref{" :close "}")
4560 (markup-locref :open "\hyperindexref{" :close "}" :attr "hyperpage")
4561 (markup-locref :open "\textbf{\hyperindexref{" :close "}}" :attr "textbf")
4562 (markup-locref :open "\textit{\hyperindexref{" :close "}}" :attr "textit")
4563 (define-location-class-order ("roman-page-numbers"
4564           "arabic-page-numbers"
4565           "alpha-page-numbers"
4566           "Roman-page-numbers"
4567           "Alpha-page-numbers"
4568           "see"
4569           "seealso"))
4570 \end{filecontents*}
4571 % \end{Verbatim} for syntax highlighting
4572 \end{LWRwriteconf}

```

## 40.10 lwarf\_one\_limage.cmd

File lwarf\_one\_limage.cmd

Used by lwarf 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 lwarf\_one\_limage.cmd to be created directly by *lwarpmk*, so lwarf\_one\_limage.txt is created instead, then copied to lwarf\_one\_limage.cmd by *lwarpmk*. This occurs each time *lwarpmk* used to create lateximages.

```

Config file: 4573 \begin{LWRwriteconf}
4574 \immediate\openout\LWR@quickfile=lwarp_one_limage.txt
4575 \immediate\write\LWR@quickfile{%
4576   pdfseparate -f \LWRpercent 1 -l \LWRpercent 1 \LWRpercent 4_html.pdf %
4577   \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent\LWRpercent d.pdf%
4578 }
4579 \immediate\write\LWR@quickfile{%
4580   pdfcrop --hires \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf %
4581   \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4582 }
4583 \immediate\write\LWR@quickfile{%
4584   pdftocairo -svg -noshrink \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf %
4585   \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.svg%
4586 }
4587 \immediate\write\LWR@quickfile{%
4588   del \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4589 }
4590 \immediate\write\LWR@quickfile{%
4591   del \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf%
4592 }
4593 \immediate\write\LWR@quickfile{exit}
4594 \immediate\closeout\LWR@quickfile
4595 \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 lwarf 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 lwarf's adjustments for equation numbering and starred macros, and use \MathJaxFilename to select the new filename.

```

Config file: 4596 \begin{LWRwriteconf}
4597 \begin{filecontents*}[overwrite]{lwarp_mathjax.txt}
4598 <script>
4599 // Lwarf MathJax emulation code
4600 //
4601 // Based on code by Davide P. Cervone.
4602 // Equation numbering: https://github.com/mathjax/MathJax/issues/2427
4603 // Starred and ifnextchar macros: https://github.com/mathjax/MathJax/issues/2428
4604 // \left, \right delimiters: https://github.com/mathjax/MathJax/issues/2535
4605 //
4606 // Modified by Brian Dunn to adjust equation numbering and add subequations.
4607 //
4608 // LaTeX can use \seteqnumber{subequations?}{section}{number} before each equation.
4609 // subequations? is 0 usually, 1 if inside subequations.
4610 // section is a string printed as-is, or empty.
4611 // number is auto-incremented by MathJax between equations.
4612 //

```

```
4613 MathJax = {
4614   subequations: "0",
4615   section: "",
4616   loader: {
4617     load: ['[tex]/tagformat', '[tex]/textmacros'],
4618   },
4619   startup: {
4620     ready() {
4621       // These would be replaced by import commands if you wanted to make
4622       // a proper extension.
4623       const Configuration = MathJax._.input.tex.Configuration.Configuration;
4624       const CommandMap = MathJax._.input.tex.SymbolMap.CommandMap;
4625       const Macro = MathJax._.input.tex.Symbol.Macro;
4626       const TexError = MathJax._.input.tex.TexError.default;
4627       const ParseUtil = MathJax._.input.tex.ParseUtil.default;
4628       const expandable = MathJax._.util.Options.expandable;
4629
4630       // Insert the replacement string into the TeX string, and check
4631       // that there haven't been too many maxro substitutions (prevents
4632       // infinite loops).
4633       const useArgument = (parser, text) => {
4634         parser.string = ParseUtil.addArgs(parser, text, parser.string.slice(parser.i));
4635         parser.i = 0;
4636         if (++parser.macroCount > parser.configuration.options.maxMacros) {
4637           throw new TexError('MaxMacroSub1',
4638             'MathJax maximum macro substitution count exceeded; ' +
4639             'is there a recursive macro call?');
4640         }
4641       }
4642
4643       // Create the command map for:
4644       // \ifstar, \ifnextchar, \ifblank, \ifstreq, \gsub, \seteqnumber
4645       new CommandMap('Lwarp-macros', {
4646         ifstar: 'IfstarFunction',
4647         ifnextchar: 'IfnextcharFunction',
4648         ifblank: 'IfblankFunction',
4649         ifstreq: 'IfstreqFunction',
4650         gsubstitute: 'GsubstituteFunction',
4651         seteqnumber: 'SeteqnumberFunction'
4652       }, {
4653         // This function implements an ifstar macro.
4654         IfstarFunction(parser, name) {
4655           const resultstar = parser.GetArgument(name);
4656           const resultnostar = parser.GetArgument(name);
4657           const star = parser.GetStar();           // true if there is a *
4658           useArgument(parser, star ? resultstar : resultnostar);
4659         },
4660
4661         // This function implements an ifnextchar macro.
4662         IfnextcharFunction(parser, name) {
4663           let whichchar = parser.GetArgument(name);
4664           if (whichchar.match(/^\(?:[0-9A-F]+|[0-9]+\)$/i)) {
4665             // $ syntax highlighting
4666             whichchar = String.fromCodePoint(parseInt(whichchar));
4667           }
4668           const resultnextchar = parser.GetArgument(name);
4669           const resultnotnextchar = parser.GetArgument(name);
4670           const gotchar = (parser.GetNext() === whichchar);
4671           useArgument(parser, gotchar ? resultnextchar : resultnotnextchar);
4672         },
4673       });
4674     }
4675   }
4676 }
```

```
4673 // This function implements an ifblank macro.  
4674 IfblankFunction(parser, name) {  
4675     const blankarg = parser.GetArgument(name);  
4676     const resultblank = parser.GetArgument(name);  
4677     const resultnotblank = parser.GetArgument(name);  
4678     const isblank = (blankarg.trim() == "");  
4679     useArgument(parser, isblank ? resultblank : resultnotblank);  
4680 },  
4681  
4682 // This function implements an ifstrequal macro.  
4683 IfstrequalFunction(parser, name) {  
4684     const strequalfirst = parser.GetArgument(name);  
4685     const strequalsecond = parser.GetArgument(name);  
4686     const resultequal = parser.GetArgument(name);  
4687     const resultnotequal = parser.GetArgument(name);  
4688     const isequal = (strequalfirst == strequalsecond);  
4689     useArgument(parser, isequal ? resultequal : resultnotequal);  
4690 },  
4691  
4692 // This function implements a gsub macro.  
4693 GsubstituteFunction(parser, name) {  
4694     const gsubfirst = parser.GetArgument(name);  
4695     const gsubsecond = parser.GetArgument(name);  
4696     const gsubthird = parser.GetArgument(name);  
4697     let gsubresult=gsubfirst.replace(gsubsecond, gsubthird);  
4698     useArgument(parser, gsubresult);  
4699 },  
4700  
4701 // This function modifies the equation numbers.  
4702 SeteqnumberFunction(parser, name) {  
4703     // Get the macro parameters  
4704     const star = parser.GetStar(); // true if there is a *  
4705     const optBrackets = parser.GetBrackets(name); // contents of optional brackets  
4706     const newsubequations = parser.GetArgument(name); // the subequations argument  
4707     const neweqsection = parser.GetArgument(name); // the eq section argument  
4708     const neweqnumber = parser.GetArgument(name); // the eq number argument  
4709     MathJax.config.subequations=newubequations; // a string with boolean meaning  
4710     MathJax.config.section=neweqsection; // a string with numeric meaning  
4711     parser.tags.counter = parser.tags.allCounter = neweqnumber;  
4712 },  
4713  
4714 );  
4715  
4716 // Create the Lwarf-macros package  
4717 Configuration.create('Lwarf-macros', {  
4718     handler: {macro: ['Lwarf-macros']}
```

```
4733     math.inputData.recompile.subequations = MathJax.config.subequations;
4734     math.inputData.recompile.section = MathJax.config.section;
4735   }
4736 });
4737
4738 // For \left, \right with unicode-math:
4739 const {DelimiterMap} = MathJax._.input.tex.SymbolMap;
4740 const {Symbol} = MathJax._.input.tex.Symbol;
4741 const {MapHandler} = MathJax._.input.tex.MapHandler;
4742 const delimiter = MapHandler.getMap('delimiter');
4743 delimiter.add('\\lBrack', new Symbol('\\lBrack', '\u27E6'));
4744 delimiter.add('\\rBrack', new Symbol('\\rBrack', '\u27E7'));
4745 delimiter.add('\\lAngle', new Symbol('\\lAngle', '\u27EA'));
4746 delimiter.add('\\rAngle', new Symbol('\\rAngle', '\u27EB'));
4747 delimiter.add('\\lbrbrak', new Symbol('\\lbrbrak', '\u2772'));
4748 delimiter.add('\\rbrbrak', new Symbol('\\rbrbrak', '\u2773'));
4749 delimiter.add('\\lbag', new Symbol('\\lbag', '\u27C5'));
4750 delimiter.add('\\rbag', new Symbol('\\rbag', '\u27C6'));
4751 delimiter.add('\\llparenthesis', new Symbol('\\llparenthesis', '\u2987'));
4752 delimiter.add('\\rrparenthesis', new Symbol('\\rrparenthesis', '\u2988'));
4753 delimiter.add('\\llangle', new Symbol('\\llangle', '\u2989'));
4754 delimiter.add('\\rrangle', new Symbol('\\rrangle', '\u298A'));
4755 delimiter.add('\\Lbrbrak', new Symbol('\\Lbrbrak', '\u27EC'));
4756 delimiter.add('\\Rbrbrak', new Symbol('\\Rbrbrak', '\u27ED'));
4757 delimiter.add('\\lBrace', new Symbol('\\lBrace', '\u2983'));
4758 delimiter.add('\\rBrace', new Symbol('\\rBrace', '\u2984'));
4759 delimiter.add('\\lParen', new Symbol('\\lParen', '\u2985'));
4760 delimiter.add('\\rParen', new Symbol('\\rParen', '\u2986'));
4761 delimiter.add('\\lbrackubar', new Symbol('\\lbrackubar', '\u298B'));
4762 delimiter.add('\\rbrackubar', new Symbol('\\rbrackubar', '\u298C'));
4763 delimiter.add('\\lbrackultick', new Symbol('\\lbrackultick', '\u298D'));
4764 delimiter.add('\\rbracklrtick', new Symbol('\\rbracklrtick', '\u298E'));
4765 delimiter.add('\\lbracklltick', new Symbol('\\lbracklltick', '\u298F'));
4766 delimiter.add('\\rbrackurtick', new Symbol('\\rbrackurtick', '\u2990'));
4767 delimiter.add('\\angledot', new Symbol('\\angledot', '\u2991'));
4768 delimiter.add('\\rangledot', new Symbol('\\rangledot', '\u2992'));
4769 delimiter.add('\\lparenless', new Symbol('\\lparenless', '\u2993'));
4770 delimiter.add('\\rparengtr', new Symbol('\\rparengtr', '\u2994'));
4771 delimiter.add('\\Lparengtr', new Symbol('\\Lparengtr', '\u2995'));
4772 delimiter.add('\\Rparenless', new Symbol('\\Rparenless', '\u2996'));
4773 delimiter.add('\\lblkbrbrak', new Symbol('\\lblkbrbrak', '\u2997'));
4774 delimiter.add('\\rblkbrbrak', new Symbol('\\rblkbrbrak', '\u2998'));
4775 delimiter.add('\\lvzigzag', new Symbol('\\lvzigzag', '\u29D8'));
4776 delimiter.add('\\rvzigzag', new Symbol('\\rvzigzag', '\u29D9'));
4777 delimiter.add('\\Lvzigzag', new Symbol('\\Lvzigzag', '\u29DA'));
4778 delimiter.add('\\Rvzigzag', new Symbol('\\Rvzigzag', '\u29DB'));
4779 delimiter.add('\\lcurvyangle', new Symbol('\\lcurvyangle', '\u29FC'));
4780 delimiter.add('\\rcurvyangle', new Symbol('\\rcurvyangle', '\u29FD'));
4781   delimiter.add('\\Vvert', new Symbol('\\Vvert', '\u2980'));
4782 } // ready
4783 }, // startup
4784
4785 tex: {
4786   packages: {'[+]': ['tagformat', 'Lwarp-macros', 'textmacros']},
4787   tags: "ams",
4788   tagformat: {
4789     number: function (n) {
4790       if(MathJax.config.subequations==0)
4791         return(MathJax.config.section + n);
4792       else
```

```

4793             return(MathJax.config.section + String.fromCharCode(96+n));
4794         },
4795     },
4796 }
4797 }
4798 </script>
4799
4800 <script
4801     id="MathJax-script"
4802     src="https://cdn.jsdelivr.net/npm/mathjax@3/es5/tex-svg.js"
4803 ></script>
4804 \end{filecontents*}
4805 % \end{Verbatim} for syntax highlighting
4806 \end{LWRwriteconf}

```

## 40.12 lwarpmk.lua — lwarpmk option

Opt lwarpmk

Creates a local copy of *lwarpmk*.

Prog lwarpmk

Command-line utility to process l warp files and images.

### parallel processing

*Lateximages* and *svg* math images are generated using multiple processes in parallel. For UNIX and LINUX, every 32 images the *wait* command is issued to wait for the previous batch of images to finish processing before starting a new batch. For WINDOWS, every 32 images one task is dispatched with

```
START /B /WAIT /BELOWNORMAL
```

which causes the operating system to wait until this lesser-priority tasks finishes, hopefully also waiting for the normal priority tasks which were already in progress to also complete. Afterwards, the next batch of images is started.

The following is only generated if the *lwarpmk* option was given to *l warp*.

```

4807 \begin{LWRcreatelwarpmk}

4808 \begin{filecontents*}[overwrite]{lwarpmk.lua}
4809 #!/usr/bin/env texlua
4810
4811 -- Copyright 2016-2022 Brian Dunn
4812
4813
4814 printversion = "v0.904a"
4815 requiredconfversion = "2" -- also at *lwarpmk.conf
4816
4817 function printhelp ()
4818 print ("lwarpmk: Use lwarpmk -h or lwarpmk --help for help.") ;
4819 end
4820
4821
4822 function printusage ()
4823 --
4824 -- Print the usage of the lwarpmk command:
4825 --
4826 print ( [[
4827 lwarpmk print [-p project]: Compile the print version if necessary.
4828 lwarpmk print1 [-p project]: Forced single compile of the print version.

```

```
4830 lwarpmk printindex [-p project]: Process print indexes.
4831 lwarpmk printglossary [-p project]: Process the glossary for the print version.
4832 lwarpmk html [-p project]: Compile the HTML version if necessary.
4833 lwarpmk html1 [-p project]: Forced single compile of the HTML version.
4834 lwarpmk htmlindex [-p project]: Process HTML indexes.
4835 lwarpmk htmlglossary [-p project]: Process the glossary for the html version.
4836 lwarpmk again [-p project]: Touch the source code to trigger recompiles.
4837 lwarpmk limages [-p project]: Process the "lateximages" created by lwarp.sty.
4838 lwarpmk pdftohtml [-p project]:
4839     For use with latexmk or a Makefile:
4840     Converts project_html.pdf to project_html.html and individual HTML files.
4841     Finishes the HTML conversion even if there was a compile error.
4842 lwarpmk pdftosvg <list of file names>: Converts each PDF file to SVG.
4843 lwarpmk epstopdf <list of file names>: Converts each EPS file to PDF.
4844 lwarpmk clean [-p project]: Remove *.aux, *.toc, *.lof/t,
4845     *.idx, *.ind, *.bb1, *.log, *_html_inc.* , .gl* ,
4846     *_html.pdf, *_html.html, *_html.sidetoc
4847 lwarpmk cleanall [-p project]: Remove auxiliary files, project.pdf, *.html
4848 lwarpmk cleanlimages: Removes all images from the "lateximages" directory.
4849 lwarpmk -v: Print the version number.
4850 lwarpmk -h: Print this help message.
4851 lwarpmk --help: Print this help message.
4852
4853 ]] )
4854 -- printconf ()
4855 end
4856
4857
4858 function splitfilename ( pathandfilename )
4859 --
4860 -- Separates out the path and extension from a filename.
4861 -- Returns path, filename with extension, and extension.
4862 -- Ex: thispath, thisfilename, thisextension = splitfilename ("path/to/filename.ext")
4863 --
4864 -- https://www.fhug.org.uk/wiki/wiki/doku.php?id=plugins:code_snippets:
4865 --     split_filename_in_to_path_filename_and_extension
4866 --
4867     if lfs.attributes(pathandfilename,"mode") == "directory" then
4868         local strPath = pathandfilename:gsub("[\\/]$", "") -- $ (syntax highlighting)
4869         return strPath.."\\", "", ""
4870     end
4871     pathandfilename = pathandfilename.."."
4872     return pathandfilename:match("^(.-)([^\\/]-)%.(^[^\\/%.]-)%.%$")
4873 end
4874
4875
4876 function splitfile (destfile,sourcefile)
4877 --
4878 -- Split one large sourcefile into a number of files,
4879 -- starting with destfile.
4880 -- The file is split at each occurrence of <!--|Start file|newfilename|*
4881 -- If lwarp is in use, sets usinglwarp.
4882 --
4883 usinglwarp = false ;
4884 print ("lwarpmk: Splitting " .. sourcefile .. " into " .. destfile) ;
4885 local sfile = io.open(sourcefile)
4886 io.output(destfile)
4887 for line in sfile:lines() do
4888 i,j,copen,cstart,newfilename = string.find (line,"(.*)|(.*)|(.*)|") ;
4889 if ( (i~= nil) and (copen == "<!--") and (cstart == "Start file")) then
```

```
4890      -- split the file
4891      io.output(newfilename) ;
4892 else
4893 if ( (i~= nil) and (copen == "<!--") and (cstart == "Using lwarp")) then
4894     -- verified the use of \usepackage{lwarp}
4895     usingl warp = true ;
4896 else
4897     -- not a splitpoint
4898     io.write (line .. "\n") ;
4899 end end
4900 end -- do
4901 io.close(sfile)
4902 if ( usingl warp == false ) then
4903     print ("lwarpmk: ===")
4904     print ("lwarpmk: \\usepackage{lwarp} was not detected.")
4905     print ("lwarpmk: The HTML output will not be correct.")
4906     print ("lwarpmk: Ensured that \\usepackage{lwarp} is enabled,")
4907     print ("lwarpmk: then lwarpmk print and lwarpmk html again.")
4908     print ("lwarpmk: ===")
4909 end
4910 end -- function
4911
4912
4913 function cvalueerror ( line, linenum , cvalue )
4914 --
4915 -- Incorrect value, so print an error and exit.
4916 --
4917     print ("lwarpmk: ===")
4918     print ("lwarpmk: " .. linenum .. " : " .. line ) ;
4919     print (
4920         "lwarpmk: incorrect variable value \""
4921         .. cvalue ..
4922         "\" in lwarpmk.conf.\n"
4923     ) ;
4924 --     printconf () ;
4925     os.exit(1) ;
4926 end
4927
4928
4929 function printhowtorecompile ()
4930 -- Tells the user how to recompile to regenerate the configuration files.
4931     print ("lwarpmk: The configuration files lwarpmk.conf and "..sourcename.."lwarpmkconf" )
4932     print ("lwarpmk: must be updated. To do so, recompile" )
4933     print ("lwarpmk: " , sourcename.."tex" )
4934     if ( printlatexcmd == "" ) then
4935         print ("lwarpmk: using xe/lua/pdflatex," )
4936     else
4937         print ("lwarpmk: using the command:")
4938         print ("lwarpmk: " , printlatexcmd )
4939     end
4940     print ("lwarpmk: then use lwarpmk again.")
4941 end -- printhowtorecompile
4942
4943
4944 function ignoreconf ()
4945 -- Global argument index
4946 argindex = 2
4947 end
4948
4949 function loadconf ()
```

```
4950 --
4951 -- Load settings from the project's "lwarpmk.conf" file:
4952 --
4953 -- Default configuration filename:
4954 local conffile = "lwarpmk.conf"
4955 local confroot = "lwarpmk"
4956 -- Global argument index
4957 argindex = 2
4958 -- Optional configuration filename:
4959 if ( arg[argindex] == "-p" ) then
4960     argindex = argindex + 1
4961     confroot = arg[argindex]
4962     conffile = confroot.."lwarpmkconf"
4963     argindex = argindex + 1
4964 end
4965 -- Additional defaults:
4966 confversion = "0"
4967 opsystem = "Unix"
4968 imagesdirectory = "lateximages"
4969 imagesname = "image-"
4970 latexmk = "false"
4971 printlatexcmd = ""
4972 HTMLlatexcmd = ""
4973 printindexcmd = ""
4974 HTMLindexcmd = ""
4975 latexmkindexcmd = ""
4976 -- to be removed:
4977 -- indexprog = "makeindex"
4978 -- makeindexstyle = "lwarp.ist"
4979 -- xindylanguage = "english"
4980 -- xindycodepage = "utf8"
4981 -- xindystyle = "lwarp.xdy"
4982 -- pdftotextenc = "UTF-8"
4983 glossarycmd = "makeglossaries"
4984 -- Verify the file exists:
4985 if (lfs.attributes(conffile,"mode")==nil) then
4986     -- file not exists
4987     print ("lwarpmk: ===")
4988     print ("lwarpmk: File '\"' .. conffile .. '\"' does not exist.")
4989     print ("lwarpmk: Move to the project's source directory,")
4990     print ("lwarpmk: recompile using pdflatex, xelatex, or lualatex,")
4991     print ("lwarpmk: then try using lwarpmk again.")
4992     if (arg[argindex] ~= nil) then
4993         print (
4994             "lwarpmk: ('\"' .. confroot ..
4995             '\"' does not appear to be a project name.)"
4996         )
4997     end
4998     print ("lwarpmk: ===")
4999     printhelp () ;
5000     os.exit(1) -- exit the entire lwarpmk script
5001 else -- file exists
5002 -- Read the file:
5003 print ("lwarpmk: Reading \" .. conffile .. \"")
5004 local cfile = io.open(conffile)
5005 -- Scan each line, parsing each line as: name = [[string]]
5006 local linenum = 0
5007 for line in cfile:lines() do -- scan lines
5008     linenum = linenum + 1
5009     i,j,cvarname,cvalue = string.find (line, "(%w-_-)*%s*=%s*%[%(%)%]*%") ;
```

```
5010 -- Error if incorrect enclosing characters:
5011 if ( i == nil ) then
5012     print ("lwarpmk: ===")
5013     print ("lwarpmk: .. linenum .. : " .. line ) ;
5014     print ("lwarpmk: Incorrect entry in " .. conffile .. ".\n" ) ;
5015     print ("lwarpmk: ===")
5016 --     printconf () ;
5017     os.exit(1) ;
5018 end -- nil
5019 if ( cvarname == "confversion" ) then
5020     confversion = cvalue
5021 elseif ( cvarname == "opsystem" ) then
5022     -- Verify choice of opsistem:
5023     if ( (cvalue == "Unix") or (cvalue == "Windows") ) then
5024         opsistem = cvalue
5025     else
5026         cvalueerror ( line, linenum , cvalue )
5027     end
5028 elseif ( cvarname == "sourcename" ) then sourcename = cvalue
5029 elseif ( cvarname == "homehtmlfilename" ) then homehtmlfilename = cvalue
5030 elseif ( cvarname == "htmlfilename" ) then htmlfilename = cvalue
5031 elseif ( cvarname == "imagesdirectory" ) then imagesdirectory = cvalue
5032 elseif ( cvarname == "imagesname" ) then imagesname = cvalue
5033 elseif ( cvarname == "latexmk" ) then latexmk = cvalue
5034 elseif ( cvarname == "printlatexcmd" ) then printlatexcmd = cvalue
5035 elseif ( cvarname == "HTMLLatexcmd" ) then HTMLLatexcmd = cvalue
5036 elseif ( cvarname == "printindexcmd" ) then printindexcmd = cvalue
5037 elseif ( cvarname == "HTMLIndexcmd" ) then HTMLIndexcmd = cvalue
5038 elseif ( cvarname == "latexmkindexcmd" ) then latexmkindexcmd = cvalue
5039 elseif ( cvarname == "glossarycmd" ) then glossarycmd = cvalue
5040 elseif ( cvarname == "pdftotextenc" ) then pdftotextenc = cvalue
5041 else
5042     print ("lwarpmk: ===")
5043     print ("lwarpmk: .. linenum .. : " .. line ) ;
5044     print (
5045         "lwarpmk: Incorrect variable name \" .. cvarname .. \" in " ..
5046         conffile .. ".\n"
5047     ) ;
5048     print ("lwarpmk: ===")
5049 --     printconf () ;
5050 os.exit(1) ;
5051 end -- cvarname
5052 end -- do scan lines
5053 io.close(cfile)
5054 end -- file exists
5055 -- Error if sourcename is "lwarp".
5056 -- This could happen if a local copy of lwarp has recently been recompiled.
5057 if sourcename=="lwarp" then
5058     print ("lwarpmk: ===")
5059     print ("lwarpmk: lwarp.sty has recently been recompiled in this directory,")
5060     print ("lwarpmk: and \"lwarpmk.conf\" is no longer set for your own project.")
5061     print ("lwarpmk: (Perhaps you are not in your project's directory?)")
5062     print ("lwarpmk: In your project directory, recompile your project")
5063     print ("lwarpmk: using pdf/lua/xelatex <projectname>.")
5064     print ("lwarpmk: After a recompile, \"lwarpmk.conf\" will be set for your project,")
5065     print ("lwarpmk: and you may again use lwarpmk.")
5066     print ("lwarpmk: ===")
5067     os.exit(1)
5068 end -- sourcename of "lwarp"
5069 -- Select some operating-system commands:
```

```
5070 if opsystem=="Unix" then -- For Unix / Linux / Mac OS:  
5071     rmname = "rm"  
5072     mvname = "mv"  
5073     cpname = "cp"  
5074     touchnamepre = "touch"  
5075     touchnamepost = ""  
5076     newtouchname = "touch"  
5077     dirslash = "/"  
5078     opquote= "\'"  
5079     cmdgroupopenname = " ( "  
5080     cmdgroupclosename = " ) "  
5081     seqname = " && "  
5082     bgname = " &"  
5083 elseif opsystem=="Windows" then -- For Windows  
5084     rmname = "DEL"  
5085     mvname = "MOVE"  
5086     cpname = "COPY"  
5087     touchnamepre = "COPY /b"  
5088     touchnamepost = "+,,,"  
5089     newtouchname = "echo empty >"  
5090     dirslash = "\\\""  
5091     opquote= "\'\'"  
5092     cmdgroupopenname = ""  
5093     cmdgroupclosename = ""  
5094     seqname = " & "  
5095     bgname = ""  
5096 else  
5097     print ("lwarpmk: ===")  
5098     print ("lwarpmk: Select Unix or Windows for opsystem. ")  
5099     print ("lwarpmk: ===")  
5100     os.exit(1)  
5101 end --- for Windows  
5102 -- Warning if the operating system does not appear to be correct,  
5103 -- in case files were transferred to another system.  
5104 if ( package.config:sub(1,1) ~= dirslash ) then  
5105     print ("lwarpmk: ===")  
5106     print ("lwarpmk: It appears that lwarpmk.conf is for a different operating system. ")  
5107     printhowtorecompile ()  
5108     print ("lwarpmk: ===")  
5109     os.exit(1)  
5110 end  
5111 -- Error if the configuration file's version is not current:  
5112 if ( confversion ~= requiredconfversion ) then  
5113     print ("lwarpmk: ===")  
5114     printhowtorecompile ()  
5115     print ("lwarpmk: ===")  
5116     os.exit(1)  
5117 end  
5118 end -- loadconf  
5119  
5120  
5121 function executecheckerror ( executecommands , errormessage )  
5122 --  
5123 -- Execute an operating system call,  
5124 -- and maybe exit with an error message.  
5125 --  
5126 local err  
5127 err = os.execute ( executecommands )  
5128 if ( err ~= 0 ) then  
5129     print ("lwarpmk: ===")
```

```
5130     print ("lwarpmk: " .. errormessage )
5131     print ("lwarpmk: ===")
5132     os.exit(1)
5133 end
5134 end -- executecheckerror
5135
5136
5137 function refreshdate ()
5138 os.execute(touchnamepre .. " " .. sourcename .. ".tex" .. touchnamepost)
5139 end
5140
5141
5142
5143 function reruntoget (filesource)
5144 --
5145 -- Scan the LaTeX log file for the phrase "Rerun to get",
5146 -- indicating that the file should be compiled again.
5147 -- Return true if found.
5148 --
5149 local fsource = io.open(filesource)
5150 for line in fsource:lines() do
5151 if ( string.find(line,"Rerun to get") ~= nil ) then
5152     io.close(fsource)
5153     return true
5154 end -- if
5155 end -- do
5156 io.close(fsource)
5157 return false
5158 end
5159
5160
5161
5162 function onetime (latexcmd, fsuffix)
5163 --
5164 -- Compile one time, return true if should compile again.
5165 -- fsuffix is "" for print, "_html" for HTML output.
5166 --
5167 print("lwarpmk: Compiling with: " .. latexcmd)
5168 executecheckerror (
5169     latexcmd ,
5170     "Compile error."
5171 )
5172 return (reruntoget(sourcename .. fsuffix .. ".log") ) ;
5173 end
5174
5175
5176 function manytimes (latexcmd, fsuffix)
5177 --
5178 -- Compile up to five times.
5179 -- fsuffix is "" for print, "_html" for HTML output
5180 --
5181 if onetime(latexcmd, fsuffix) == true then
5182 if onetime(latexcmd, fsuffix) == true then
5183 if onetime(latexcmd, fsuffix) == true then
5184 if onetime(latexcmd, fsuffix) == true then
5185 if onetime(latexcmd, fsuffix) == true then
5186 end end end end end
5187 end
5188
5189
```

```
5190 function verifyfileexists (filename)
5191 --
5192 -- Exit if the given file does not exist.
5193 --
5194 if (lfs.attributes ( filename , "modification" ) == nil ) then
5195     print ("lwarpmk: ===")
5196     print ("lwarpmk: " .. filename .. " not found." ) ;
5197     print ("lwarpmk: ===")
5198     os.exit (1) ;
5199 end
5200 end
5201
5202
5203
5204 function pdftohtml ()
5205 --
5206 -- Convert <project>_html.pdf into HTML files:
5207 --
5208 -- Convert to text:
5209 print ("lwarpmk: Converting " .. sourcename
5210     .. "_html.pdf to " .. sourcename .. "_html.html")
5211 err = os.execute("pdftotext -enc " .. pdftotextenc .. " -nopgbrk -layout "
5212     .. sourcename .. "_html.pdf" .. sourcename .. "_html.html")
5213 if (err ~= 0) then
5214     print ("lwarpmk: ===")
5215     print ("lwarpmk: Ensure that the Poppler utilities are installed." )
5216     print ("lwarpmk: See the Lwarp manual: 'Installing additional utilities'." )
5217     print ("lwarpmk: ===")
5218     os.exit(1)
5219 end
5220 -- Split the result into individual HTML files:
5221 splitfile (homehtmlfilename .. ".html" , sourcename .. "_html.html")
5222 end
5223
5224
5225 function removeaux ()
5226 --
5227 -- Remove auxiliary files:
5228 -- All .aux files are removed since there may be many bbl*.aux files.
5229 -- Also removes sourcename_html.pdf, sourcename_html.html,
5230 -- and sourcename_html.sidetoc, plus comment_*.cut.
5231 --
5232 os.execute ( rmname .. "*aux" ..
5233     sourcename .. ".toc" .. sourcename .. "_html.toc" ..
5234     sourcename .. ".lof" .. sourcename .. "_html.lof" ..
5235     sourcename .. ".lot" .. sourcename .. "_html.lot" ..
5236     sourcename .. ".bbl" .. sourcename .. "_html.bbl" ..
5237     " *.idx" ..
5238     " *.ind" ..
5239     sourcename .. ".ps" .. sourcename .. "_html.ps" ..
5240     sourcename .. ".log" .. sourcename .. "_html.log" ..
5241     sourcename .. ".gl*" .. sourcename .. "_html.gl*" ..
5242     sourcename .. "_html.pdf" ..
5243     sourcename .. "_html.html" ..
5244     sourcename .. "_html.sidetoc" ..
5245     " *_html_inc.*" ..
5246     " comment_*.cut"
5247 )
5248 end
5249
```

```
5250 function checkhtmlpdfexists ()
5251 --
5252 -- Error if the HTML document does not exist.
5253 -- The lateximages are drawn from the HTML PDF version of the document,
5254 -- so "lwarpmk html" must be done before "lwarpmk limages".
5255 --
5256 local htmlpdffile = io.open(sourcename .. "_html.pdf", "r")
5257 if ( htmlpdffile == nil ) then
5258     print ("")
5259     print ("lwarpmk: ===")
5260     print ("lwarpmk: The HTML version of the document does not exist.")
5261     print ("lwarpmk: Enter \"lwarpmk html\" to compile the HTML version.")
5262     print ("lwarpmk: ===")
5263     os.exit(1)
5264 end
5265 io.close (htmlpdffile)
5266 end -- checkhtmlpdfexists
5267
5268
5269 function warnlimages ()
5270 --
5271 -- Warning of a missing <sourcename>-images.txt file:
5272     print ("lwarpmk: ===")
5273     print ("lwarpmk: \" .. sourcename .. "-images.txt\" does not exist.")
5274     print ("lwarpmk: Your project does not use SVG math or other lateximages,")
5275     print ("lwarpmk: or the file has been deleted somehow.")
5276     print ("lwarpmk: Use \"lwarpmk html1\" to recompile your project")
5277     print ("lwarpmk: and recreate \" .. sourcename .. "-images.txt\"")
5278     print ("lwarpmk: If your project does not use SVG math or other lateximages,")
5279     print ("lwarpmk: then \" .. sourcename .. "-images.txt\" will never exist, and")
5280     print ("lwarpmk: \"lwarpmk limages\" will not be necessary.")
5281     print ("lwarpmk: ===")
5282 end -- warnlimages
5283
5284
5285 function warnlimagesrecompile ()
5286 -- Warning if must recompile before creating limages:
5287     print ("")
5288     print ("lwarpmk: ===")
5289     print ("lwarpmk: Cross-references are not yet correct.")
5290     print ("lwarpmk: The document must be recompiled before creating the lateximages.")
5291     print ("lwarpmk: Enter \"lwarpmk html1\" again, then try \"lwarpmk limages\" again.")
5292     print ("lwarpmk: ===")
5293 end --warnlimagesrecompile
5294
5295
5296 function checklimages ()
5297 --
5298 -- Check <sourcename>.txt to see if need to recompile first.
5299 -- If any entry has a page number of zero, then there were incorrect images.
5300 --
5301 print ("lwarpmk: Checking for a valid \" .. sourcename .. "-images.txt file.")
5302 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5303 if ( limagesfile == nil ) then
5304     warnlimages ()
5305     os.exit(1)
5306 end
5307 -- Track warning to recompile if find a page 0
5308 local pagezerowarning = false
5309 -- Scan <sourcename>.txt
```

```
5310 for line in limagesfile:lines() do
5311     -- lwimgpage is the page number in the PDF which has the image
5312     -- lwimghash is true if this filename is a hash
5313     -- lwimgname is the lateximage filename root to assign for the image
5314     i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
5315     -- For each entry:
5316     if ( i~=nil ) then
5317         -- If the page number is 0, image references are incorrect
5318         -- and must recompile the source document:
5319         if ( lwimgpage == "0" ) then
5320             pagezerowarning = true
5321         end
5322     end -- if i~=nil
5323 end -- do
5324 -- The last line should be |end|end|end|.
5325 -- If not, the compile must have aborted, and the images are incomplete.
5326 if ( lwimgpage ~= "end" ) then
5327     warnlimagesrecompile()
5328     os.exit(1) ;
5329 end
5330 if ( pagezerowarning ) then
5331     warnlimagesrecompile()
5332     os.exit(1) ;
5333 end -- pagezerowarning
5334 end -- checklimages
5335
5336
5337 function createuniximage ( lwimgfullname )
5338 --
5339 -- Create one lateximage for Unix / Linux / Mac OS.
5340 --
5341 executecheckerror (
5342     cmdgroupopenname ..
5343     "pdfseparate -f " .. lwimgpage .. " -l " .. lwimgpage .. " " ..
5344         sourcename .. "_html.pdf" ..
5345         imagesdirectory .. dirslash .. "lateximagetemp-%d" .. ".pdf" ..
5346         seqname ..
5347     -- Crop the image:
5348     "pdfcrop --hires " .. imagesdirectory .. dirslash .. "lateximagetemp-" ..
5349         lwimgpage .. ".pdf" ..
5350         imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
5351         seqname ..
5352     -- Convert the image to svg:
5353     "pdftocairo -svg -no shrink " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
5354         imagesdirectory .. dirslash .. lwimgname .. ".svg" ..
5355         seqname ..
5356     -- Remove the temporary files:
5357     rmname .. " " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" .. seqname ..
5358     rmname .. " " .. imagesdirectory .. dirslash .. "lateximagetemp-" .. lwimgpage .. ".pdf" ..
5359     cmdgroupclosename .. " >/dev/null " .. bgname
5360     ,
5361     "File error trying to convert " .. lwimgfullname
5362 )
5363 -- Every 32 images, wait for completion at below normal priority,
5364 -- allowing other image tasks to catch up.
5365 numimageprocesses = numimageprocesses + 1
5366 if ( numimageprocesses > 32 ) then
5367     numimageprocesses = 0
5368     print ( "lwarpmk: waiting" )
5369     executecheckerror ( "wait" , "File error trying to wait." )
```

```
5370 end
5371 end -- createuniximage
5372
5373
5374 function createwindowsimage ( lwimgfullname )
5375 --
5376 -- Create one lateximage for Windows.
5377 --
5378 -- Every 32 images, wait for completion at below normal priority,
5379 -- allowing other image tasks to catch up.
5380 numimageprocesses = numimageprocesses + 1
5381 if ( numimageprocesses > 32 ) then
5382     numimageprocesses = 0
5383     thiswaitcommand = "/WAIT /BELOWNORMAL"
5384     print ( "lwarpmk: waiting" )
5385 else
5386     thiswaitcommand = ""
5387 end
5388 -- Execute the image generation command
5389 executecheckerror (
5390     "start /B " .. thiswaitcommand .. " \"\" lwarp_one_limage " ..
5391     lwimgpage .. " " ..
5392     lwimghash .. " " ..
5393     lwimgname .. " " ..
5394     sourcename .. " <nul>nul"
5395     ,
5396     "File error trying to create image."
5397 )
5398 end -- createwindowsimage
5399
5400
5401 function createonelateximage ( line )
5402 --
5403 -- Given the next line of <sourcename>.txt, convert a single image.
5404 --
5405 -- lwimgpage is the page number in the PDF which has the image
5406 -- lwimghash is true if this filename is a hash
5407 -- lwimgname is the lateximage filename root to assign for the image
5408 i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
5409 -- For each entry:
5410 if ( (i~=nil) ) then
5411     -- Skip if the page number is 0:
5412     if ( lwimgpage == "0" ) then
5413         pagezerowarning = true
5414     -- Skip if the page number is "end":
5415     else if ( lwimgpage == "end" ) then
5416         else
5417             -- Skip if this image is hashed and already exists:
5418             local lwimgfullname = imagesdirectory .. dirslash .. lwimgname .. ".svg"
5419             if (
5420                 (lwimghash ~= "true") or
5421                 (lfs.attributes(lwimgfullname,"mode")==nil) -- file not exists
5422             )
5423             then -- not hashed or not exists:
5424                 -- Print the name of the file being generated:
5425                 print ( "lwarpmk: " .. lwimgname )
5426             -- Touch/create the dest so that only once instance tries to build it:
5427             executecheckerror (
5428                 newtouchname .. " " .. lwimgfullname ,
5429                 "File error trying to touch " .. lwimgfullname
```

```
5430      )
5431      -- Separate out the image into its own single-page pdf:
5432      if opsystem=="Unix" then
5433          createuniximage (lwimgfullname)
5434      elseif opsystem=="Windows" then
5435          createwindowsimage (lwimgfullname)
5436      end
5437      end -- not hashed or not exists
5438  end -- not page "end"
5439  end -- not page 0
5440 end -- not nil
5441 end -- createonelateximage
5442
5443
5444 function createlateximages ()
5445 --
5446 -- Create lateximages based on <sourcename>-images.txt:
5447 --
5448 -- See if the document must be recompiled first:
5449 checklimages ()
5450 -- See if the HTML version exists:
5451 checkhtmlpdfexists ()
5452 -- Attempt to create the lateximages:
5453 print ("lwarpmk: Creating lateximages.")
5454 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5455 if ( limagesfile == nil ) then
5456     warnlimages ()
5457     os.exit(1)
5458 end
5459 -- Create the lateximages directory, ignore error if already exists
5460 err = os.execute("mkdir " .. imagesdirectory)
5461 -- For Windows, create lwarp_one_limage.cmd from lwarp_one_limage.txt:
5462 if opsystem=="Windows" then
5463     executecheckerror (
5464         cpname .. " lwarp_one_limage.txt lwarp_one_limage.cmd" ,
5465         "File error trying to copy lwarp_one_limage.txt to lwarp_one_limage.cmd"
5466     )
5467 end -- create lwarp_one_limage.cmd
5468 -- Track the number of parallel processes
5469 numimageprocesses = 0
5470 -- Track warning to recompile if find a page 0
5471 pagezerowarning = false
5472 -- Scan <sourcename>.txt
5473 for line in limagesfile:lines() do
5474     createonelateximage ( line )
5475 end -- do
5476 io.close(limagesfile)
5477 print ( "lwarpmk limages: ===" )
5478 print ( "lwarpmk limages: Wait a moment for the images to complete" )
5479 print ( "lwarpmk limages: before reloading the page." )
5480 print ( "lwarpmk limages: ===" )
5481 print ( "lwarpmk limages: Done." )
5482 if ( pagezerowarning == true ) then
5483     print ( "lwarpmk limages: WARNING: Images will be incorrect." )
5484     print ( "lwarpmk limages: Enter \"lwarpmk cleanimages\", then" )
5485     print ( "lwarpmk limages: recompile the document one more time, then" )
5486     print ( "lwarpmk limages: repeat \"lwarpmk images\" again." )
5487 end -- pagezerowarning
5488 end -- function
5489
```

```
5490
5491 function convertepstopdf ()
5492 --
5493 -- Converts EPS files to PDF files.
5494 -- The filenames are arg[argindex] and up.
5495 -- arg[1] is the command "epstopdf".
5496 --
5497 ignoreconf ()
5498 for i = argindex , #arg do
5499     if (lfs.attributes(arg[i],"mode")==nil) then
5500         print ("lwarfpmk: File \" .. arg[i] .. \" does not exist.")
5501     else
5502         print ("lwarfpmk: Converting \" .. arg[i] .. \"")
5503         thispath, thisfilename, thisextension = splitfilename(arg[i])
5504         if ( thispath == nil ) then
5505             os.execute ( "epstopdf " .. arg[i] )
5506         else
5507             os.execute (
5508                 "epstopdf " ..
5509                 thispath .. thisfilename .. "." .. thisextension .. " " ..
5510                 thispath .. thisfilename .. ".pdf"
5511             )
5512         end
5513     end -- if
5514 end -- do
5515 end --function
5516
5517
5518 function convertpdftosvg ()
5519 --
5520 -- Converts PDF files to SVG files.
5521 -- The filenames are arg[argindex] and up.
5522 -- arg[1] is the command "pdftosvg".
5523 --
5524 ignoreconf ()
5525 for i = argindex , #arg do
5526     if (lfs.attributes(arg[i],"mode")==nil) then
5527         print ("lwarfpmk: File \" .. arg[i] .. \" does not exist.")
5528     else
5529         print ("lwarfpmk: Converting \" .. arg[i] .. \"")
5530         thispath, thisfilename, thisextension = splitfilename(arg[i])
5531         if ( thispath == nil ) then
5532             os.execute ( "pdftocairo -svg " .. arg[i] )
5533         else
5534             os.execute (
5535                 "pdftocairo -svg " ..
5536                 thispath .. thisfilename .. "." .. thisextension .. " " ..
5537                 thispath .. thisfilename .. ".svg"
5538             )
5539         end
5540     end -- if
5541 end -- do
5542 end --function
5543
5544
5545 -- Force an update and conclude processing:
5546 function updateanddone ()
5547 print ("lwarfpmk: Forcing an update of " .. sourcename .. ".tex.")
5548 refreshdate ()
5549 print ("lwarfpmk: " .. sourcename .. ".tex is ready to be recompiled.")
```

```
5550 print ("lwarpmk: Done.")
5551 end -- function
5552
5553
5554 -- Start of the main code: --
5555
5556
5557 -- lwarpmk --version :
5558
5559 if (arg[1] == "--version") then
5560 print ( "lwarpmk: " .. printversion )
5561
5562 else -- not --version
5563
5564
5565 -- print intro:
5566
5567 print ("lwarpmk: " .. printversion .. " Automated make for the LaTeX Lwarf package.")
5568
5569
5570 -- lwarpmk print:
5571
5572 if arg[1] == "print" then
5573 loadconf ()
5574 if ( latexmk == "true" ) then
5575     print ("lwarpmk: Compiling with: " .. printlatexcmd)
5576     executecheckerror (
5577         printlatexcmd ,
5578         "Compile error."
5579     )
5580     print ("lwarpmk: Done.")
5581 else -- not latexmk
5582     verifyfileexists (sourcename .. ".tex") ;
5583     -- See if up to date:
5584     if (
5585         ( lfs.attributes ( sourcename .. ".pdf" , "modification" ) == nil ) or
5586         (
5587             lfs.attributes ( sourcename .. ".tex" , "modification" ) >
5588             lfs.attributes ( sourcename .. ".pdf" , "modification" )
5589         )
5590     ) then
5591         -- Recompile if not yet up to date:
5592         manytimes(printlatexcmd, "")
5593         print ("lwarpmk: Done.") ;
5594     else
5595         print ("lwarpmk: " .. sourcename .. ".pdf is up to date.") ;
5596     end
5597 end -- not latexmk
5598
5599
5600 -- lwarpmk print1:
5601
5602 elseif arg[1] == "print1" then
5603     loadconf ()
5604     verifyfileexists (sourcename .. ".tex") ;
5605     onetime(printlatexcmd, "")
5606     print ("lwarpmk: Done.") ;
5607
5608
5609 -- lwarpmk printindex:
```

```
5610 -- Compile the index then touch the source
5611 -- to trigger a recompile of the document:
5612
5613 elseif arg[1] == "printindex" then
5614 loadconf ()
5615 os.execute ( printindexcmd )
5616 print ("lwarfmk: -----")
5617 updateanddone ()
5618
5619
5620 -- lwarfmk printglossary:
5621 -- Compile the glossary then touch the source
5622 -- to trigger a recompile of the document:
5623
5624 elseif arg[1] == "printglossary" then
5625 loadconf ()
5626 print ("lwarfmk: Processing the glossary.")
5627
5628 os.execute(glossarycmd .. " " .. sourcename)
5629 updateanddone ()
5630
5631
5632 -- lwarfmk html:
5633
5634 elseif arg[1] == "html" then
5635 loadconf ()
5636 if ( latexmk == "true" ) then
5637     print ("lwarfmk: Compiling with: " .. HTMLlatexcmd)
5638     executecheckerror (
5639         HTMLlatexcmd ,
5640         "Compile error."
5641     )
5642     pdftohtml ()
5643     print ("lwarfmk: Done.")
5644 else -- not latexmk
5645     verifyfileexists ( sourcename .. ".tex" ) ;
5646     -- See if exists and is up to date:
5647     if (
5648         ( lfs.attributes ( homehtmlfilename .. ".html" , "modification" ) == nil ) or
5649         (
5650             lfs.attributes ( sourcename .. ".tex" , "modification" ) >
5651             lfs.attributes ( homehtmlfilename .. ".html" , "modification" )
5652         )
5653     ) then
5654         -- Recompile if not yet up to date:
5655         manytimes(HTMLlatexcmd, "_html")
5656         pdftohtml ()
5657         print ("lwarfmk: Done.")
5658     else
5659         print ("lwarfmk: " .. homehtmlfilename .. ".html is up to date.")
5660     end
5661 end -- not latexmk
5662
5663
5664 -- lwarfmk html1:
5665
5666 elseif arg[1] == "html1" then
5667     loadconf ()
5668     verifyfileexists ( sourcename .. ".tex" ) ;
5669     onetime(HTMLlatexcmd, "_html")
```

```
5670     pdftohtml ()
5671     print ("lwarfmk: Done.")
5672
5673
5674 -- lwarfmk pdftohtml:
5675 elseif arg[1] == "pdftohtml" then
5676     loadconf ()
5677     pdftohtml ()
5678
5679
5680 -- lwarfmk htmlindex:
5681 -- Compile the index then touch the source
5682 -- to trigger a recompile of the document:
5683
5684 elseif arg[1] == "htmlindex" then
5685 loadconf ()
5686 os.execute ( HTMLIndexcmd )
5687 print ("lwarfmk: -----")
5688 updateanddone ()
5689
5690
5691 -- lwarfmk htmlglossary:
5692 -- Compile the glossary then touch the source
5693 -- to trigger a recompile of the document.
5694 -- The <sourcename>.xdy file is created by the glossaries package.
5695
5696 elseif arg[1] == "htmlglossary" then
5697 loadconf ()
5698 print ("lwarfmk: Processing the glossary.")
5699 os.execute(glossarycmd .. " " .. sourcename .. "_html")
5700 updateanddone ()
5701
5702
5703 -- lwarfmk limages:
5704 -- Scan the <sourcename>.txt file to create lateximages.
5705
5706 elseif arg[1] == "limages" then
5707 loadconf ()
5708 print ("lwarfmk: Processing images.")
5709 createlateximages ()
5710 print ("lwarfmk: Done.")
5711
5712
5713 -- lwarfmk again:
5714 -- Touch the source to trigger a recompile.
5715
5716 elseif arg[1] == "again" then
5717 loadconf ()
5718 updateanddone ()
5719
5720
5721 -- lwarfmk clean:
5722 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.*, .gl*
5723
5724 elseif arg[1] == "clean" then
5725 loadconf ()
5726 removeaux ()
5727 print ("lwarfmk: Done.")
5728
5729
```

```
5730 -- lwarfmk cleanall
5731 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.* , .gl*
5732 --     and also project.pdf, project.dvi, *.html
5733
5734 elseif arg[1] == "cleanall" then
5735 loadconf ()
5736 removeaux ()
5737 os.execute ( rmname .. " " ..
5738     sourcename .. ".pdf" .. sourcename .. "_html.pdf" ..
5739     sourcename .. ".dvi" .. sourcename .. "_html.dvi" ..
5740     "*.html"
5741     )
5742 print ("lwarfmk: Done.")
5743
5744
5745 -- lwarfmk cleanimages
5746 -- Remove images from the imagesdirectory.
5747
5748 elseif arg[1] == "cleanimages" then
5749 loadconf ()
5750 os.execute ( rmname .. " " .. imagesdirectory .. dirslash .. "*" )
5751 print ("lwarfmk: Done.")
5752
5753 -- lwarfmk epstopdf <list of file names>
5754 -- Convert EPS files to PDF using epstopdf
5755 elseif arg[1] == "epstopdf" then
5756 convertepstopdf ()
5757 print ("lwarfmk: Done.")
5758
5759
5760 -- lwarfmk pdftosvg <list of file names>
5761 -- Convert PDF files to SVG using pdftocairo
5762 elseif arg[1] == "pdftosvg" then
5763 convertpdftosvg ()
5764 print ("lwarfmk: Done.")
5765
5766
5767 -- lwarfmk with no argument :
5768
5769 elseif (arg[1] == nil) then
5770 printhelp ()
5771
5772
5773 -- lwarfmk -v:
5774
5775 elseif (arg[1] == "-v" ) then
5776 -- The version number has already been printed
5777 -- by the lwarfmk intro.
5778
5779 -- lwarfmk -h or lwarfmk --help :
5780
5781 elseif (arg[1] == "-h" ) or (arg[1] == "--help") then
5782 printusage ()
5783
5784
5785 -- Unknown command:
5786
5787 else
5788 printhelp ()
5789 print ("\n\nlwarfmk: ***** Unknown command \"..arg[1].."\". *****\n")
```

---

```

5790 end
5791
5792 end -- not --version
5793 \end{filecontents*}
5794 % \end{Verbatim}% for syntax highlighting

5795 \end{LWRcreatelwarpmk}
```

## 41 Stacks

**for HTML output:** 5796 \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:

```
5797 \newcommand*\{\LWR@depthnone\}{-5}
```

All sectioning depths are deeper than \LWR@depthfinished:

```

5798 \newcommand*\{\LWR@depthfinished\}{-4}
5799 \newcommand*\{\LWR@depthbook\}{-2}
5800 \newcommand*\{\LWR@depthpart\}{-1}
5801 \newcommand*\{\LWR@depthchapter\}{0}
5802 \newcommand*\{\LWR@depthsection\}{1}
5803 \newcommand*\{\LWR@depthsubsection\}{2}
5804 \newcommand*\{\LWR@depthsubsubsection\}{3}
5805 \newcommand*\{\LWR@depthparagraph\}{4}
5806 \newcommand*\{\LWR@depthsubparagraph\}{5}
```

Used by \itemize, \enumerate, \description:

```
5807 \newcommand*\{\LWR@depthlist\}{6}
```

Used by \item:

```

5808 \newcommand*\{\LWR@depthlistitem\}{7}
5809 \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.

```
5810 \newcommand*{\LWR@closeone}{}% top of the stack
5811 \newcommand*{\LWR@closetwo}{}%
5812 \newcommand*{\LWR@closethree}{}%
5813 \newcommand*{\LWR@closefour}{}%
5814 \newcommand*{\LWR@closefive}{}%
5815 \newcommand*{\LWR@closesix}{}%
5816 \newcommand*{\LWR@closeseven}{}%
5817 \newcommand*{\LWR@closeeight}{}%
5818 \newcommand*{\LWR@closenine}{}%
5819 \newcommand*{\LWR@closeten}{}%
5820 \newcommand*{\LWR@closeeleven}{}%
5821 \newcommand*{\LWR@closetwelve}{}%
5822 \newcommand*{\LWR@closethirteen}{}%
5823 \newcommand*{\LWR@closefourteen}{}%
5824 \newcommand*{\LWR@closefifteen}{}%
5825 \newcommand*{\LWR@closesixteen}{}%
5826 \newcommand*{\LWR@closeseventeen}{}%
5827 \newcommand*{\LWR@closeeighteen}{}%
5828 \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}
```

---

```
5829 \newcommand*{\LWR@closedepthonne}{}% top of the stack
5830 \newcommand*{\LWR@closedepthtwo}{}{\LWR@depthnone}
5831 \newcommand*{\LWR@closedepththree}{}{\LWR@depthnone}
5832 \newcommand*{\LWR@closedepthfour}{}{\LWR@depthnone}
5833 \newcommand*{\LWR@closedepthfive}{}{\LWR@depthnone}
5834 \newcommand*{\LWR@closedepthsix}{}{\LWR@depthnone}
5835 \newcommand*{\LWR@closedepthseven}{}{\LWR@depthnone}
5836 \newcommand*{\LWR@closedeptheight}{}{\LWR@depthnone}
5837 \newcommand*{\LWR@closedepthnine}{}{\LWR@depthnone}
5838 \newcommand*{\LWR@closedepthten}{}{\LWR@depthnone}
5839 \newcommand*{\LWR@closedeptheleven}{}{\LWR@depthnone}
5840 \newcommand*{\LWR@closedepthtwelve}{}{\LWR@depthnone}
5841 \newcommand*{\LWR@closedepththirteen}{}{\LWR@depthnone}
5842 \newcommand*{\LWR@closedepthfourteen}{}{\LWR@depthnone}
```

---

```

5843 \newcommand*{\LWR@closedepthfifteen}{\LWR@depthnone}
5844 \newcommand*{\LWR@closedepthsixteen}{\LWR@depthnone}
5845 \newcommand*{\LWR@closedepthseventeen}{\LWR@depthnone}
5846 \newcommand*{\LWR@closedeptheighteen}{\LWR@depthnone}
5847 \newcommand*{\LWR@closedepthnineteen}{\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.

```

5848 \NewDocumentCommand{\LWR@pushclose}{m}
5849 {%
5850 \global\let\LWR@closenineteen\LWR@closeeighteen%
5851 \global\let\LWR@closeeighteen\LWR@closeseventeen%
5852 \global\let\LWR@closeseventeen\LWR@closesixteen%
5853 \global\let\LWR@closesixteen\LWR@closefifteen%
5854 \global\let\LWR@closefifteen\LWR@closefourteen%
5855 \global\let\LWR@closefourteen\LWR@closethirteen%
5856 \global\let\LWR@closethirteen\LWR@closetwelve%
5857 \global\let\LWR@closetwelve\LWR@closeeleven%
5858 \global\let\LWR@closeeleven\LWR@closeten%
5859 \global\let\LWR@closeten\LWR@closenine%
5860 \global\let\LWR@closenine\LWR@closeeight%
5861 \global\let\LWR@closeeight\LWR@closeseven%
5862 \global\let\LWR@closeseven\LWR@closesix%
5863 \global\let\LWR@closesix\LWR@closefive%
5864 \global\let\LWR@closefive\LWR@closefour%
5865 \global\let\LWR@closefour\LWR@closethree%
5866 \global\let\LWR@closethree\LWR@closetwo%
5867 \global\let\LWR@closetwo\LWR@closeone%
5868 \global\csletcs{\LWR@closeone}{\LWR@printclose#1}%
5869 \global\let\LWR@closedepthnineteen\LWR@closedeptheighteen%
5870 \global\let\LWR@closedeptheighteen\LWR@closedepthseventeen%
5871 \global\let\LWR@closedepthseventeen\LWR@closedepthsixteen%
5872 \global\let\LWR@closedepthsixteen\LWR@closedepthfifteen%
5873 \global\let\LWR@closedepthfifteen\LWR@closedepthfourteen%
5874 \global\let\LWR@closedepthfourteen\LWR@closedepththirteen%
5875 \global\let\LWR@closedepththirteen\LWR@closedepthtwelve%
5876 \global\let\LWR@closedepthtwelve\LWR@closedeptheleven%
5877 \global\let\LWR@closedeptheleven\LWR@closedepthten%
5878 \global\let\LWR@closedepthten\LWR@closedepthnine%
5879 \global\let\LWR@closedepthnine\LWR@closedeptheight%
5880 \global\let\LWR@closedeptheight\LWR@closedepthseven%
5881 \global\let\LWR@closedepthseven\LWR@closedepthsix%
5882 \global\let\LWR@closedepthsix\LWR@closedepthfive%
5883 \global\let\LWR@closedepthfive\LWR@closedepthfour%
5884 \global\let\LWR@closedepthfour\LWR@closedepththree%
5885 \global\let\LWR@closedepththree\LWR@closedepthtwo%
5886 \global\let\LWR@closedepthtwo\LWR@closedepthonen%
5887 \global\csletcs{\LWR@closedepthonen}{\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.

```

5888 \ifdefstring{\LWR@closedepthnineteen}{\LWR@depthnone}%
5889   {}%

```

---

```

5890      {%
5891          \PackageError{l warp}%
5892              {The document is nested too deeply for L warp}%
5893              {PLEASE inform the L warp maintainer!}%
5894      }%
5895 }

```

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

```

5896 \newcommand*\LWR@popclose{%
5897     \global\let\LWR@closeone\LWR@closetwo%
5898     \global\let\LWR@closetwo\LWR@closethree%
5899     \global\let\LWR@closethree\LWR@closefour%
5900     \global\let\LWR@closefour\LWR@closefive%
5901     \global\let\LWR@closefive\LWR@closesix%
5902     \global\let\LWR@closesix\LWR@closeseven%
5903     \global\let\LWR@closeseven\LWR@closeeight%
5904     \global\let\LWR@closeeight\LWR@closenine%
5905     \global\let\LWR@closenine\LWR@closeten%
5906     \global\let\LWR@closeten\LWR@closeeleven%
5907     \global\let\LWR@closeeleven\LWR@closetwelve%
5908     \global\let\LWR@closetwelve\LWR@closethirteen%
5909     \global\let\LWR@closethirteen\LWR@closefourteen%
5910     \global\let\LWR@closefourteen\LWR@closefifteen%
5911     \global\let\LWR@closefifteen\LWR@closesixteen%
5912     \global\let\LWR@closesixteen\LWR@closeseventeen%
5913     \global\let\LWR@closeseventeen\LWR@closeeighteen%
5914     \global\let\LWR@closeeighteen\LWR@closenineteen%
5915     \global\let\LWR@closenineteen\LWR@closedepthone%
5916     \global\let\LWR@closedepthone\LWR@closedepthtwo%
5917     \global\let\LWR@closedepthtwo\LWR@closedepththree%
5918     \global\let\LWR@closedepththree\LWR@closedepthfour%
5919     \global\let\LWR@closedepthfour\LWR@closedepthfive%
5920     \global\let\LWR@closedepthfive\LWR@closedepthsix%
5921     \global\let\LWR@closedepthsix\LWR@closedepthseven%
5922     \global\let\LWR@closedepthseven\LWR@closedeptheight%
5923     \global\let\LWR@closedeptheight\LWR@closedepthnine%
5924     \global\let\LWR@closedepthnine\LWR@closedepthten%
5925     \global\let\LWR@closedepthten\LWR@closedeptheleven%
5926     \global\let\LWR@closedeptheleven\LWR@closedepthtwelve%
5927     \global\let\LWR@closedepthtwelve\LWR@closedepththirteen%
5928     \global\let\LWR@closedepththirteen\LWR@closedepthfourteen%
5929     \global\let\LWR@closedepthfourteen\LWR@closedepthfifteen%
5930     \global\let\LWR@closedepthfifteen\LWR@closedepthsixteen%
5931     \global\let\LWR@closedepthsixteen\LWR@closedepthseventeen%
5932     \global\let\LWR@closedepthseventeen\LWR@closedeptheighteen%
5933     \global\let\LWR@closedeptheighteen\LWR@closedepthnineteen%
5934 }

```

```
5935 \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:** 5936 `\begin{warpHTML}`

```
\LWR@setexparray {⟨name⟩} {⟨index⟩} {⟨contents⟩}
```

```
5937 \newbool{\LWR@setexparray@doingparhooks}
5938
5939 \NewDocumentCommand{\LWR@setexparray}{m m m}{%
```

Temporarily disable paragraph handling during the assignment. This is not done in a group with global assignments because a table may be nested.

```
5940 \let\ifLWR@setexparray@doingparhooks\ifLWR@doingparhooks%
5941 \setbool{\LWR@doingparhooks}{false}%
5942 \let\LWR@setexparray@par\par%
5943 \let\par\relax%
```

The name of the control sequence is the given name with the index appended.

```
5944 \xdef\LWR@thisexparrayname{#1#2}%
```

Locally assign the value to the control sequence:

```
5945 \ifstrempty{#3}%
5946 {\csdef{\LWR@thisexparrayname}{}%}
5947 {\csedef{\LWR@thisexparrayname}{#3}}%
```

Restore the paragraph handling:

```
5948 \let\ifLWR@doingparhooks\ifLWR@setexparray@doingparhooks%
5949 \let\par\LWR@setexparray@par%
5950 }
```

```
\LWR@getexparray {⟨name⟩} {⟨index⟩}
```

```
5951 \newcommand*{\LWR@getexparray}[2]{%
5952   \nameuse{#1#2}%
5953 }
```

```
5954 \end{warpHTML}
```

## 43 Localizing catcodes

**for HTML & PRINT:** 5955 `\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.

```
5956 \newcommand{\StartDefiningTabulars}{%
5957     \LWR@traceinfo{StartDefiningTabulars}%
5958     \warpHTMLonly{\catcode`\&=\active}%
5959 }
```

\StopDefiningTabulars Place after defining something with & in it.

```
5960 \newcommand{\StopDefiningTabulars}{%
5961     \LWR@traceinfo{StopDefiningTabulars}%
5962     \warpHTMLonly{\catcode`\&=4}%
5963 }
```

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.

```
5964 \newbool{LWR@mathmacro}
5965 \boolfalse{LWR@mathmacro}
```

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

```
5966 \newcommand{\StartDefiningMath}{%
5967     \LWR@traceinfo{StartDefiningMath}%
5968     \warpHTMLonly{\catcode`\$=\active}%
5969 }
```

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

```
5970 \newcommand{\StopDefiningMath}{%
5971     \LWR@traceinfo{StopDefiningMath}%
5972     \warpHTMLonly{\catcode`\$=3}%
5973 }
```

5974 \end{warpall}

**for HTML output:** 5975 \begin{warpHTML}

A definition for & in case it is referred to after \StartDefiningTabulars but outside a tabular.

```
5976 \StartDefiningTabulars
5977 \protected\gdef&{%
5978     \PackageWarning{lwarp}{%
5979         An ampersand is being used inside a tabular\MessageBreak
5980     }%
5981 }%
5982 \StopDefiningTabulars
```

5983 \end{warpHTML}

## 44 Localizing dynamic math

Inline SVG math usually uses a hash of its contents to generate `lateximages` which are reusable for multiple instances with the same contents. If the contents may change for each use, such as depending on the current value of a counter, then `\inlinemathother` must be used before the inline math expression, and `\inlinemathnormal` must be used after.

For MATHJAX, the inline math expression is usually printed for MATHJAX to interpret. When marked as dynamic math, the following inline math expression will be displayed as an unhashed inline SVG image instead.

For existing code and packages, it may be possible to patch macros after they have been defined, using the `xpatch` package, which is pre-loaded by `l warp`:

---

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

---

**for HTML & PRINT:** 5984 `\begin{warpall}`

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

5985 `\newbool{LWR@dynamicmath}`  
 5986 `\boolfalse{LWR@dynamicmath}`

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

5987 `\newcommand{\inlinemathother}{%`  
 5988 `\LWR@traceinfo{\inlinemathother}%`  
 5989 `\booltrue{LWR@dynamicmath}%`  
 5990 `}`

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

5991 `\newcommand{\inlinemathnormal}{%`  
 5992 `\LWR@traceinfo{\inlinemathnormal}%`  
 5993 `\boolfalse{LWR@dynamicmath}%`  
 5994 `}`

5995 `\end{warpall}`

## 45 HTML entities

**for HTML output:** 5996 `\begin{warpHTML}`

HTML Unicode entities:

```
5997 \let\LWR@origampersand\&
```

```
\LWR@fontfortags {\langle macro name\rangle}
```

Forces roman TT font for HTML tags.

```
5998 \newrobustcmd*{\LWR@fontfortags}[1]{%
5999     \ifmmode%
6000         \PackageError{l warp}{%
6001             {%
6002                 An HTML tag was generated inside math.\MessageBreak
6003                 This should never occur.\MessageBreak
6004                 Something is broken in L warp%
6005             }%
6006             {(Using #1.)}%
6007     \else%
```

Used by `ltjtbook`, `platex`, and related.

```
6008     \ifdef{\romanencoding}{%
6009         {%
6010             \romanencoding{\encodingdefault}{%
6011             }%
6012         }%
```

Used by `babel`:

```
6013         \ifdef{\latintext}{%
6014             {\latintext}{%
6015                 {\fontencoding\encodingdefault}{%
6016             }%
6017             \LWR@print@normalfont{%
6018                 \LWR@origttfamily{%
6019                     \fi%
6020             }}
```

```
\HTMLentity {\langle entitytag\rangle}
```

`\protect` is in case the tag appears in TOC, LOF, LOT.

```
6021 \newcommand*{\HTMLentity}[1]{%
6022 % \LWR@traceinfo{HTMLentity \detokenize{\#1}}%
6023     \begingroup%
6024     \LWR@hook@processingtags%
6025     \LWR@fontfortags{\HTMLentity}%
6026     \protect\LWR@origampersand\LWR@isolate{\#1};%
6027     \endgroup%
6028 % \LWR@traceinfo{HTMLentity done}%
6029 }
```

```
\HTMLunicode {\langle hex_unicode\rangle}
```

```
6030 \newcommand*{\HTMLunicode}[1]{\HTMLentity{\LWR@origpound{}x#1}}
```

---

```

6031 \renewrobustcmd*{\&}{\HTMLentity{amp}}

\textrm{less}

6032 \let\LWR@origtextrmless\textrmless
6033 \renewrobustcmd*{\textrmless}{\HTMLentity{lt}}


\textrm{greater}

6034 \let\LWR@origtextrmgreater\textrmgreater
6035 \renewrobustcmd*{\textrmgreater}{\HTMLentity{gt}}


6036 \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:** 6037 `\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.

6038 `\providecommand*{\BaseJobname}{\jobname}`

`\HTMLFilename` The prefix for all generated HTML files other than the home page, defaulting to empty. See section [7.6.1](#).

6039 `\providecommand*{\HTMLFilename}{}{}`

`\HomeHTMLFilename` The filename of the home page, defaulting to the `\BaseJobname`. See section [7.6.1](#).

6040 `\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.

```

6041 \newcommand*{\SetHTMLFileName}[1]{%
6042     \setcounter{LWR@htmlfilename}{#1}%
6043 }

```

`Bool FileSectionNames`

Selects how to create HTML file names.

Defaults to use section names in the filenames.

```
6044 \newbool{FileSectionNames}
6045 \booltrue{FileSectionNames}

6046 \end{warpall}

for HTML output: 6047 \begin{warpHTML}
```

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

```
6048 \newcounter{LWR@HTMLpagenum}
6049 \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.

```
6050 \newcounter{LWR@htmlseqfilename}
6051 \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.

```
6052 \newbool{LWR@setseqfilelabel}
6053 \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.

```
6054 \newcounter{LWR@htmlfilename}
6055 \setcounter{LWR@htmlfilename}{0}
```

\LWR@htmlsectionfilename {*(htmlfilename or name)*}

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

```
6056 \newcommand*{\LWR@htmlsectionfilename}[1]{%
6057 \LWR@traceinfo{\LWR@htmlsectionfilename A !\detokenize{\#1}!}%
6058 \begingroup%
```

Disable CJK xpinyin while generating file names.

```
6059 \LWR@disablepinyin%
```

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

```
6060 % \LWR@traceinfo{about to assign temp}%
6061 \LWR@sanitize{\#1}%
6062 \LWR@traceinfo{about to compare with ??}%
```

```

6063 \ifdefstring{\LWR@sanitized}{??}
6064     {\LWR@traceinfo{found ??}}%
6065     {\LWR@traceinfo{not found ??}}%
6066 \LWR@traceinfo{about to compare with zero or empty}%
6067 \ifboolexpr{
6068     test {\ifdefstring{\LWR@sanitized}{0}} or
6069     test {\ifdefstring{\LWR@sanitized}{}} or
6070     test {\ifdefstring{\LWR@sanitized}{??}}
6071 }
6072 {%
6073     \LWR@traceinfo{\LWR@htmlsectionfilename B \HomeHTMLFilename.html}%
6074     \HomeHTMLFilename.html%
6075 }%

```

For a L<sup>A</sup>T<sub>E</sub>X section named “Index” or “index” without a prefix, create a filename with a trailing `-0` to avoid colliding with the HTML filename `index.html`:

```

6076 {%
6077     \LWR@traceinfo{\LWR@htmlsectionfilename C \LWR@sanitized}%
6078     \ifboolexpr{
6079         test{\ifdefvoid{\HTMLFilename}} and
6080         (
6081             test{\ifdefstring{\LWR@sanitized}{Index}} or
6082             test{\ifdefstring{\LWR@sanitized}{index}}
6083         )
6084     }%
6085     {%
6086         \LWR@traceinfo{Adding a zero to the index filename.}%
6087         \LWR@sanitized-0.html%
6088     }%

```

Otherwise, create a filename with the chosen prefix:

```

6089     {%
6090         \HTMLFilename\LWR@isolate{\LWR@sanitized}.html%
6091     }%
6092 }%
6093 \LWR@traceinfo{\LWR@htmlsectionfilename Z}%
6094 \endgroup%
6095 }

```

`\LWR@htmlrefsectionfilename {<label>}`

Prints the filename for the given label

```

6096 \newcommand*{\LWR@htmlrefsectionfilename}[1]{%
6097     \LWR@traceinfo{\LWR@htmlrefsectionfilename: !\detokenize{#1}!}%

```

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

```

6098     \begingroup%
6099     \LWR@nullfonts%
6100     \LWR@htmlsectionfilename{\LWR@htmlfileref{#1}}%
6101     \endgroup%
6102     \LWR@traceinfo{\LWR@htmlrefsectionfilename: done}%
6103 }

```

`6104 \end{warpHTML}`

## 47 Homepage link

**for HTML & PRINT:** 6105 \begin{warpall}

\linkhomename Holds the default name for the home link.

6106 \newcommand{\linkhomename}{Home}

6107 \end{warpall}

**for HTML output:** 6108 \begin{warpHTML}

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

6109 \newcommand\*\{\LinkHome}{%  
6110 \LWR@subhyperrefclass{\HomeHTMLfilename.html}{\linkhomename}{linkhome}}%  
6111 }

6112 \end{warpHTML}

**for PRINT output:** 6113 \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.

```
6114 \AtBeginDocument{  
6115 \@ifundefined{hyperref}{  
6116 \newcommand*\{\LinkHome}{%  
6117 \linkhomename\ --- page \pageref{\BaseJobname-page-LWRfirstpage}}%  
6118 }  
6119 }{  
6120 \newcommand*\{\LinkHome}{%  
6121 \hyperref[\BaseJobname-page-LWRfirstpage]{\linkhomename}}%  
6122 }  
6123 }  
6124 }  
6125  
6126 \AfterEndPreamble{\label{\BaseJobname-page-LWRfirstpage}}  
  
6127 \end{warpprint}
```

**for HTML output:** 6128 \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.

6129 \newcommand\*\{\LWR@topnavigation}{%  
6130 \LWR@htmlelementclassline{nav}{topnavigation}{\LinkHome}}%  
6131 }

\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.

```
6132 \newcommand*{\LWR@botnavigation}{%
6133   \LWR@htmlelementclassline{nav}{botnavigation}{\LinkHome}%
6134 }%
6135 \end{warpHTML}
```

## 48 Previous/next navigation links

**for HTML & PRINT:** 6136 \begin{warpall}

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

```
6137 \newcommand*{\linkpreviousname}{Previous}
```

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

```
6138 \newcommand*{\linknextname}{Next}%
6139 \end{warpall}
```

**for PRINT output:** 6140 \begin{warpprint}

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

```
6141 \newcommand*{\LinkPrevious}{}%
```

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

```
6142 \newcommand*{\LinkNext}{}%
6143 \end{warpprint}
```

**for HTML output:** 6144 \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-\*

```
6145 \newcommand*{\LinkPrevious}{%
6146   \ifnumless{\value{\LWR@htmlseqfilenumber}}{1}{}{%
6147     \setcounter{\LWR@tempcountone}{\value{\LWR@htmlseqfilenumber}-1}%
6148     \LWR@subhyperrefclass{%
6149       \LWR@htmlrefsectionfilename{%
6150         \BaseJobname-autofile-\arabic{\LWR@tempcountone}%
6151       }%
6152     }{\linkpreviousname}{linkhome}%
6153   }%
6154 }
```

\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

```

6155 \newcommand*{\LinkNext}{%
6156     \ifcsdef{r@\BaseJobname-autofile-last@lwarp}{%
6157         \edef\LWR@tempone{%
6158             \LWR@htmlfileref{\BaseJobname-autofile-\arabic{\LWR@htmlseqfilename}}%
6159         }%
6160         \edef\LWR@temptwo{%
6161             \LWR@htmlfileref{\BaseJobname-autofile-last}%
6162         }%
6163         \ifdefequal{\LWR@tempone}{\LWR@temptwo}{%
6164             \setcounter{\LWR@tempcountone}{\value{\LWR@htmlseqfilename}+1}%
6165             \LWR@subhyperrefclass{%
6166                 \LWR@htmlrefsectionfilename{%
6167                     \BaseJobname-autofile-\arabic{\LWR@tempcountone}}%
6168                 }%
6169             }{\linknextname}{linkhome}%
6170         }%
6171     }{%
6172 }
6173 \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:** 6174 \begin{warpHTML}

\LWRPrintStack Prints the closedepth stack.

```

6175 \newcommand*{\LWR@subprintstack}{%
6176 \LWR@closedepthonetwo\ \LWR@closedepthtwo\ \LWR@closedepththree\%
6177 \LWR@closedepthfour\ \LWR@closedepthfive\ \LWR@closedepthsix\%
6178 \LWR@closedepthseven\ \LWR@closedeptheight\ \LWR@closedepthnine\%
6179 \LWR@closedepthten\ \LWR@closedeptheleven\ \LWR@closedepthtwelve\%
6180 \LWR@closedepththirteen\ \LWR@closedepthfourteen\ \LWR@closedepthfifteen\%
6181 \LWR@closedepthsixteen\ \LWR@closedeptheighteen\ \LWR@closedeptheighteen\%
6182 \LWR@closedepthnineteen\%
6183 }%
6184
6185 \newcommand*{\LWRPrintStack}{%
6186 \LWR@startpars
6187 \LWR@subprintstack
6188 }%
6189 \end{warpHTML}

```

**for PRINT output:** 6190 \begin{warpprint}

```
6191 \newcommand*{\LWRPrintStack}{}
```

---

```
6192 \end{warpprint}
```

## 50 Closing stack levels

**for HTML output:** 6193 \begin{warpHTML}

Close one nested level:

```
6194 \newcommand*{\LWR@closeoneprevious}{%
6195   \LWR@closeone
6196   \LWR@popclose
6197 }
6198 }
```

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

```
6200 \newcommand*{\LWR@closeprevious}[1]{%
6201 \LWR@traceinfo{%
6202   LWR@closeprevious to depth \csuse{\LWR@depth#1}, %
6203   depths are \LWR@subprintstack%
6204 }%
```

Close any pending paragraph:

```
6205 \LWR@stoppars%
```

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

```
6206 \whileboolexpr{test{\ifnumcomp{\LWR@closedepthone}{>}{\csuse{\LWR@depth#1}}}}{%
6207 }%
6208   \LWR@traceinfo{LWR@closeprevious: closing out depth \LWR@closedepthone}%
6209   \LWR@closeoneprevious%
6210 }%
6211 \ifboolexpr{test{\ifnumcomp{\LWR@closedepthone}{=}{\csuse{\LWR@depth#1}}}}{%
6212 }%
6213   \LWR@traceinfo{LWR@closeprevious: closing out depth \LWR@closedepthone}%
6214   \LWR@closeoneprevious%
6215 }{%
6216 \LWR@traceinfo{LWR@closeprevious: done, depths are \LWR@subprintstack}%
6217 }%
6218 \end{warpHTML}
```

## 51 PDF pages and styles

**for HTML output:** 6219 \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.

```
6220 \newcommand{\LWR@forcenewpage}{%
6221 \LWR@traceinfo{\LWR@forcenewpage}%
6222 \ifinner\else%
6223   \LWR@traceinfo{\LWR@forcenewpage A}%
6224   \LWR@stoppars%
6225   \LWR@traceinfo{\LWR@forcenewpage B}%
6226   \LWR@maybe@orignewpage%
6227   \LWR@traceinfo{\LWR@forcenewpage C}%
6228   \LWR@startpars%
6229 \fi%
6230 \LWR@traceinfo{\LWR@forcenewpage done}%
6231 }
```

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

```
\pagestyle {\langle style\rangle}
6232 \renewcommand*{\pagestyle}[1]{}

\thispagestyle {\langle style\rangle}
6233 \renewcommand*{\thispagestyle}[1]{}

\markboth {\langle left\rangle} {\langle right\rangle}
6234 \renewcommand*{\markboth}[2]{}

\markright {\langle right\rangle}
6235 \renewcommand*{\markright}[1]{}
```

`\raggedbottom`

```
6236 \renewcommand*{\raggedbottom}{}{}
```

`\flushbottom`

```
6237 \renewcommand*{\flushbottom}{}{}
```

`\sloppy`

```
6238 \renewcommand*{\sloppy}{}{}
```

`\fussy`

```
6239 \renewcommand*{\fussy}{}{}
```

`\pagenumbering * {\langle commands\rangle}`

```
6240 \RenewDocumentCommand{\pagenumbering}{s m}{}{}
```

```
6241 \end{warpHTML}
```

## 52 HTML tags, spans, divs, elements

**for HTML output:** 6242 \begin{warpHTML}

### 52.1 Mapping L<sup>A</sup>T<sub>E</sub>X sections to HTML sections

```

6243 \newcommand*{\LWR@tagtitle}{h1}
6244 \newcommand*{\LWR@tagtitleend}{/h1}
6245 \newcommand*{\LWR@tagbook}{div class=\textquotedbl{}book\textquotedbl{}}
6246 \newcommand*{\LWR@tagbookend}{/div}
6247 \newcommand*{\LWR@tagpart}{h2}
6248 \newcommand*{\LWR@tagpartend}{/h2}
6249 \newcommand*{\LWR@tagchapter}{h3}
6250 \newcommand*{\LWR@tagchapterend}{/h3}
6251 \newcommand*{\LWR@tagsection}{h4}
6252 \newcommand*{\LWR@tagsectionend}{/h4}
6253 \newcommand*{\LWR@tagsubsection}{h5}
6254 \newcommand*{\LWR@tagsubsectionend}{/h5}
6255 \newcommand*{\LWR@tagsubsubsection}{h6}
6256 \newcommand*{\LWR@tagsubsubsectionend}{/h6}
6257 \newcommand*{\LWR@tagparagraph}{span class=\textquotedbl{}paragraph\textquotedbl{}}
6258 \newcommand*{\LWR@tagparagraphend}{/span}
6259 \newcommand*{\LWR@tagsubparagraph}{span class=\textquotedbl{}subparagraph\textquotedbl{}}
6260 \newcommand*{\LWR@tagsubparagraphend}{/span}
6261
6262 \newcommand*{\LWR@tagregularparagraph}{p}

```

### 52.2 Hook while processing tags

Hook [lwarp] \LWR@hook@processingtags 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.

```
6263 \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.)

```

6264 \providecommand*{\LWR@FBcancel}{} 
6265 
6266 \AtBeginDocument{%

```

In some circumstances, `\NoAutoSpacing` may be defined when `\frenchbsetup` is not.

```
6267 \@ifundefined{NoAutoSpacing}{} 
```

```
6268    {}%
6269    {%
6270        \LetLtxMacro{\LWR@FBcancel}{\NoAutoSpacing}%
6271        \appto{\LWR@hook@processingtags}{\LWR@FBcancel}%
6272    }%
6273
6274 \@ifundefined{frenchbsetup}%
6275 {}%
6276 {%
6277     \frenchbsetup{FrenchFootnotes=false}%
6278 %
6279     \renewrobustcmd*{\FBcolonspace}{%
6280         \begin{group}%
6281             \LWR@hook@processingtags%
6282             \LWR@origampersand{}nbsp;%
6283         \end{group}%
6284     }%
6285     \renewrobustcmd*{\FBthinspace}{%
6286         \begin{group}%
6287             \LWR@hook@processingtags%
6288             \LWR@origampersand{\LWR@origpound{}x202f;}%,%
6289         \end{group}%
6290     }%
6291     \renewrobustcmd*{\FBguillspace}{%
6292         \begin{group}%
6293             \LWR@hook@processingtags%
6294             \LWR@origampersand{}nbsp;% ~, for \og xyz \fg{}%
6295         \end{group}%
6296     }%
6297     \DeclareDocumentCommand{\FBmedkern}{}{%
6298         \begin{group}%
6299             \LWR@hook@processingtags%
6300             \LWR@origampersand{\LWR@origpound{}x202f;}%,%
6301         \end{group}%
6302     }%
6303     \DeclareDocumentCommand{\FBthickkern}{}{%
6304         \begin{group}%
6305             \LWR@hook@processingtags%
6306             \LWR@origampersand{}nbsp;% ~
6307         \end{group}%
6308     }%
6309     \renewrobustcmd*{~}{\HTMLentity{nbsp}}% was overwritten by babel-french
6310     \iffBunicode%
6311     \else%
6312         \DeclareTextSymbol{\FBtextellipsis}{LY1}{133}%
6313         \DeclareTextCommandDefault{\FBtextellipsis}{\textellipsis\xspace}%
6314     \fi%
6315 }%
6316 }
```

## 52.4 HTML output formatting

Helps format the output HTML code for human readability.

\LWR@indentHTML Newline and indent the output HTML code.

```

6317 \newcommand*{\LWR@indentHTML}{%
6318     \LWR@orignewline\LWR@origrule{2em}{0pt}%
6319 }

```

\LWR@indentHTMLtwo Newline and indent the output HTML code.

```

6320 \newcommand*{\LWR@indentHTMLtwo}{%
6321     \LWR@orignewline\LWR@origrule{4em}{0pt}%
6322 }

```

## 52.5 HTML tags

\LWR@htmntagc {*tag*} Break ligatures and use upright apostrophes in HTML tags.

\protect is in case the tag appears in TOC, LOF, LOT.

```

6323 \newcommand*{\LWR@htmntagc}[1]{%
6324     \LWR@traceinfo{\LWR@htmntagc !\detokenize{\#1}!}%
6325     \begingroup%
6326     \LWR@hook@processingtags%
6327     \LWR@fontfortags{\LWR@htmntagc}%
6328     \protect\LWR@origtextless%
6329     \LWR@isolate{\#1}%
6330     \protect\LWR@origtextgreater%
6331     \endgroup%
6332 }

```

\LWR@spanwarnformat {*object*}

Warns if the given object is used inside a span.

```

6333 \newcommand*{\LWR@spanwarnformat}[1]{%
6334     \ifnumcomp{\value{\LWR@spandepth}}{>}{0}{%
6335         \PackageWarning{lwarp}{%
6336             A #1 is being used inside a span.\MessageBreak
6337             Formatting may be lost,%
6338         }%
6339     }%
6340 }

```

\LWR@spanwarninvalid {*object*}

Warns if the given object is used inside a span.

```

6341 \newcommand*{\LWR@spanwarninvalid}[1]{%
6342     \ifnumcomp{\value{\LWR@spandepth}}{>}{0}{%
6343         \PackageWarning{lwarp}{%
6344             A #1 is being used inside a span.\MessageBreak
6345             This generates invalid HTML,%
6346         }%
6347     }%
6348 }

```

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.

```

6349 \newcommand*\{LWR@nestspanitem}{%
6350     \if@newlist\else{%
6351         \LWR@htmltagc{br /}%
6352         \LWR@orignewline%
6353     }\fi%
6354     \LWR@origitem%
6355 }%
6356
6357 \newenvironment*{LWR@nestspan}{%
6358 {%
6359     \LWR@traceinfo{LWR@nestspan starting}%
6360     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
6361     {%
6362         \LWR@traceinfo{LWR@nestspan: inside a lateximage}%
6363     }%
6364     {%
6365         \LWR@traceinfo{LWR@nestspan: NOT inside a lateximage}%
6366         \addtocounter{LWR@spandepth}{1}%

```

Nullify several objects inside the span:

```

6367     \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}%
6368         {\LWR@spanwarnformat{minipage or \protect\parbox}}%
6369         {}%
6370     \RenewDocumentEnvironment{BlockClass}{o m}%
6371         {\LWR@spanwarnformat{multi-paragraph object}}%
6372         {}%
6373     \RenewDocumentEnvironment{LWR@BlockClassWP}{m m D(){} m}%
6374         {\LWR@spanwarnformat{multi-paragraph object}}%
6375         {}%
6376     \renewcommand{\BlockClassSingle}[2]{%
6377         {\LWR@spanwarnformat{multi-paragraph object}}%
6378         ##2%
6379     }%
6380     \renewcommand{\LWR@forcenewpage}{}%
6381     \renewcommand{\LWR@liststart}{\LetLtxMacro\item\{LWR@nestspanitem\}%
6382     \renewcommand{\LWR@listend}{\leavevmode}%
6383     \renewenvironment{quote}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6384     \renewenvironment{quotation}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6385     }%
6386     \LWR@traceinfo{LWR@nestspan starting: done}%
6387 }%
6388 }%
6389 \LWR@traceinfo{LWR@nestspan ending}%
6390 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
6391 {}%
6392 {\addtocounter{LWR@spandepth}{-1}}%
6393 \LWR@traceinfo{LWR@nestspan ending: done}%
6394 }%

```

\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.

```

6395 \NewDocumentCommand{\LWR@htmlspan}{m +m}{%
6396     \LWR@ensuredoingapar%
6397     \LWR@htmltagc{#1}%
6398     \begin{LWR@nestspan}%
6399     #2%
6400     \LWR@htmltagc{/#1}%
6401     \end{LWR@nestspan}%
6402 }

\LWR@htmlspanclass [⟨style⟩] (⟨aria role⟩) {⟨class⟩} {⟨text⟩}

6403 \NewDocumentCommand{\LWR@htmlspanclass}{o D(){} m +m}{%
6404     \LWR@traceinfo{\LWR@htmlspanclass |#1|#2|#3|}%
6405     \LWR@ensuredoingapar%
6406     \ifblank{#2}%
6407         {\LWR@subhtmlelementclass{span}[#1]{#3}}%
6408         {\LWR@subhtmlelementclass{span}[#1](#2){#3}}%
6409     \begin{LWR@nestspan}%
6410     #4%
6411     \LWR@htmltagc{/span}%
6412     \LWR@traceinfo{\LWR@htmlspanclass done}%
6413     \end{LWR@nestspan}%
6414 }

\LWR@htmltag {⟨tag⟩}

Print an HTML tag: <tag>

6415 \newcommand*{\LWR@htmltag}[1]{%
6416     \LWR@htmltagc{#1}%
6417 }

```

## 52.6 Block tags and comments

In the following, \origttfamily breaks ligatures, which may not be used for HTML codes:

```

\LWR@htmlopencomment
\LWR@htmlclosecomment
6418 \newcommand*{\LWR@htmlopencomment}{%
6419 % \LWR@traceinfo{\LWR@htmlopencomment}%
6420     \begingroup%
6421     \LWR@hook@processingtags%
6422     \LWR@fontfortags{\LWR@htmlopencomment}%
6423     \LWR@print@obox{\LWR@origtextless{}!-/-}%
6424     \endgroup%
6425 }
6426
6427 \newcommand*{\LWR@htmlclosecomment}{%
6428 % \LWR@traceinfo{\LWR@htmlclosecomment}%
6429     \begingroup%

```

```

6430      \LWR@hook@processingtags%
6431      \LWR@fontfortags{\LWR@htmlclosecomment}%
6432      \LWR@print@mbox{~-`~-}\LWR@origtextgreater}%
6433      \endgroup%
6434 }

\LWR@htmlcomment  {\langle comment\rangle}

6435 \newcommand{\LWR@htmlcomment}[1]{%
6436     \ifmmode%
6437     \else%
6438         \LWR@htmlopencomment{}%
6439         {%
6440             \LWR@print@normalfont%
6441             \LWR@origttfamily% break ligatures
6442             #1%
6443         }%
6444         \LWR@htmlclosecomment{}%
6445     \fi%
6446 }

\LWR@htmlblockcomment  {\langle comment\rangle}

6447 \newcommand{\LWR@htmlblockcomment}[1]{%
6448     {\LWR@stoppars\LWR@htmlcomment{\#1}\LWR@startpars}%

\LWR@htmlblocktag  {\langle tag\rangle} print a stand-alone HTML tag

6449 \newcommand*{\LWR@htmlblocktag}[1]{%
6450     \LWR@stoppars%
6451     \LWR@htmlltag{\#1}%
6452     \LWR@startpars%
6453 }

```

## 52.7 Div class and element class

\LWR@subhtmlelementclass {\langle element\rangle} [\langle style\rangle] (\langle aria role\rangle) {\langle class\rangle}

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.

```

6454 \NewDocumentCommand{\LWR@subhtmlelementclass}{m O{} D(){} m}{%
6455     \LWR@traceinfo{\LWR@subhtmlelementclass !#1!#2!#3!#4!}%
6456     \ifblank{#2}%
6457     {% empty style
6458         \LWR@htmlltag{%
6459             #1%
6460             \ifblank{#3}{}{ role=\textquotedbl#3\textquotedbl}% spaces
6461             \ifblank{#4}{}{ class=\textquotedbl#4\textquotedbl}% spaces
6462         }%
6463     }%

```

```

6464      {%
6465          \LWR@htmlelementclass{%
6466              #1\LWR@indentHTML%
6467              \ifblank{#3}{}{\role=\textquotedbl#3\textquotedbl\LWR@indentHTML}%
6468              \ifblank{#4}{}{\class=\textquotedbl#4\textquotedbl\LWR@indentHTML}%
6469                  style=\textquotedbl#2\textquotedbl\LWR@orignewline%
6470          }%
6471      }%
6472      \LWR@traceinfo{\LWR@subhtmlelementclass done}%
6473 }

```

\LWR@htmlelementclass {*element*} [*style*] {*class*}

```

6474 \NewDocumentCommand{\LWR@htmlelementclass}{m o D(){} m}{%
6475     \LWR@stoppars%
6476     \LWR@forceemptyline%
6477     \ifblank{#3}%
6478         {\LWR@subhtmlelementclass{#1}[#2]{#4}}%
6479         {\LWR@subhtmlelementclass{#1}[#2](#3){#4}}%
6480     \LWR@startpars%
6481 }

```

\LWR@htmlelementclassend {*element*} {*class*}

```

6482 \newcommand*{\LWR@htmlelementclassend}[2]{%
6483     \LWR@stoppars%
6484     \LWR@htmlelementclass{/#1}%
6485     \ifbool{HTMLDebugComments}{%
6486         \LWR@htmlcomment{End of #1 ``#2''}%
6487     }{}%
6488     \LWR@startpars%
6489 }

```

\LWR@htmldivclass [*style*] (*aria role*) {*class*}

```

6490 \NewDocumentCommand{\LWR@htmldivclass}{o D(){} m}{%
6491     \ifblank{#2}%
6492         {\LWR@htmlelementclass{div}{#1}{#3}}%
6493         {\LWR@htmlelementclass{div}{#1}(#2){#3}}%
6494 }

```

\LWR@htmldivclassend {*class*}

```

6495 \newcommand*{\LWR@htmldivclassend}[1]{%
6496     \LWR@htmlelementclassend{div}{#1}%
6497 }

```

## 52.8 Single-line elements

A single-line element, without a paragraph tag for the line of text:

\LWR@htmlelementclassline {*element*} [*style*] {*class*} {*text*}

```

6498 \NewDocumentCommand{\LWR@htmlelementclassline}{m o m +m}{%

```

---

```

6499  \LWR@stopars
6500  \LWR@forceemptyline%
6501  \LWR@subhtmlelementclass{#1}[#2]{#3}%
6502  #4%
6503  \LWR@htmlltag{/#1}
6504  \LWR@startpars
6505 }

```

## 52.9 HTML5 semantic elements

```

\LWR@htmlelement  {\langle element \rangle}

6506 \newcommand*{\LWR@htmlelement}[1]{%
6507     \LWR@htmlblocktag{#1}
6508 }

\LWR@htmlelementend  {\langle element \rangle}

6509 \newcommand*{\LWR@htmlelementend}[1]{%
6510     \LWR@stopars
6511     \LWR@htmlltag{/#1}
6512     \LWR@startpars
6513 }
6514
6515 \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>*) {\i<class>}    High-level interface for <div> classes.

Ex: \begin{BlockClass}{class} text \end{BlockClass}

**for HTML & PRINT:** 6516 \begin{warpall}
6517 \NewDocumentEnvironment{BlockClass}{o D(){} m}{}{}

6518 \end{warpall}

**for HTML output:** 6519 \begin{warpHTML}
6520
6521 \NewDocumentEnvironment{\LWR@HTML@BlockClass}{o D(){} m}%
6522 {\LWR@htmldivclass[#1](#2){#3}}%
6523 {\LWR@htmldivclassend{#3}}
6524
6525 \LWR@formattedenv{BlockClass}
6526 \end{warpHTML}

\BlockClassSingle {\i<class>} {\i<text>}    A single-line <div>, without a paragraph tag for the line of text.

**for HTML & PRINT:** 6527 \begin{warpall}  
 6528 \newcommand{\BlockClassSingle}[2]{#2}  
 6529 \end{warpall}

**for HTML output:** 6530 \begin{warpHTML}  
 6531 \newcommand{\LWR@HTML@BlockClassSingle}[2]{%  
 6532 \LWR@htmlelementclassline{div}{#1}{#2}}%  
 6533 }  
 6534  
 6535 \LWR@formatted{BlockClassSingle}  
 6536 \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 HTML & PRINT:** 6537 \begin{warpall}  
 6538 \NewDocumentCommand{\InlineClass}{D{()}{}} o m +m}{#4}}%  
 6539 \end{warpall}

**for HTML output:** 6540 \begin{warpHTML}  
 6541 \NewDocumentCommand{\LWR@HTML@InlineClass}{D{()}{}} o m +m}{%  
 6542 \LWR@traceinfo{\LWR@HTML@InlineClass #3}}%  
 6543 \ifbool{FormatWP}{%  
 6544 \LWR@traceinfo{\LWR@HTML@InlineClass: FormatWP}}%  
 6545 \LWR@htmlspanclass[#1]{#3}{#4}}%  
 6546 }{  
 6547 \LWR@traceinfo{\LWR@HTML@InlineClass: not FormatWP}}%  
 6548 \LWR@htmlspanclass[#2]{#3}{#4}}%  
 6549 }%  
 6550 \LWR@traceinfo{\LWR@HTML@InlineClass: done}}%  
 6551 }  
 6552  
 6553 \LWR@formatted{InlineClass}  
 6554 \end{warpHTML}

Env LWR@BlockClassWP {{WPstyle}} {{HTMLstyle}} ((aria role)) {*class*} Low-level interface for <div> classes with an automatic float ID. These are often used when \ifbool{FormatWP}.

The use of \textquotedbl instead of " provides improved compatibility with xeCJK.

**for HTML & PRINT:** 6555 \begin{warpall}  
 6556 \NewDocumentEnvironment{\LWR@BlockClassWP}{m m D(){}}{m}{  
 6557 \end{warpall}}

**for HTML output:** 6558 \begin{warpHTML}  
 6559 \NewDocumentEnvironment{\LWR@HTML@LWR@BlockClassWP}{m m D(){}}{m}{%  
 6560 {  
 6561 \LWR@stoppars%  
 6562 \ifbool{FormatWP}{%  
 6563 {  
 6564 \addtocounter{\LWR@thisautoidWP}{1}}%  
 6565 }%  
 6566 }%  
 6567 }%  
 6568 }

```

6565          \LWR@htmltag{%
6566              div class=\textquotedbl#4\textquotedbl\ % space
6567              id=\textquotedbl%
6568                  \LWR@print@mbox{autoidWP-\arabic{LWR@thisautoidWP}}%
6569                  \textquotedbl%
6570                      \ifblank{#3}{}{ role=\textquotedbl#3\textquotedbl}%
6571                      \ifblank{#1}{}{ style=\textquotedbl#1\textquotedbl}%
6572                          }%
6573          }% FormatWP
6574      {%
6575          \LWR@htmltag{%
6576              div class=\textquotedbl#4\textquotedbl%
6577                  \ifblank{#3}{}{ role=\textquotedbl#3\textquotedbl}%
6578                  \ifblank{#2}{}{ style=\textquotedbl#2\textquotedbl}%
6579                      }%
6580          }% not FormatWP
6581          \LWR@startpars%
6582      }
6583  {\LWR@htmldivclassend{#4}}
6584
6585 \LWR@formattedenv{\LWR@BlockClassWP}
6586 \end{warpHTML}

```

## 52.11 Closing HTML tags

**for HTML output:** 6587 \begin{warpHTML}

Sections H1, H2, etc. do not need a closing HTML tag, but we add a comment for readability:

```

6588 \newcommand*{\LWR@printclosebook}
6589     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing book}}{}}
6590 \newcommand*{\LWR@printclosepart}
6591     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing part}}{}}
6592 \newcommand*{\LWR@printclosechapter}
6593     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing chapter}}{}}
6594 \newcommand*{\LWR@printclosesection}
6595     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing section}}{}}
6596 \newcommand*{\LWR@printclosesubsection}
6597     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsection}}{}}
6598 \newcommand*{\LWR@printclosesubsubsection}
6599     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsubsection}}{}}
6600 \newcommand*{\LWR@printcloseparagraph}
6601     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing paragraph}}{}}
6602 \newcommand*{\LWR@printclosesubparagraph}
6603     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subparagraph}}{}}

```

Lists require closing HTML tags:

```

6604 \newcommand*{\LWR@printcloselistitem}
6605     {\LWR@htmltag{/li}}
6606 \newcommand*{\LWR@printclosedescitem}
6607     {\LWR@htmltag{/dd}}
6608 \newcommand*{\LWR@printcloseitemize}
6609     {\LWR@htmltag{/ul}}
6610 \newcommand*{\LWR@printcloseenumerate}
6611     {\LWR@htmltag{/ol}}
6612 \newcommand*{\LWR@printclosedescription}

```

---

```
6613 {\LWR@htmltag{/dl}}
```

```
6614 \end{warpHTML}
```

## 53 Paragraph handling

These commands generate the HTML paragraph tags when allowed and required.

Paragraph tags are or are not allowed depending on many conditions. Section 54 has high-level commands which allow paragraph-tag generation to start/stop. Even when allowed (`LWR@doingstartpars`), tags are not generated until a L<sup>A</sup>T<sub>E</sub>X paragraph is being used (`LWR@doingapar`). `LWR@lateximagedepth` is used to prevent nesting tags inside a `lateximage`. `LWR@spandepth` is used to prevent nesting paragraph tags inside a paragraph, which became important inside `\fbox` commands and other spans.

The L<sup>A</sup>T<sub>E</sub>X paragraph hooks are used to manage tag creation.

**for HTML output:** `6615 \begin{warpHTML}`

`Ctr LWR@spandepth`

Do not create paragraph tags inside of an HTML span.

```
6616 \newcounter{LWR@spandepth}
6617 \setcounter{LWR@spandepth}{0}
```

`Bool LWR@doingparhooks`

Tells whether the `l warp` paragraph hooks are to be active.

```
6618 \newbool{LWR@doingparhooks}
6619 \boolfalse{LWR@doingparhooks}
```

`Bool LWR@in@multirow@par`

Tells whether to generate break instead of paragraph tags inside a `\multirow`.

```
6620 \newbool{LWR@in@multirow@par}
6621 \boolfalse{LWR@in@multirow@par}
```

`Bool LWR@starting@fancybox`

Suppresses `<br>` if beginning a `fancybox` environment.

```
6622 \newbool{LWR@starting@fancybox}
6623 \boolfalse{LWR@starting@fancybox}
```

`Bool LWR@doingstartpars`

Tells whether paragraphs may be generated.

```
6624 \newbool{LWR@doingstartpars}
6625 \boolfalse{LWR@doingstartpars}
```

`Bool LWR@doingapar`

Tells whether have actually generated and are currently processing paragraph text.

```
6626 \newbool{LWR@doingapar}
6627 \global\boolfalse{LWR@doingapar}
```

`Bool LWR@algocf@dopars`

Tells whether `algorithm2e` has patched paragraph handling using `\everypar`. If so, the open paragraph tags are generated by `algorithm2e`'s `\algocf@everypar` instead of `\LWR@openparagraph`.

```
6628 \newbool{LWR@algocf@dopars}
6629 \boolfalse{LWR@algocf@dopars}
```

\PN@parnotes@auto Redefined by **parnotes** to print paragraph notes at the end of each paragraph.

```
6630 \def\PN@parnotes@auto{}%
```

\LWR@ensuredoingapar These were different in older versions of **l warp**, but are now the same thing.

\LWR@openparagraph

```
6631 \newcommand*\LWR@openparagraph{%
6632 {%
```

See if paragraph handling is enabled:

```
6633 \ifboolexpr{%
6634     bool{\LWR@doingparhooks} and
6635     bool{\LWR@doingstartpars}%
6636 }%
6637 {% handling pars
```

See if have already started a `lateximage` or a `<span>`. If so, do not generate nested paragraph tags.

```
6638 \ifboolexpr{%
6639     test {\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}} or
6640     test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}}%
6641 }% 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>`.

```
6642 {}% no nested par tags
```

Else: No `lateximage` or `<span>` has been started yet, so it's OK to generate paragraph tags.

```
6643 {% yes nest par tags
6644 \ifbool{\LWR@doingapar}{}{%
```

If **parnotes** is used, paragraph notes are inserted before starting the next paragraph:

```
6645 \PN@parnotes@auto%
```

Set flag before creating the tag, so that the tag itself does not trigger a new paragraph:

```
6646 \global\booltrue{\LWR@doingapar}%
```

The opening paragraph tag. Do not create tag if doing `algorithm2e` handling instead:

```
6647 \ifbool{\LWR@algocf@dopars}{}{%
6648     \ifbool{\LWR@in@mulirow@par}{}{%
6649         {}%
6650         {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
6651     }%
6652 }%
6653 }% end of yes nest par tags
```

```

6654      }% end of handling pars
6655      {}% not handling pars
6656 }
6657
6658 \let\LWR@ensuredoingapar\LWR@openparagraph

```

\LWR@closeparagraph@br Add an HTML break if in a span, and not in a lateximage, and not in tabular metadata. Factored from \LWR@closeparagraph.

```

6659 \newcommand*\LWR@closeparagraph@br{%
6660 {%
6661     \ifboolexpr{%
6662         test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}} and
6663         test {\ifnumcomp{\value{\LWR@lateximagedepth}}{=}{0}} and
6664         not bool {\LWR@starting@fancybox} and
6665         not bool {\LWR@intabularmetadata} or
6666         bool {\LWR@in@multirow@par}%
6667     }%
6668     {\unskip\LWR@htmltagc{br /}}%
6669   }%
6670 }

```

\LWR@closeparagraph

```

6671 \newcommand*\LWR@closeparagraph{%
6672 {%
6673 % \LWR@traceinfo{\LWR@closeparagraph}%

```

See if paragraph handling is enabled:

```

6674     \ifbool{\LWR@doingparhooks}{%
6675         \ifbool{\LWR@doingapar}{%

```

If currently in paragraph mode:

```

6676         {}% handling pars

```

See if already started a lateximage or a <span>:

```

6677         \ifboolexpr{%
6678             test {\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}} or
6679             test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}} or
6680             bool{\LWR@in@multirow@par}%
6681         }%

```

Add a parbreak if in a span, not in a lateximage, and not in table metadata.

```

6682         {}% no nested par tags
6683             \LWR@closeparagraph@br%
6684         }% no nested par tags

```

If have not already started a lateximage or a <span>:

```

6685         {}% yes nest par tags

```

Print a closing tag.

(The fill seems to be required to force the caption package to create flush left caption text in the HTML.)

```
6686          \@hspacer{\fill}\% \hspace*\{\fill\}
6687          \leavevmode\LWR@orignewline%
6688          \LWR@htmltagc{/}\LWR@tagregularparagraph\%
```

No longer doing a paragraph:

```
6689          \global\boolfalse{LWR@doingapar}\%
```

Disable the special `minipage` & `\hspace` interaction until a new minipage is found:

```
6690          \global\boolfalse{LWR@minipagethispar}\%
```

If `parnotes` is used, paragraph notes are inserted after ending the previous paragraph:

```
6691          \PN@parnotes@auto\%
```

```
6692          }% end of yes nest par tags
6693          }% LWR@doingapar: end of handling pars
```

Add a `parbreak` if in a span, not in a `lateximage`, and not in table metadata.

```
6694          { \% not LWR@doingapar: not handling pars
6695          \LWR@closeparagraph@br\%
6696          } \% not handling pars
```

In most cases, finish with a L<sup>A</sup>T<sub>E</sub>X `\par`, but in the case of paragraphs between lines in a tabular fetch the next token instead. Required for `\multicolumn`.

```
6697          \ifboolexpr{%
6698              not bool {LWR@doingapar} and
6699              test {\ifnumcomp{\value{LWR@tabulardepth}}{>}{0}} and
6700              test {
6701                  \ifnumcomp{\value{LWR@tabulardepth}}{=}{\value{LWR@tabularpardepth}}
6702                  } and
6703                  bool {LWR@intabularmetadata} and
6704                  not bool {LWR@tableparcell} and
6705                  test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}}
6706              }%
6707              {\LWR@getmynexttoken}\%
6708              \}%
6709          }% LWR@doingparhooks
6710          \} \% not LWR@doingparhooks
6711 % Do not place anything here, due to the above \LWR@getmynexttoken.
6712 }
```

### 53.1 Paragraph Hooks

Hook [LaTeX] para/begin

```
6713 \AddToHook{para/begin}[l warp]{\LWR@openparagraph}
```

Hook [LaTeX] para/end

```
6714 \AddToHook{para/end}{\l warp}{\LWR@closeparagraph}
6715 \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 L<sup>A</sup>T<sub>E</sub>X paragraph hooks are used to generate the opening and closing paragraph tags.

**for HTML output:** 6716 \begin{warpHTML}

\LWR@startpars Begin handling HTML paragraphs. This allows an HTML paragraph to start, but one has not yet begun.

```
6717 \newcommand*{\LWR@startpars}%
6718 {%
```

Ignore if inside a `lateximage` or `<span>`:

```
6719 \ifboolexpr{%
6720   test {\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}} or
6721   test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}}%
6722 }%
6723 {}% nesting
6724 {}% not nesting
```

The L<sup>A</sup>T<sub>E</sub>X paragraph hook controls tag generation for the start and end of paragraphs.

See if currently handling HTML paragraphs:

```
6725 \ifboolexpr{bool{\LWR@doingparhooks} and bool{\LWR@doingstartpars}}%
```

If already in paragraph mode, do nothing.

```
6726 {}%
```

If not currently in paragraph mode:

```
6727 {\par}%
```

Are now handling paragraphs, but have not yet actually started one:

```
6728 \global\booltrue{\LWR@doingstartpars}%
```

No `<par>` tag yet to undo:

```
6729 \global\boolfalse{\LWR@doingapar}%
6730 }% not nesting
6731 }
```

\LWR@stopars Stop handling HTML paragraphs. Any currently open HTML paragraph is closed, and no more will be opened.

```
6732 \newcommand*\LWR@stopars{%
6733 {%
```

Ignore if inside a `lateximage` or `<span>`:

```
6734 \ifboolexpr{%
6735   test {\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}} or
6736   test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}}%
6737 }%
6738   {}% nesting
6739   {}% not nesting
```

See if currently handling HTML paragraphs:

```
6740 \ifboolexpr{bool{\LWR@doingparhooks} and bool{\LWR@doingapar}}{%
```

if currently in an HTML paragraph:

```
6741 {%
```

Print a closing tag:

```
6742 \leavevemode\LWR@orignewline%
6743 \LWR@htmltagc{/LWR@tagregularparagraph}%
6744 \LWR@orignewline%
```

No longer have an open HTML paragraph:

```
6745 \global\boolfalse{\LWR@doingapar}{}
```

Disable the special `minipage` & `\hspace` interaction until a new `minipage` is found:

```
6746 \global\boolfalse{\LWR@minipagethispar}{%
6747 }%
```

If was not in an HTML paragraph:

```
6748 {}%
```

No longer in paragraph mode:

```
6749 \global\setbool{\LWR@doingstartpars}{false}{}
```

No `<p>` tag to undo:

```
6750 \global\boolfalse{\LWR@doingapar}{%
6751 }% not nesting
6752 }%
```

```
6753 \end{warpHTML}
```

## 55 Indentfirst

Pkg indentfirst  
indentfirst redefines \@afterindentfalse to be \@afterindenttrue. This is reversed \AtBeginDocument here.

for HTML output: 6754 \begin{warpHTML}  
  
6755 \AtBeginDocument{  
6756 \def \@afterindentfalse{\let\if@afterindent\iffalse}  
6757 \@afterindentfalse  
6758 }  
6759 \let\LWR@afterindent@syntaxhighlight\fi% syntax highlighting  
  
6760 \end{warpHTML}

## 56 Page headers and footers

for HTML & PRINT: 6761 \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.

6762 \newcommand{\LWR@firstpagetop}{} % for the home page alone  
6763 \newcommand{\LWR@firstpagebottom}{} % for the home page alone  
6764 \newcommand{\LWR@pagetop}{} % for all other pages  
6765 \newcommand{\LWR@pagebottom}{}  
  
\HTMLFirstPageTop {\textit{<text and logos>}}

6766 \newcommand{\HTMLFirstPageTop}[1]{%  
6767 \renewcommand{\LWR@firstpagetop}{#1}%  
6768 }

\HTMLFirstPageBottom {\textit{<text and logos>}}

6769 \newcommand{\HTMLFirstPageBottom}[1]{%  
6770 \renewcommand{\LWR@firstpagebottom}{#1}%  
6771 }

\HTMLPageTop {\textit{<text and logos>}}

6772 \newcommand{\HTMLPageTop}[1]{%  
6773 \renewcommand{\LWR@pagetop}{#1}%  
6774 }

\HTMLPageBottom {\textit{<text and logos>}}

6775 \newcommand{\HTMLPageBottom}[1]{%  
6776 \renewcommand{\LWR@pagebottom}{#1}%  
6777 }

6778 \end{warpall}

## 57 CSS

**for HTML output:** 6779 `\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.

6780 `\newcommand*{\LWR@currentcss}{lwarf.css}`

`\CSSFilename {<new-css-filename.css>}` Assigns the css file to be used by the following HTML pages.

```
6781 \newcommand*{\CSSFilename}[1]{%
6782     \renewcommand*{\LWR@currentcss}{#1}%
6783     \@onelvel@sanitize\LWR@currentcss%
6784 }
6785
6786 \end{warpHTML}
```

**for PRINT output:** 6787 `\begin{warpprint}`  
 6788 `\newcommand*{\CSSFilename}[1]{}{}`  
 6789 `\end{warpprint}`

## 58 MATHJAX script

**for HTML output:** 6790 `\begin{warpHTML}`

Default: `lwarf_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.

6791 `\newcommand*{\LWR@mathjaxfilename}{lwarf_mathjax.txt}`

`\MathJaxFilename {<filename>}` Assigns the MATHJAX script file to be used by the following HTML pages.

```
6792 \newcommand*{\MathJaxFilename}[1]{%
6793     \renewcommand*{\LWR@mathjaxfilename}{#1}%
6794     \@onelvel@sanitize\LWR@mathjaxfilename%
6795 }
6796
6797 \end{warpHTML}
```

**for PRINT output:** 6798 `\begin{warpprint}`  
 6799 `\newcommand*{\MathJaxFilename}[1]{}{}`  
 6800 `\end{warpprint}`

## 59 Title, HTML meta author, HTML meta description

**for HTML output:** 6801 \begin{warpHTML}

```
\title {\langle title\rangle} Modified to remember \thetitle, which is used to set the HTML page
titles.

6802 \let\LWR@origtitle\title
6803
6804 \renewcommand*\title[1]{%
6805     \LWR@origtitle{\#1}%
6806     \begingroup%
6807         \renewcommand{\thanks}[1]{%
6808             \protected@xdef\thetitle{\#1}%
6809         \endgroup%
6810     }%
6811 \end{warpHTML}
```

**for HTML & PRINT:** 6812 \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.

```
6813 \providecommand{\thetitle}{\BaseJobname}
6814
6815 \newcommand{\theHTMLTitle}{\thetitle}
6816
6817 \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.

```
6818 \providecommand{\theauthor}{}
6819
6820 \newcommand{\theHTMLAuthor}{\theauthor}
6821
6822 \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 {\langle New html meta description.\rangle} Assigns the HTML file's description meta tag.

```
6823 \newcommand{\LWR@currentHTMLDescription}{}
6824
6825 \newcommand{\HTMLDescription}[1]{%
6826     \renewcommand{\LWR@currentHTMLDescription}{#1}%
6827 }
6828
6829 \end{warpall}
```

## 60 Footnotes

`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{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** **⚠ memoir** 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:** 6830 `\begin{warpall}`

**Ctr** `FootnoteDepth`      Determines how deeply to place footnotes in the HTML files, similar to `tocdepth`.  
**Default:** 3      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.

```
6831 \newcounter{FootnoteDepth}
6832 \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.)

```
6833 \newcounter{footnoteReset}
6834 \setcounter{footnoteReset}{0}
```

```
6835 \end{warpall}
```

**for HTML output:** 6836 `\begin{warpHTML}`

Required for footnotes inside `description` or `amstheorem` square braces:

```
6837 \AtBeginDocument{
6838 \robustify{\footnote}}
```

---

```
6839 \robustify{\footnotemark}
6840 }
```

\LWR@footnotebox Patch L<sup>A</sup>T<sub>E</sub>X footnotes to use a new \box instead of an insert for l warp footnotes. This avoids having the original \footins appear at the bottom of a lateximage, which is on its own new page.

```
6841 \newbox\LWR@footnotebox
```

Bool LWR@spewingnotes Used with the footnote package to suppress paragraph tags before and after \spewnotes.

```
6842 \newbool{LWR@spewingnotes}%
% For the footnote package.
```

Much of the following has unneeded print-mode formatting removed.

```
\@makefntext {<text>}
```

```
6843 \long\def\@makefntext#1{\textsuperscript{\@thefnmark}{#1}}
```

```
\@makefnmark
```

```
6844 \def\@makefnmark{%
6845   \textsuperscript{\@thefnmark}%
6846 }
```

Footnotes may be in regular text, in which case paragraphs are tagged, or in a table data cell or lateximage, in which case paragraph tags must be added manually.

In a lateximage during HTML output, the lateximage is placed inside a print-mode minipage, but the footnotes are broken out by:

```
\def\@mpfn{footnote}
\def\thempfn{\thefootnote}
\let\@footnotetext\LWR@footnotetext
```

```
\LWR@@footnotetext {<text>} {<footnote box name>}
```

Factored to allow multiple footnote boxes for manyfoot.

```
6847 \long\def\LWR@@footnotetext#1#2{%
6848 \LWR@traceinfo{LWR@footnotetext}%
}
```

Perhaps generate an autopage in the text to link a citation backreference closer to its usage.

```
6849 \LWR@newautopagelabel{page}%
6850 \LWR@ensuredoingapar%
```

Locally disable auto page labels inside the footnote text. Footnotes are accumulated in the current page before finally being placed in a potentially later page, so the autopages would be incorrect.

```
6851 \begingroup%
6852 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
```

Take the existing footnote box and add the new content:

```
6853 \global\setbox\csname #2\endcsname=\vbox{%
6854     \unvbox\csname #2\endcsname%
```

Remember the footnote number for \ref:

```
6855     \protected@edef\@currentlabel{%
6856         \csname p@footnote\endcsname\@thefnmark%
6857     }% \@currentlabel
```

Open a group:

```
6858     \color@begingroup%
```

Disable CJK xpinyin while generating footnotes.

```
6859     \LWR@disablepinyin%
```

Use HTML superscripts in the footnote even when the main text is inside a `\textrimage`, because the footnote will be in HTML:

```
6860     \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a `\textrimage`:

```
6861     \ifbool{\LWR@spewingnotes}{}{%
6862         \LWR@htmllagc{\LWR@tagregularparagraph}\LWR@orignewline%
6863     }%
```

Append the footnote to the list:

```
6864     \@makefntext{#1}%
```

Closing paragraph tag:

```
6865     \ifbool{\LWR@spewingnotes}{}{%
6866         \LWR@origtilde\LWR@orignewline%
6867         \LWR@htmllagc{/}\LWR@tagregularparagraph}%
6868         \LWR@orignewline%
6869     }%
```

Close the group:

```
6870     \color@endgroup%
6871 }% vbox
6872 \endgroup%
6873 }%
```

```
\LWR@footnotetext {<text>}
```

```
6874 \long\def\LWR@footnotetext#1{\LWR@@footnotetext{#1}{\LWR@footnotebox}}%
```

```
\@footnotetext {<text>}
```

```
6875 \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 l warp minipage footnotes. This avoids having the original \c@mpfootins appear at the bottom of a lateximage, which is on its own new page.

```
6876 \newbox\LWR@mpfootnotes

\c@mpfootnotetext {<text>}

6877 \long\def\c@mpfootnotetext#1{%
6878 \LWR@traceinfo{\c@mpfootnotetext}%
6879 \LWR@ensuredoingapar%
6880 \global\setbox\LWR@mpfootnotes\vbox{%
6881   \unvbox\LWR@mpfootnotes%
6882   \reset@font\footnotesize%
6883   \hsize\columnwidth%
6884   \parboxrestore%
6885   \protected@edef\@currentlabel{%
6886     \csname p@mpfootnote\endcsname\@thefnmark}%
6887   \color@begingroup%
```

Add paragraph tag:

```
6888 \LWR@htmlltagc{\LWR@tagregularparagraph}\LWR@orignewline%

6889 \c@makefntext{%
6890   \ignorespaces#1%
6891 }%
```

Add the closing paragraph tag:

```
6892 \leavevmode\LWR@orignewline%
6893 \LWR@htmlltagc{/}\LWR@tagregularparagraph)%

6894 \color@endgroup%
6895 }% vbox
```

Paragraph handling:

```
6896 \LWR@ensuredoingapar%
6897 \LWR@traceinfo{\c@mpfootnotetext: done}%
6898 }
```

\thempfootnote Redefined to remove the \itshape, which caused an obscure compiling error in some situations.

```
6899 \AtBeginDocument{%
6900   \def\thempfootnote{\alph\c@mpfootnote}%
6901 }
```

## 60.6 Printing pending footnotes

```
\LWR@@printpendingfootnotes {<footnote counter name>}
```

```

6902 \newcommand*{\LWR@printpendingfootnotes}[1]{%
6903 \expandafter\ifvoid\csname LWR@#1box\endcsname\else
6904     \LWR@forcenewpage
6905     \begin{BlockClass}{note}{footnotes}%

```

Create a new autopage in case citation back references occur inside the footnotes:

```

6906     \LWR@newautopagelabel{page}%

6907     \null
6908     \unvbox\csuse{\LWR@#1box}
6909     \setbox\csuse{\LWR@#1box}=\vbox{%
6910     \end{BlockClass}
6911     \ifltxcounter{\#1Reset}{%
6912         \ifnumgreater{\value{\#1Reset}}{0}{%
6913             \setcounter{\#1}{\value{\#1Reset}}%
6914             \addtocounter{\#1}{-1}%
6915         }{}%
6916     }{}%
6917 \fi
6918 }

```

\LWR@printpendingfootnotes Enclose the footnotes in a class, print, then clear. For `manynotes`, new footnotes may be added via `\appto`.

```

6919 \newcommand*{\LWR@printpendingfootnotes}{%
6920     \LWR@printpendingfootnotes{footnote}%
6921 }

```

LWR@maybeprintpendingfootnotes  $\{\langle depth \rangle\}$  Used to print footnotes before sections only if formatting for an EPUB or word processor:

```

6922 \newcommand*{\LWR@maybeprintpendingfootnotes}[1]{%
6923 \ifboolexpr{%
6924     not test{\ifnumcomp{\#1}{>}{\value{FootnoteDepth}}} or
6925     bool{FormatEPUB} or
6926     bool{FormatWP}
6927 }%
6928 {\LWR@printpendingfootnotes}%
6929 {}%
6930 }

```

\LWR@printpendingmpfootnotes Enclose the minipage footnotes in a class, print, then clear.

```

6931 \newcommand*{\LWR@printpendingmpfootnotes}{%
6932 \ifvoid\LWR@mpfootnotes\else
6933     \LWR@forcenewpage
6934     \begin{BlockClass}{note}{footnotes}%
6935     \null
6936     \unvbox\LWR@mpfootnotes
6937     \setbox\LWR@mpfootnotes=\vbox{%
6938     \end{BlockClass}
6939 \fi
6940 }

```

\LWR@nullifyfootnotes Cancels footnotes, such as inside an HTML comment or a `\nameref`.

```

6941 \newcommand*{\LWR@nullifyfootnotes}{%
6942     \renewcommand{\footnote}[2][]{}%
6943     \renewcommand{\footnotemark}[1][]{}%
6944 }

6945 \end{warpHTML}

```

## 61 Marginpars

\marginpar [⟨left⟩] {⟨right⟩} \marginpar may contains paragraphs, but in order to remain inline with the surrounding text l 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:** 6946 \begin{warpHTML}

```

\marginpar [⟨left⟩] {⟨right⟩}

6947 \renewcommand{\marginpar}[2][]{%
6948 \ifbool{FormatWP}{%
6949 {%
6950     \begin{LWR@BlockClassWP}{%
6951         {width:2in; float:right; margin:10pt}{}(note){marginblock}{%
6952             #2%
6953         }%
6954     }%
6955 {%
6956     \LWR@htmlspanclass(note){marginpar}{#2}%
6957 }%
6958 }

```

\marginparBlock [⟨left⟩] {⟨right⟩}

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

HTML version.

```

6959 \newcommand{\marginparBlock}[2][]{%
6960     \LWR@stoppars%
6961     \ifbool{FormatWP}{%
6962     {%
6963         \begin{LWR@BlockClassWP}{%
6964             {width:2in; float:right; margin:10pt}{}%
6965             (note){marginblock}{%
6966                 #2%
6967             }%
6968     }%
6969     {%
6970         \begin{BlockClass}{width:2in; float:right; margin:10pt}{}%
6971             (note){marginparblock}{%
6972                 #2%

```

```

6973      \end{BlockClass}
6974  }%
6975  \LWR@startpars%
6976 }

\reversemarginpar
6977 \renewcommand*{\reversemarginpar}{}  


```

```

\normalmarginpar
6978 \renewcommand*{\normalmarginpar}{}  

6979 \end{warpHTML}

```

**for PRINT output:** 6980 \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.

```

6981 \LetLtxMacro\marginparBlock\marginpar
6982 \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.

```

6983 \newcounter{LWR@currentautosecpage}
6984 \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.

```
6985 \newcounter{LWR@currentautosecfloatpage}
6986 \setcounter{LWR@currentautosecfloatpage}{1}
```

Ctr  
LWR@previousautopagelabel Remembers which autopage label was most recently generated. Used to avoid duplicates.

```
6987 \newcounter{LWR@previousautopagelabel}
6988 \setcounter{LWR@previousautopagelabel}{-1}
```

\LWR@newautopagelabel {*(pagenumber counter)*}

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
6989 \newcommand*{\LWR@newautopagelabel}[1]{%
```

No action if this autopage label has already been defined:

```
6990 \ifnumequal{\value{LWR@previousautopagelabel}}{\value{page}}%
6991     {}%
```

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.

```
6992     {}
6993         \label{\BaseJobname-autopage-\csuse{the#1}}%
```

If there are intervening pages, such as an SVG image, define another label for the new page:

```
6994         \ifnumequal{\value{#1}}{\value{page}}%
6995             {}%
6996             {\label{\BaseJobname-autopage-\csuse{thepage}}}%
```

Remember the latest autopage label:

```
6997             \setcounter{LWR@previousautopagelabel}{\value{page}}%
6998             {}%
6999 }
```

\LWR@null@newautopagelabel {*(pagenumber counter)*}

Inside a footnote, the page numbers will be incorrect, so this is nullified.

```
7000 \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:** 7001 `\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.

```
7002 \newcounter{FileDepth}
7003 \setcounter{FileDepth}{-5}
```

**Bool** `CombineHigherDepths` Comile higher-level sections together into one file?

```
7004 \newbool{CombineHigherDepths}
7005 \booltrue{CombineHigherDepths}
```

`\FilenameLimit` Maximum length of the generated filenames.

```
7006 \newcommand*{\FilenameLimit}{80}
7007 \end{warpall}
```

**for HTML output:** 7008 `\begin{warpHTML}`

`\LWR@thisfilename` The currently-active filename or number. At first, this is the homepage.

```
7009 \AtBeginDocument{
7010 \ifbool{FileSectionNames}%
7011   {\newcommand*{\LWR@thisfilename}{\HomeHTMLFilename}}
7012   {\newcommand*{\LWR@thisfilename}{\emptyset}}
7013 }
```

`\LWR@thisnewfilename` The filename being sanitized.

```
7014 \newcommand*{\LWR@thisnewfilename}{}%
```

`\LWR@simplifname * {<expression>}` Simplify `\LWR@thisnewfilename`.

If starred, detokenizes the input expression. If found, changes the expression to a single detokenized dash.

```
7015 \NewDocumentCommand{\LWR@simplifname}{s m}{%
7016 \IfBooleanTF{#1}{%
7017   \StrSubstitute{\LWR@thisnewfilename}{%
7018     {\detokenize{#2}}}{%
7019     {\detokenize{-}}[\LWR@thisnewfilename]}%
7020 }{%
7021   \StrSubstitute{\LWR@thisnewfilename}{%
```

```
7022     {#2}%
7023     {\detokenize{-}}[\LWR@thisnewfilename]%
7024 }
7025 }
```

\LWR@simplifystyle User-defined filename simplifications. Redefine with \newcommand.

7026 \newcommand\*\LWR@simplifycustom{}

\* {*phrase*} Assign a user-defined filename simplification. Appends to \LWR@simplifycustom.

```
7027 \NewDocumentCommand{\FilenameSimplify}{s m}{%
7028 \IfBooleanTF{#1}{%
7029     \appto{\LWR@simplifycustom}{%
7030         \LWR@simplifyname*{#2}}%
7031     }%
7032 }{%
7033     \appto{\LWR@simplifycustom}{%
7034         \LWR@simplifyname{#2}}%
7035     }%
7036 }%
7037 }
```

\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.

\LWR@filenamenoblanks {*filename*}

Convert blanks into dashes, removes short words, store result in \\LWR@thisfilename.

Also see \LWR@nullfonts for nullified macros.

```
7051 \newcommand*{\LWR@filenamenoblanks}[1]{%
7052 \begingroup
```

Locally temporarily disable direct-formatting commands, not used in filenames:

```
7053 \LWR@nullfonts%
7054 \renewcommand*{\LWR@htmltagc}[1]{%  
7055 \edef\LWR@thisnewfilename{\#1}%
```

Replaces common macros with hyphens. (\& is done by \LWR@nullfonts.)

```

7056 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{}%
7057 \LWR@simplifyname{\_}
7058 \LWR@simplifyname{\#}
7059 \LWR@simplifyname{\textbackslash}
7060 \LWR@simplifyname{\protect}
7061 \LWR@simplifyname{\ }
7062 \LWR@simplifyname{\textless}
7063 \LWR@simplifyname{\textgreater}

7064 \edef\LWR@thisnewfilename{\detokenize\expandafter{\LWR@thisnewfilename}}%

```

Warn if there is dollar math in the section name:

```

7065 \ifbool{FileSectionNames}{%
7066     \IfSubStr{\LWR@thisnewfilename}{\LWRdollar}{%
7067         \PackageWarning{lwarf}
7068     }%
7069     This section name:\MessageBreak
7070     \space\space‘‘\detokenize\expandafter{\#1}’’\MessageBreak
7071     at the line number listed below.\MessageBreak
7072     is using $dollar-delimited math$,
7073     which generates\MessageBreak
7074     complicated file names. It is better to use\MessageBreak
7075     \space\space%
7076     \protect\section{Name with \protect\left( parenthesis math\protect\right)}%
7077     \MessageBreak
7078     The math then will be removed from the file name.\MessageBreak
7079     \MessageBreak
7080     \LWR@avoiddupfilenames%
7081     \MessageBreak
7082     This section is found before or%
7083 }
7084 }{%
7085 }{%
7086 \LWR@traceinfo{\LWR@filenamenoblanks \edef: !\LWR@thisnewfilename!}%
7087 \fullexpandarg%

```

Convert spaces into hyphens:

```
7088 \LWR@simplifyname*{ }
```

Convert punctuation into hyphens:

```

7089 \LWR@simplifyname*{*}
7090 \LWR@simplifyname*{()}
7091 \LWR@simplifyname*{}}
7092 \LWR@simplifyname*{.}
7093 \LWR@simplifyname*{!}
7094 \LWR@simplifyname*{,}
7095 \LWR@simplifyname*{'}
7096 \LWR@simplifyname*{+}
7097 \LWR@simplifyname*{/}
7098 \LWR@simplifyname*{:}
7099 \LWR@simplifyname*{;}
7100 \LWR@simplifyname*{=}
```

```

7101 \LWR@simplifyname*{?}
7102 \LWR@simplifyname*{@}
7103 \LWR@simplifyname*{^}
7104 \LWR@simplifyname*{&}
7105 \LWR@simplifyname*{"}
7106 \LWR@simplifyname*{<}
7107 \LWR@simplifyname*{>}

7108 \LWR@simplifyname{\LWRbackslash}

```

Braces are removed entirely to avoid extra dashes in the result.

```

7109 \StrSubstitute{\LWR@thisnewfilename}%
7110     {\LWRleftbrace}{}[\LWR@thisnewfilename]%
7111 \StrSubstitute{\LWR@thisnewfilename}%
7112     {\LWRrightbrace}{}[\LWR@thisnewfilename]%

7113 \LWR@simplifyname{\LWRpercent}
7114 \LWR@simplifyname{\LWRdollar}

7115 \LWR@simplifyname{|}
7116 \LWR@simplifyname{^}
7117 \LWR@simplifyname{~}
7118 \LWR@simplifyname{[}
7119 \LWR@simplifyname{]}
7120 \LWR@simplifyname{'}

```

Convert short words:

```

7121 \LWR@simplifyname{-s-}
7122 \LWR@simplifyname{-S-}
7123 \LWR@simplifyname{-a-}
7124 \LWR@simplifyname{-A-}
7125 \LWR@simplifyname{-an-}
7126 \LWR@simplifyname{-AN-}
7127 \LWR@simplifyname{-to-}
7128 \LWR@simplifyname{-TO-}
7129 \LWR@simplifyname{-by-}
7130 \LWR@simplifyname{-BY-}
7131 \LWR@simplifyname{-of-}
7132 \LWR@simplifyname{-OF-}
7133 \LWR@simplifyname{-and-}
7134 \LWR@simplifyname{-AND-}
7135 \LWR@simplifyname{-for-}
7136 \LWR@simplifyname{-FOR-}
7137 \LWR@simplifyname{-the-}
7138 \LWR@simplifyname{-THE-}

```

Convert custom words:

```
7139 \LWR@simplifycustom%
```

If PDF L<sup>A</sup>T<sub>E</sub>X and not utf8 encoding, don't try to convert emdash, endash:

```

7140 \ifPDFTeX% pdflatex or dvi latex
7141 \ifdefstring{\inputencodingname}{utf8}{%
7142     \LWR@simplifyname{-}}

```

```

7143 %      emdash
7144      \LWR@simplifyname*{-}
7145 %      endash
7146 }{}%
7147 \else% not PDFTeX
7148      \LWR@simplifyname*{-}
7149      \LWR@simplifyname*{-}
7150 \fi%

```

Convert multiple hyphens:

```

7151 \LWR@simplifyname*{----}
7152 \LWR@simplifyname*{---}
7153 \LWR@simplifyname*{--}
7154 \LWR@simplifyname*{--}

```

If starts with a dash, remove the leading dash:

```

7155 \IfBeginWith{\LWR@thisfilename}{\detokenize{-}}{%
7156   \StrGobbleLeft{\LWR@thisfilename}{1}[\LWR@thisfilename]%
7157 }{}%

```

If ends with a dash, remove the trailing dash:

```

7158 \IfEndWith{\LWR@thisfilename}{\detokenize{-}}{%
7159   \StrGobbleRight{\LWR@thisfilename}{1}[\LWR@thisfilename]%
7160 }{}%

```

Limits the length of the filename:

```
7161 \StrLeft{\LWR@thisfilename}{\FilenameLimit}[\LWR@thisfilename]%
```

Return the global result:

```

7162 \global\let\LWR@thisfilename\LWR@thisfilename%
7163 \endgroup%
7164 \LWR@traceinfo{\LWR@filenamenoblanks: result is \LWR@thisfilename}%
7165 }

```

### 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 {\langle search\rangle} {\langle replace\rangle}
```

Replaces strings inside `\tmpb`.

Modified from the original, by PETR OLSAK, from the `opmac` package.

```

7166 \bgroup
7167 \catcode`!=3 \catcode`?=3
7168
7169 \long\gdef\LWR@replacestrings@addto#1#2{%
7170   \expandafter\def\expandafter#1\expandafter{#1#2}%

```

```

7171 }
7172
7173 \gdef\LWR@replacesstrings#1#2{%
7174   \long\def\LWR@replacesstringsA##1{\def\tmpb{##1}\LWR@replacesstringsB}%
7175   \long\def\LWR@replacesstringsB##1{%
7176     \ifx!##1\relax \else\LWR@replacesstrings@addto\tmpb{##1}%
7177     \expandafter\LWR@replacesstringsB\fi%
7178   }% improved version <May 2016> inspired
7179   \expandafter\LWR@replacesstringsA\tmpb?##1!% from pysyntax.tex by Petr Krajnik
7180   \long\def\LWR@replacesstringsA##1{%
7181     \def\tmpb{##1}%
7182   }\expandafter\LWR@replacesstringsA\tmpb%
7183 }
7184 \egroup

```

Bool  
LWR@MathJax@silentquotes

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.

```

7185 \newbool{LWR@MathJax@silentquotes}
7186 \boolfalse{LWR@MathJax@silentquotes}

```

**\LWR@subHTMLsanitize** **\LWR@strresult** must first be set by **\LWR@HTMLsanitize**, **\LWR@HTMLsanitizeexpand**, or **\CustomizeMathJax**.

```

7187 \catcode`\#=12
7188 \catcode`\&=12
7189 \newcommand{\LWR@subHTMLsanitize}{%

```

The &, <, and > may be interpreted by the browser:

```

7190 \edef\tmpb{\detokenize\expandafter{\LWR@strresult}}%
7191 \LWR@replacesstrings{&}{&}%
7192 \LWR@replacesstrings{<}{<}%
7193 \LWR@replacesstrings{>}{>}%

```

The quotes occasionally causes problems. For **mathspec**, also allow neutralization of " and the " character.

```

7194 \ifbool{LWR@MathJax@silentquotes}{%
7195   \expandafter\expandafter\expandafter{\LWR@backslash"}{}%
7196   \LWR@replacesstrings{"}{"}%
7197   \LWR@replacesstrings{'}{&apos;}%
7198   \LWR@replacesstrings{'}{&grave;}%
7199   \LWR@replacesstrings{"}{&quot;}%
7200   \LWR@replacesstrings{'}{&apos;}%
7201   \LWR@replacesstrings{'}{&grave;}%

```

**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.

```

7202 \LWR@replacesstrings{##}{#}%
7203 \edef\LWR@strresult{\detokenize\expandafter{\tmpb}}%
7204 }

```

```
7205 \catcode`\#=6
7206 \catcode`\&=4
```

```
\LWR@HTMLsanitizedetokenized {⟨detokenized text⟩}
```

Prints the sanitized text, already detokenized.

```
7207 \newrobustcmd{\LWR@HTMLsanitizedetokenized}[1]{%
7208     \LWR@traceinfo{\LWR@HTMLsanitizedetokenized !#1!}%
```

Cancel French babel character handling, and fully expand the strings:

```
7209     \begingroup%
7210     \LWR@hook@processingtags%
7211     \edef\LWR@strresult{\#1}%
7212     \LWR@subHTMLsanitize%
7213     \LWR@strresult%
7214     \endgroup%
7215     \LWR@traceinfo{\LWR@HTMLsanitize done}%
7216 }
```

```
\LWR@HTMLsanitizeexpanded {⟨text⟩}
```

This version must be given the detokenized and expanded text. This is only used for adding math to MATHJAX expressions or `latextimage alt` tags.

```
7217 \edef\LWR@beginspaceleftbrace{\begin \LWRleftbrace}
7218 \edef\LWR@beginspaceleftbrace{\detokenize\expandafter{\LWR@beginspaceleftbrace}}
7219 \edef\LWR@beginleftbrace{\begin\LWRleftbrace}
7220 \edef\LWR@beginleftbrace{\detokenize\expandafter{\LWR@beginleftbrace}}
7221
7222 \edef\LWR@endspacerrightbrace{\end \LWRrightbrace}
7223 \edef\LWR@endspacerrightbrace{\detokenize\expandafter{\LWR@endspacerrightbrace}}
7224 \edef\LWR@endrightbrace{\end\LWRrightbrace}
7225 \edef\LWR@endrightbrace{\detokenize\expandafter{\LWR@endrightbrace}}
7226
7227 \newrobustcmd{\LWR@HTMLsanitizeexpanded}[1]{%
```

Cancel French babel character handling, and fully expand the strings:

```
7228     \begingroup%
7229     \LWR@hook@processingtags%
7230     \edef\LWR@strresult{\#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.

```
7231     \protect\StrSubstitute{\LWR@strresult}%
7232         {\LWR@beginspaceleftbrace}{\LWR@beginleftbrace}[\LWR@strresult]%
7233     \protect\StrSubstitute{\LWR@strresult}%
7234         {\LWR@endspacerrightbrace}{\LWR@endrightbrace}[\LWR@strresult]%
7235
7236     \LWR@subHTMLsanitize%
7237     \LWR@strresult%
7238     \endgroup%
```

## 63.2 Customizing MATHJAX

\LWR@customizedMathJax Additional MATHJAX definitions to be added to the start of each HTML page.

```
7239 \newcommand*{\LWR@customizedMathJax}{}%
```

Bool

Used to issue only one warning about using a \CustomizeMathJax per macro.

```
7240 \newbool{\LWR@warnedcustomizemathjax}
7241 \boolfalse{\LWR@warnedcustomizemathjax}
```

\LWR@subcustomizedmathjax {*macro definition*}

```
7242 \newcommand*{\LWR@subcustomizedmathjax}[1]{%
7243   \begingroup%
7244   \LWR@hook@processingtags%
7245   \edef\LWR@strresult{\detokenize{\#1}}%
7246   \LWR@subHTMLsanitize%
7247   \xdef\LWR@customizedMathJax{%
7248     \LWR@customizedMathJax%
7249     \LWR@strresult%
7250   }%
7251   \endgroup%
7252 }
7253 \onlypreamble\LWR@subcustomizedmathjax
```

\CustomizeMathJax {*macro definition*}

A warning is issued if a very long argument is given.

```
7254 \newcommand*{\CustomizeMathJax}[1]{%
7255   \ifbool{\LWR@warnedcustomizemathjax}{}{%
7256     \StrLen{\detokenize{\#1}}[\LWR@tempone]%
7257     \ifnumgreater{\LWR@tempone}{350}{%
7258       \AtEndDocument{%
7259         \PackageNoteNoLine{lwarp}{%
7260           To ensure faster MathJax compilation, place each\MessageBreak
7261           custom macro in its own \protect\CustomizeMathJax. \MessageBreak
7262           See the Lwarp documentation regarding customizing\MessageBreak
7263             MathJax%
7264           }%
7265         }%
7266         \booltrue{\LWR@warnedcustomizemathjax}%
7267       }{}%
7268     }%
7269     \appto{\LWR@customizedMathJax}{\LWRbackslash()%
7270     \LWR@subcustomizedmathjax{\#1}%
7271     \appto{\LWR@customizedMathJax}{\LWRbackslash)\par}%
7272   }
7273 \onlypreamble\CustomizeMathJax
```

\LWR@infoprocessingmathjax {*package name*}

```
7274 \newcommand*{\LWR@infoprocessingmathjax}[1]{%
7275 \typeout{---}
7276 \typeout{Package lwarp: Processing MathJax customizations for #1.}
```

---

```
7277 \typeout{\space\space This may take a moment.}
7278 \typeout{---}
7279 }
```

**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.

```
7280 \providecommand{\footnotename}{footnote}
7281
7282 % due to warpMathJax:
7283 \end{warpHTML}
7284
7285 \begin{warpMathJax}
7286 \xdef\LWR@customizedMathJax{\LWR@customizedMathJax%
7287   \LWRbackslash(%
7288   \LWRbackslash{}newcommand%
7289   \{\LWRbackslash{}footnotename\}%
7290   \{\footnotename\}%
7291   \LWRbackslash)\par%
7292 }
7293 \end{warpMathJax}
```

\LWRfootnote is set per equation if a footnote is detected in the equation's math expression, otherwise it defaults to \footnotename.

```
7294 \begin{warpMathJax}
7295 \CustomizeMathJax{\def\LWRfootnote{1}}
7296 \CustomizeMathJax{\newcommand{\footnote}[2][\LWRfootnote]{{}^{\mathrm{#1}}}}
7297 \CustomizeMathJax{\newcommand{\footnotemark}[1][\LWRfootnote]{{}^{\mathrm{#1}}}}
```

\hspace is modified to accept and ignore a star:

```
7298 \CustomizeMathJax{\let\WRorighspace\hspace}
7299 \CustomizeMathJax{\renewcommand{\hspace}{\ifstar\WRorighspace\WRorighspace}}
```

Various other customizations:

```
7300 \CustomizeMathJax{\newcommand{\mathnormal}[1]{{#1}}}
7301 \CustomizeMathJax{\newcommand\ensuremath[1]{#1}}
7302 \CustomizeMathJax{\% absorb two optional arguments
7303   \newcommand{\LWRframebox}[2][]{\fbox{#2}}
7304   \newcommand{\framebox}[1][]{\LWRframebox}
7305 }
7306 \CustomizeMathJax{\newcommand{\setlength}[2]{}}
7307 \CustomizeMathJax{\newcommand{\addtolength}[2]{}}
7308 \CustomizeMathJax{\newcommand{\setcounter}[2]{}}
7309 \CustomizeMathJax{\newcommand{\addtocounter}[2]{}}
7310 \CustomizeMathJax{\newcommand{\arabic}[1]{}}
7311 \CustomizeMathJax{\newcommand{\number}[1]{}}
```

```

7312 \CustomizeMathJax{\newcommand{\noalign}[1]{\text{\#1}\notag \\}}
7313 \CustomizeMathJax{\newcommand{\cline}[1][]}
7314 \CustomizeMathJax{\newcommand{\directlua}[1]{\text{(directlua)}}}
7315 \CustomizeMathJax{\newcommand{\luatexdirectlua}[1]{\text{(directlua)}}}

\protect, \mathchar, and \delimiter are silently discarded; and \mathcode and
\delcode are ignored.

7316 \CustomizeMathJax{\newcommand{\protect}{}}
7317 \CustomizeMathJax{\def\LWRabsorbnumber#1 {}}
7318 \CustomizeMathJax{\def\LWRabsorbquotenumber"#1 {}}
7319 \CustomizeMathJax{\newcommand{\LWRabsorboption}[1][]{\LWRabsorboption}}
7320 \CustomizeMathJax{\newcommand{\LWRabsorbtwooptions}[1][]{\LWRabsorboption}}
7321 \CustomizeMathJax{\def\mathchar{\ifnextchar"\LWRabsorbquotenumber\LWRabsorbnumber}}
7322 \CustomizeMathJax{\def\mathcode#1={\mathchar}}
7323 \CustomizeMathJax{\let\delcode\mathcode}
7324 \CustomizeMathJax{\let\delimiter\mathchar}

```

Some text symbols missing from MATHJAX:

```

7325 \CustomizeMathJax{\def\oe{\unicode{x0153}}}
7326 \CustomizeMathJax{\def\OE{\unicode{x0152}}}
7327 \CustomizeMathJax{\def\ae{\unicode{x00E6}}}
7328 \CustomizeMathJax{\def\AE{\unicode{x00C6}}}
7329 \CustomizeMathJax{\def\aa{\unicode{x00E5}}}
7330 \CustomizeMathJax{\def\AA{\unicode{x00C5}}}
7331 \CustomizeMathJax{\def\o{\unicode{x00F8}}}
7332 \CustomizeMathJax{\def\O{\unicode{x00D8}}}
7333 \CustomizeMathJax{\def\l{\unicode{x0142}}}
7334 \CustomizeMathJax{\def\L{\unicode{x0141}}}
7335 \CustomizeMathJax{\def\ss{\unicode{x00DF}}}
7336 \CustomizeMathJax{\def\SS{\unicode{x1E9E}}}
7337 \CustomizeMathJax{\def\dag{\unicode{x2020}}}
7338 \CustomizeMathJax{\def\ddag{\unicode{x2021}}}
7339 \CustomizeMathJax{\def\P{\unicode{x00B6}}}
7340 \CustomizeMathJax{\def\copyright{\unicode{x00A9}}}
7341 \CustomizeMathJax{\def\pounds{\unicode{x00A3}}}
7342 \end{warpMathJax}
7343
7344
7345 \begin{warpHTML}% due to warpMathJax

```

\LWR@customizeMathJax Prints MATHJAX commands to the HTML output.

```

7346 \newcommand{\LWR@customizeMathJax}{%
7347 \ifbool{mathjax}{%
7348 \LWR@stoppars
7349 \LWR@htmlcomment{MathJax customizations:}
7350
7351 \begin{BlockClass}{hidden}
7352 \LWR@stoppars

```

Avoid ligatures while printing MATHJAX customizations:

```

7353 {
7354     \LWR@print@ttfamily
7355     \LWR@customizedMathJax

```

```

7356 }
7357 \LWR@startpars
7358 \end{BlockClass}
7359
7360 \LWR@startpars
7361 }{}
7362 }

7363 \end{warpHTML}

for PRINT output: 7364 \begin{warpprint}
```

\CustomizeMathJax The print-mode version:

```

7365 \newcommand*\CustomizeMathJax[1]{}}

\FilenameSimplify * {\langle expression \rangle}

7366 \NewDocumentCommand{\FilenameSimplify}{s m}{}{}
```

```
7367 \end{warpprint}
```

**for HTML output:** 7368 \begin{warpHTML}

\LWR@createfooter If specified, create the first or later web page footer.

```

7369 \newcommand*\LWR@createfooter{%
7370     \ifnumless{\value{LWR@htmlseqfilenumber}}{1}{%
7371         \ifdefempty{\LWR@firstpagebottom}{}{%
7372             \LWR@htmlelement{footer}
7373
7374             \LWR@firstpagebottom
7375
7376             \LWR@htmlelementend{footer}
7377         }%
7378     }{%
7379         \ifdefempty{\LWR@pagebottom}{}{%
7380             \LWR@htmlelement{footer}
7381
7382             \LWR@pagebottom
7383
7384             \LWR@htmlelementend{footer}
7385         }%
7386     }%
7387 }
```

\LWR@newhtmlfile {\langle section name \rangle}

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.

```

7388 \newcommand*\LWR@newhtmlfile[1]{%
7389 \LWR@traceinfo{\LWR@newhtmlfile}
```

At the bottom of the ending file:

```
7390 \LWR@htmlelementclassend{section}{textbody}
7391 \LWR@htmlelementclassend{main}{bodycontainer}
7392 \LWR@htmlelementclassend{div}{bodyandsidetoc}
7393
7394 \LWR@printpendingfootnotes
7395
```

No footer between files if EPUB:

```
7396 \ifbool{FormatEPUB}{}{\LWR@createfooter}
```

No bottom navigation if are finishing the home page or formatting for EPUB or a word-processor.

```
7397 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7398     {}
7399     {\ifnumcomp{\value{LWR@htmlfilename}}{>}{0}{\LWR@botnavigation}{}}
```

End of this HTML file:

```
7400 \LWR@stopars
7401 \LWR@htmlltag{/body}\LWR@orignewline
7402 \LWR@htmlltag{/html}\LWR@orignewline
7403 \LWR@traceinfo{LWR@newhtmlfile: about to LWR@orignewline}
7404 \LWR@maybe@orignewline

7405 \addtocounter{LWR@htmlfilename}{1}%
7406 \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.

```
7407 \ifbool{FileSectionNames}%
7408 {%
```

Convert the section name to a filename with blanks and common words removed. The resulting filename is in \LWR@thisfilename.

```
7409     \LWR@filenamenoblanks{#1}%
```

Create a macro name from the MD5 hash of the file name, to detect duplicates:

```
7410     \edef\LWR@hashedname{\LWR@mdfive{\LWR@thisfilename}}%
```

If the macro name is not yet defined, this filename is unique.

```
7411     \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.

---

```
7412           \csdef{\LWR@filename\LWR@hashedname}{}%
7413     }{%
```

If the filename is not unique, create an error.

```
7414           \PackageError{lwarf}%
7415             {%
7416               The section name:\MessageBreak
7417               '#1',\MessageBreak
7418               at the line number listed below,\MessageBreak
7419               generates the filename\MessageBreak
7420               '\LWR@thisfilename',\MessageBreak
7421               which appears to be a duplicate. There is a\MessageBreak
7422               previous section with an identical or similar name.\MessageBreak
7423               While generating file names, Lwarp sanitizes math,\MessageBreak
7424               most symbols, and a few common short words,\MessageBreak
7425               and this may cause a conflict.\MessageBreak
7426               Enter 'H' for possible solutions%
7427             }%
7428             {%
7429               \LWR@avoiddupfilenames%
7430             }%
7431           }%
7432 }%
```

If using file numbers instead of names, the name is set to the next file number.

```
7433 {\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.

```
7434 \LWR@traceinfo{\LWR@newhtmlfile: about to print start file}%
```

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

```
7435 \begingroup%
7436 \LWR@nullfonts%
7437 \LWR@htmlblockcomment{%
7438 |Start file|%
7439 \LWR@htmlsectionfilename{\LWR@thisfilename}|%
7440 }%
7441 \endgroup%
```

At the top of the starting file:

```
7442 \LWR@stopars
7443
```

Start a new file with the given section name:

```
7444 \LWR@filestart[#1]
7445
```

Track the PDF page numbers of the HTML output. This is updated more frequently than `LWR@currentautosecpage`.

---

```
7446 \setcounter{LWR@currentautosecfloataction}{\value{page}}%
7447 \LWR@newautopagelabel{LWR@currentautosecfloataction}%
```

No navigation between files if formatting for an EPUB or word processor:

```
7448 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}%
7449     {}
7450     {\LWR@topnavigation}
7451
```

No header if between files if formatting for an EPUB or word processor:

```
7452 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}%
7453     {}
7454     {

7455         \ifdefempty{\LWR@pagetop}{}{%
7456             \LWR@htmlelement{header}
7457
7458             \LWR@pagetop
7459
7460             \LWR@htmlelementend{header}
7461         }
7462     }
7463
```

The container for the sidetoc and text body:

```
7464 \LWR@htmlelementclass{div}{bodyandsidetoc}
```

No sidetoc if formatting for an EPUB or word processor:

```
7465 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}%
7466     {}
7467     {\LWR@sidetoc}
7468
```

Start of the <textbody>:

```
7469 \LWR@htmlelementclass{main}{bodycontainer}
7470 \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.

```
7471 \boolfalse{LWR@setseqfilelabel}
```

Print title only if there is one. Skip if formatting for an EPUB or word processor:

```
7472 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}%
7473     {}%
7474     {%
7475         \ifcsvvoid{thetitle}{}{%
7476             \LWR@printthetitle%
7477         }%
7478     }%
```

Keep paragraph tags disabled for now:

```
7479 \LWR@stopars
7480
```

If using MATHJAX, print the customizations here.

```
7481 \LWR@customizeMathJax
7482 \LWR@traceinfo{\LWR@newhtmlfile: done}
7483 }
7484 \end{warpHTML}
```

## 64 Sectioning

Sectioning and cross-references have been emulated from scratch, rather than try to patch several layers of existing L<sup>A</sup>T<sub>E</sub>X code and packages. Formatting is handled by css, so the emulated code has much less work to do than the print versions.

**Unicode** Section names and the resulting filenames with accented characters are partially supported, depending on the ability of *pdflatex* to generate characters and *pdftotext* to read them. If extra symbols appear in the text, it may be that *pdflatex* is actually producing a symbol over or under a character, resulting in *pdftotext* picking up the accent symbol separately.

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:** 7485 \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.

```
7486 \newbool{\LWR@forcinghtmlpage}
7487 \boolfalse{\LWR@forcinghtmlpage}
7488
7489 \newcommand*{\ForceHTMLPage}{%
7490 \global\booltrue{\LWR@forcinghtmlpage}}%
7491 }
```

\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.

```

7492 \newbool{LWR@forcinghtmltoc}
7493 \boolfalse{LWR@forcinghtmltoc}
7494
7495 \newcommand*{\ForceHTMLTOC}{%
7496 \global\booltrue{LWR@forcinghtmltoc}%
7497 }

7498 \end{warpHTML}
```

**for PRINT output:** 7499 \begin{warpprint}
7500 \newcommand\*{\ForceHTMLPage}{}
7501 \newcommand\*{\ForceHTMLTOC}{}
7502 \end{warpprint}

**for HTML output:** 7503 \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.

```

7504 \newbool{LWR@mainmatter}
7505 \DeclareDocumentCommand{\mainmatter}{}{%
7506 \booltrue{LWR@mainmatter}%
7507 }
```

\frontmatter Declare the front matter section of the document, using arabic numbering for the internal numbering. Does not reset the page number.

```

7508 \DeclareDocumentCommand{\frontmatter}{}{%
7509 \boolfalse{LWR@mainmatter}%
7510 }
```

\backmatter Declare the back matter section of the document. Does not reset the page number.

```

7511 \DeclareDocumentCommand{\backmatter}{}{%
7512 \boolfalse{LWR@mainmatter}%
7513 }
```

## 64.3 Sectioning support macros

\LWR@sectionnumber {*<section type>*}

Typeset a section number and its trailing space with css formatting:

```

7514 \newcommand*{\LWR@sectionnumber}[1]{%
7515 \InlineClass{sectionnumber}{#1}%
7516 }
```

autosec A tag used by the toc and index.

---

```
\LWR@createautosec {<section type>}
```

Create an autosection tag.

The use of \textquotedbl instead of " provides improved compatibility with xeCJK.

```
7517 \newcommand*\LWR@createautosec[1]{%
7518 \LWR@htmltag{%
7519     #1 % space
7520     id=\textquotedbl\LWR@print@mbox{autosec-\arabic{page}}\textquotedbl%
7521 }%
7522 }
```

```
\LWR@pushoneclose {<sectiontype>} Stacks the new sectioning level's closing tag, to be used when this section is closed some time later.
```

 \LWR@stoppars must be executed first.

```
7523 \NewDocumentCommand{\LWR@pushoneclose}{m}{%
7524 \LWR@traceinfo{\LWR@pushoneclose #1}%
7525     \LWR@pushclose{#1}%
7526 }
```

```
\LWR@startnewdepth {<sectiontype>}
```

Closes currently stacked tags of a lesser level, then opens the new nesting level by saving this new sectioning level's closing tag for later use.

 \LWR@stoppars must be executed first.

```
7527 \NewDocumentCommand{\LWR@startnewdepth}{m}{%
```

Close any stacked sections up to this new one.

```
7528 \LWR@closeprevious{#1}%
```

Push a new section depth:

```
7529 \LWR@pushoneclose{#1}%
7530 }
```

```
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.

```
7531 \newcounter{LWR@prevFileDepth}
7532 \setcounter{LWR@prevFileDepth}{\LWR@depthsubparagraph}
```

```
@seccntformat {<sectiontype>}
```

```
7533 \def@\seccntformat#1{\csname the#1\endcsname\quad}
```

```
\simplechapterdelim Used by tocbibind and anonchap.
```

```
7534 \newcommand*\simplechapterdelim{}
```

---

\@chapcntformat {⟨sectiontype⟩}

\let to \@secCntFormat by default, but may be redefined by \simplechapter and \restorechapter from tocbibind or anonchap.

7535 \let\@chapcntformat\@secCntFormat

\@partcntformat {⟨sectiontype⟩}

\let to \@secCntFormat by default, but may be redefined by ctex.

7536 \let\@partcntformat\@secCntFormat

\@partnameformat Prints “Part” for part sections.

Nullified by ctex.

7537 \newcommand\*{\@partnameformat}{\LWR@isolate{\partname}~}%

\LWR@printchaptername Print \chaptername in most cases, but this is nullified for ctexbook, komascript, ujt\* classes.

7538 \newcommand\*{\LWR@printchaptername}{%

7539 \ifdefvoid{\chaptername}{}{\chaptername~}%

7540 }

\LWR@section \* [⟨TOC name⟩] {⟨name⟩} {⟨sectiontype⟩}

The common actions for the high-level sectioning commands.

7541 \DeclareDocumentCommand{\LWR@section}{m m m m}{%

7542 \IfValueTF{#2}{%

7543 {\LWR@traceinfo{\LWR@section: starting #4 #2}}%

7544 {\LWR@traceinfo{\LWR@section: starting #4 #3}}%

Warn if starting a section inside a <span>:

7545 \LWR@spanwarninvalid{section}%

7546 \LWR@maybeprintpendingfootnotes{\csuse{\LWR@depth#4}}%

7547 \LWR@stoppars%

7548 \LWR@startnewdepth{#4}%

Cancel special minipage horizontal space interaction:

7549 \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:

7550 \LWR@traceinfo{\LWR@section: testing whether to start a new HTML file}%

```

7551 \IfBooleanT{#1}{\LWR@traceinfo{\LWR@section: starred}}%
7552 \ifbool{\LWR@forcinghtmlpage}{\LWR@traceinfo{\LWR@section: forcinghtmlpage}}{}%
7553 \ifthenelse{%
7554   \(%
7555     \(\NOT\equal{#1}{\BooleanTrue}\)\OR%
7556     \(\cnttest{\@nameuse{\LWR@depth#4}}{=}{\LWR@depthpart}\)\OR%
7557     \(\boolean{\LWR@forcinghtmlpage}\)\%
7558   \)%
7559   \AND%
7560   \cnttest{\@nameuse{\LWR@depth#4}}{<=}{\value{FileDepth}}%
7561   \AND%
7562   \(%
7563     \NOT\boolean{CombineHigherDepths}\OR%
7564     \cnttest{\@nameuse{\LWR@depth#4}}{<=}{\value{\LWR@prevFileDepth}}%
7565   \)%
7566   \AND%
7567   \(% phantomsection
7568     \NOT\isempty{#3}%
7569     \OR%
7570     \(\NOT\equal{#1}{\BooleanTrue}\)\%
7571   \)%
7572 }%

```

If so: start a new HTML file:

```

7573 {%
7574   \LWR@traceinfo{\LWR@section: new HTML file}%

```

See if there was an optional TOC name entry:

```

7575   \IfNoValueTF{#2}{%

```

If no optional entry

```

7576   {\LWR@newhtmlfile{#3}}%

```

If yes an optional entry

```

7577   {\LWR@newhtmlfile{#2}}%
7578 }% new file

```

Else: No new HTML file:

```

7579 {%

```

Generate a new L<sup>A</sup>T<sub>E</sub>X page so that TOC and index page number points to the section:

```

7580   \LWR@traceinfo{\LWR@section: not a new HTML file, about to \LWR@orignewpage}%
7581   \LWR@maybe@orignewpage%
7582 }% not new file
7583

```

Remember this section's name for \nameref:

```

7584 \IfValueT{#3}{%

```

```

7585     \LWR@traceinfo{LWR@section: about to LWR@setlatestname}%
7586     \IfValueTF{#2}{\LWR@setlatestname{#2}}{\LWR@setlatestname{#3}}%
7587 }%

```

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.

```

7588 \begingroup%
7589 \LWR@nullfonts%
7590 \LWR@nullifyfootnotes%
7591 \LWR@htmlcomment{.....}%
7592 \LWR@orignewline%
7593 \ifbool{HTMLDebugComments}%
7594   {%
7595     \IfBooleanTF{#1}{starred}{%
7596       \IfNoValueTF{#2}{short TOC}{%
7597         {\LWR@htmlcomment{Opening #4* '#3'}}%
7598         {\LWR@htmlcomment{Opening #4* '#2'}}%
7599       }%
7600     }%
7601     {%
7602       \IfNoValueTF{#2}{short TOC}{%
7603         {\LWR@htmlcomment{Opening #4 '#3'}}%
7604         {\LWR@htmlcomment{Opening #4 '#2'}}%
7605       }%
7606     }%
7607   }%
7608 {}%
7609 \endgroup%

```

For inline sections paragraph and subparagraph, start a new paragraph now:

```

7610 \ifthenelse{%
7611   \cnttest{\@nameuse{LWR@depth#4}}{>=}{\LWR@depthparagraph}%
7612 }%
7613 {\LWR@startpars}%
7614 {}%

```

Create the opening tag with an autosec:

```

7615 \LWR@traceinfo{LWR@section: about to LWR@createautosec}%
7616 \LWR@createautosec{\@nameuse{LWR@tag#4}}%

```

```

7617 \setcounter{LWR@currentautosecpage}{\value{page}}%

```

Check if starred:

```

7618 \IfBooleanTF{#1}{%
7619 {}%
7620   \LWR@traceinfo{LWR@section: starred}%
}

```

Starred, but also forcing a TOC entry, so add unnumbered TOC name or regular name:

```

7621 \ifbool{LWR@forcinghtmltoc}{%
7622 {}%
}

```

```

7623      \addcontentsline{toc}{#4}{%
7624          \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7625      }%
7626  }%
7627  {}%
7628 }% starred

```

Not starred, so step counter and add to toc:

```
7629 {% not starred
```

Only add a numbered toc entry if section number is not too deep:

```

7630  \ifthenelse{%
7631      \cnttest{@nameuse{\LWR@depth#4}}{<=}{\value{secnumdepth}}}%
7632  }%
7633  {} if secnumdepth

```

If in the main matter, step the counter and add the toc entry. For article class, lwarf assumes that all is mainmatter.

```

7634      \LWR@traceinfo{\LWR@section: about to test main matter}%
7635      \ifbool{\LWR@mainmatter}%
7636  {}%
7637      \LWR@traceinfo{\LWR@section: yes mainmatter}%
7638      \refstepcounter{#4}%

```

Add main matter numbered toc entry with the toc name or the regular name:

```

7639      \LWR@traceinfo{\LWR@section: about to addcontentsline}%
7640      \addcontentsline{toc}{#4}{%
7641      {}%
7642          \protect\numberline{%
7643              \@nameuse{pre#4name}%
7644              \@nameuse{the#4}%
7645              \@nameuse{post#4name}%
7646          }%
7647      {}%
7648          \ignorespaces%
7649          \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}\protect\relax%
7650      }%
7651  }%
7652      \LWR@traceinfo{\LWR@section: finished addcontentsline}%
7653  }% end of if main matter

```

If not main matter, add unnumbered toc name or regular name:

```

7654      {}% not main matter
7655          \LWR@traceinfo{\LWR@section: no main matter}%
7656          \addcontentsline{toc}{#4}{%
7657              \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7658          }%
7659      }% end of not main matter
7660  }% end of secnumdepth

```

Deeper than secnumdepth, so add an unnumbered toc entry:

```
7661  {}%
```

---

```

7662      \addcontentsline{toc}{#4}{%
7663          \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7664      }%
7665  }%

```

For part, print “Part”:

```

7666  \ifbool{\LWR@mainmatter}{%
7667  {%
7668      \ifthenelse{%
7669          (\cnttest{@nameuse{\LWR@depth#4}}{<=}{%
7670              {\value{secnumdepth}}}) \AND%
7671          (\cnttest{@nameuse{\LWR@depth#4}}{=}{\LWR@depthpart})}%
7672      }%
7673          {@partnameformat}%
7674      }%

```

Print the section number:

```

7675  \LWR@traceinfo{\LWR@section: about to print section number}%
7676  \ifthenelse{%
7677      \cnttest{@nameuse{\LWR@depth#4}}{<=}{\value{secnumdepth}}}%
7678  }%
7679  {%
7680      \ifstreq{\#4}{part}{%
7681          \protect\LWR@sectionnumber{@partcntformat{\#4}}}%
7682      {%
7683          \ifstreq{\#4}{chapter}{%
7684              \%
7685                  \LWR@printchaptername%
7686                  \protect\LWR@sectionnumber{@chapcntformat{\#4}}}%
7687              }%
7688          \protect\LWR@sectionnumber{@secntformat{\#4}}%
7689      }%
7690  }%
7691  {}%
7692  \LWR@traceinfo{\LWR@section: finished print section number}%
7693 }{}%
7694 }% not starred

```

Print the section name:

```

7695 \LWR@traceinfo{\LWR@section: about to print the section name}%
7696 \LWR@isolate{#3}%

```

Close the heading tag, such as /H2:

```

7697 \LWR@traceinfo{\LWR@section: about to close the heading tag}%
7698 \LWR@htmntag{@nameuse{\LWR@tag#4end}}%
7699 \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`.

```
7700 \LWR@traceinfo{LWR@section: about to create the LaTeX label}%
7701 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
7702 \LWR@newautopagelabel{LWR@currentautosecpage}\LWR@orignewline%
```

If this is the first section found in this file, create a label for previous/next links:

```
7703 \ifbooleq{LWR@setseqfilelabel}{}{%
7704   \label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}%
7705   \booltrue{LWR@setseqfilelabel}%
7706 }%
```

Start paragraph handing unless is an inline paragraph or subparagraph:

```
7707 \ifthenelse{%
7708   \cnttest{\@nameuse{LWR@depth#4}}{<}{\LWR@depthparagraph}%
7709 }%
7710 { \LWR@startpars}%
7711 {}%
```

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.

```
7712 \ifthenelse{%
7713   \NOT\equal{\#1}{\BooleanTrue}\OR%
7714   \cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}%
7715 }%
7716 { \% not starred
7717   \setcounter{LWR@prevFileDepth}{\@nameuse{LWR@depth#4}}%
7718 } \% not starred
7719 {}%
```

Reset to defaults if not a phantomsection:

```
7720 \ifstrempty{#3}%
7721   {}%
7722   {%
7723     \global\boolfalse{LWR@forcinghtmlpage}%
7724     \global\boolfalse{LWR@forcinghtmlltoc}%
7725   }%
7726 %
7727 \LWR@traceinfo{LWR@section: done}%
7728 }
```

## 64.4 Pre- and post- sectioning names

`\prebookname` Usually null, but is used by `uj*` and `ut*` Japanese classes.  
`\postbookname`

---

```

7729 \providecommand*\prebookname{}{}}
7730 \providecommand*\postbookname{}{}}
```

\prepartname Usually null, but is used by `uj*` and `ut*` Japanese classes.  
\postpartname
 7731 \providecommand\*\prepartname{}{}}

\prechaptername Usually null, but is used by `uj*` and `ut*` Japanese classes.  
\postchaptername
 7733 \providecommand\*\prechaptername{}{}}

\presectionname Always null, but provided here for algorithmic simplicity in `\LWR@section`.  
\postsectionname
 7735 \providecommand\*\presectionname{}{}}

7736 \let\postsectionname\presectionname  
 7737  
 7738 \let\presubsectionname\presectionname  
 7739 \let\postsubsectionname\postsectionname  
 7740  
 7741 \let\presubsubsectionname\presectionname  
 7742 \let\postsubsubsectionname\postsectionname  
 7743  
 7744 \let\preparagraphname\presectionname  
 7745 \let\postparagraphname\postsectionname  
 7746  
 7747 \let\presubparagraphname\presectionname  
 7748 \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>}

7749 \newcommand{\part@preamble}{}% for koma-script
7750
7751 \DeclareDocumentCommand{\part}{s d() o o d() m}{%
  7752   \LWR@section{#1}{#3}{#6}{part}}%
7753
7754   \part@preamble% for koma-script
7755   \renewcommand{\part@preamble}{}%
7756 }
```

\chapter \* (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

7757 \let\@printcites\relax% for quotchap package

```
7758  
7759 \newcommand{\chapter@preamble}{ }% for koma-script  
7760  
7761 \@ifundefined{chapter}  
7762 {}  
7763 { %  
7764     \DeclareDocumentCommand{\chapter}{s d() o o d() m}{%  
7765         \LWR@section{#1}{#3}{#6}{chapter}}%  
7766  
7767     \printcites% for quotchap package  
7768  
7769     \chapter@preamble% for koma-script  
7770     \renewcommand{\chapter@preamble}{ }%  
7771 }  
7772 }  
  
\section * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}  
  
7773 \DeclareDocumentCommand{\section}{s d() o o d() m}{%  
7774     \LWR@section{#1}{#3}{#6}{section}}%  
7775 }  
  
\subsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}  
  
7776 \DeclareDocumentCommand{\subsection}{s d() o o d() m}{%  
7777     \LWR@section{#1}{#3}{#6}{subsection}}%  
7778 }  
  
\subsubsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}  
  
7779 \DeclareDocumentCommand{\subsubsection}{s d() o o d() m}{%  
7780     \LWR@section{#1}{#3}{#6}{subsubsection}}%  
7781 }  
  
\paragraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}  
  
7782 \DeclareDocumentCommand{\paragraph}{s d() o o d() m}{%  
7783     \LWR@section{#1}{#3}{#6}{paragraph}}%  
7784 }  
  
\ subparagraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}  
  
7785 \DeclareDocumentCommand{\ subparagraph}{s d() o o d() m}{%  
7786     \LWR@section{#1}{#3}{#6}{subparagraph}}%  
7787 }  
  
7788 \end{warpHTML}
```

## 65 Starting a new file

**for HTML & PRINT:** 7789 \begin{warpall}

\HTMLLanguage Default language for the HTML lang tag.

```
7790 \newcommand*{\LWR@currentHTMLLanguage}{en-US}
7791
7792 \newcommand*{\HTMLLanguage}[1]{%
7793     \renewcommand*{\LWR@currentHTMLLanguage}{#1}%
7794 }
```

\theHTMLTitleSeparator May be used inside \theHTMLTitleSection to separate the website's overall HTML title and the particular page's section name.

```
7795 \ifPDFTeX% pdflatex or dvi latex
7796     \ifdefstring{\inputencodingname}{utf8}{%
7797         \newcommand*{\theHTMLTitleSeparator}{ -\ }% EMdash
7798     }{%
7799         \newcommand*{\theHTMLTitleSeparator}{ -\ }% hyphen
7800     }%
7801 \else%
7802     \ifpTeX%
7803         \newcommand*{\theHTMLTitleSeparator}{ -\ }% hyphen
7804     \else%
7805         \newcommand*{\theHTMLTitleSeparator}{ -\ }% EMdash
7806     \fi%
7807 \fi%
```

\HTMLTitleBeforeSection Sets the HTML page's meta title tag to show the website title before the section name.

```
7808 \newcommand*{\HTMLTitleBeforeSection}{%
7809     \def\theHTMLTitleSection{%
7810         \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
7811     }%
7812 }
```

\HTMLTitleAfterSection Sets the HTML page's meta title tag to show the section name before the website title.

```
7813 \newcommand*{\HTMLTitleAfterSection}{%
7814     \def\theHTMLTitleSection{%
7815         \theHTMLSection\theHTMLTitleSeparator\theHTMLTitle%
7816     }%
7817 }
```

\theHTMLTitleSection Forms the HTML page's meta title tag. The default is to show the website title before the section name.

```
7818 \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.

```
7819 \newcommand*\{\theHTMLSection\}{}{}
```

```
7820 \end{warpall}
```

**for HTML output:** 7821 \begin{warpHTML}

\LWR@filestart [*<section name>*] Creates the opening HTML tags.

```
7822 \newcommand*\{\LWR@filestart\}[1][]{%
7823 \LWR@traceinfo{\LWR@filestart !#1!}{}%
```

Locally temporarily disable direct-formatting commands:

```
7824 \begingroup%
7825 \LWR@nullfonts%
```

Save the section name for use while creating the HTML meta title tag:

```
7826 \edef\theHTMLSection{\#1}%
```

Remove extra material:

```
7827 \StrSubstitute{\theHTMLSection}{\protect}{\detokenize{-}}[\theHTMLSection]%
7828 \StrSubstitute{\theHTMLSection}{%
7829   {\detokenize{---}}{\detokenize{-}}[\theHTMLSection]%
7830 \StrSubstitute{\theHTMLSection}{%
7831   {\detokenize{---}}{\detokenize{-}}[\theHTMLSection]%
7832 \StrSubstitute{\theHTMLSection}{%
7833   {\detokenize{--}}{\detokenize{-}}[\theHTMLSection]%
7834 \StrSubstitute{\theHTMLSection}{%
7835   {\detokenize{--}}{\detokenize{-}}[\theHTMLSection]%
```

If starts with a dash, remove the leading dash:

```
7836 \IfBeginWith{\theHTMLSection}{\detokenize{-}}{%
7837   \StrGobbleLeft{\theHTMLSection}{1}[\theHTMLSection]%
7838 }{}%
```

Create the page's HTML header:

```
7839 \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.

```
7840 \LWR@htmltag{%
7841   html lang=\LWR@orig@textquotedbl\currentHTMLLanguage\LWR@orig@textquotedbl%
7842 }\LWR@orignewline
```

Start of the meta data:

```
7843 \LWR@htmltag{head}\LWR@orignewline
```

Charset is fixed at UTF-8:

```
7844 \LWR@htmltag{%
7845     meta charset=\LWR@orig@textquotedbl{}UTF-8\LWR@orig@textquotedbl\ /%
7846 }\LWR@orignewline
```

Author:

```
7847 \ifthenelse{\equal{\theHTMLAuthor}{}}{%
7848     {}%
7849     {}%
7850     \LWR@htmltag{%
7851         meta name=\LWR@orig@textquotedbl{}author\LWR@orig@textquotedbl\ % space
7852         content=\LWR@orig@textquotedbl{}\theHTMLAuthor\LWR@orig@textquotedbl\ /%
7853     }\LWR@orignewline%
7854 }
```

l warp is the generator:

```
7855 \LWR@htmltag{%
7856     meta % space
7857     name=\LWR@orig@textquotedbl{}generator\LWR@orig@textquotedbl\ % space
7858     content=\LWR@orig@textquotedbl{}LaTeX Lwarp package\LWR@orig@textquotedbl\ /%
7859 }\LWR@orignewline%
```

If there is a description, add it now:

```
7860 \ifdefempty{\LWR@currentHTMLDescription}{%
7861     \LWR@htmltag{%
7862         meta name=\LWR@orig@textquotedbl{}description\LWR@orig@textquotedbl\ % space
7863         content=\LWR@orig@textquotedbl{}\LWR@currentHTMLDescription\LWR@orig@textquotedbl\ /%
7864     }\LWR@orignewline%
7865 }
```

Mobile-friendly viewport:

```
7866 \LWR@htmltag{%
7867     meta % space
7868     name=\LWR@orig@textquotedbl{}viewport\LWR@orig@textquotedbl\ % space
7869     content=\LWR@orig@textquotedbl{}width=device-width, initial-scale=1.0\LWR@orig@textquotedbl\ /%
7870 }\LWR@orignewline
```

IE patch:

```
7871 \LWR@htmltag{!-/-[if lt IE 9]}\LWR@orignewline
7872 \LWR@htmltag{%
7873     script % space
7874     src=\LWR@orig@textquotedbl{}%
7875         http://html5shiv.googlecode.com/svn/trunk/html5.js%
7876     \LWR@orig@textquotedbl%
7877 }%
7878 \LWR@htmltag{/script}\LWR@orignewline
7879 \LWR@htmltag{![endif]-/-}\LWR@orignewline
```

The page's title, if there is one. A section name is also added if given.

```
7880 \ifthenelse{\equal{\theHTMLTitle}{}}{%
7881     {}%
```

---

```

7882      {%
7883          \LWR@htmltag{title}%
7884          \ifdefempty{\theHTMLSection}{%
7885              {\theHTMLTitle}%
7886              {\theHTMLTitleSection}%
7887          \LWR@htmltag{/title}\LWR@orignewline%
7888      }%

```

The page's stylesheet:

```

7889 \LWR@htmltag{%
7890     link % space
7891     rel=\LWR@orig@textquotedbl{}stylesheet\LWR@orig@textquotedbl\ % space
7892     type=\LWR@orig@textquotedbl{}text/css\LWR@orig@textquotedbl\ % space
7893     href=\LWR@orig@textquotedbl\LWR@currentcss\LWR@orig@textquotedbl\ /%
7894 }%
7895 \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.

```

7896 \ifbool{mathjax}{%
7897 {%
7898     \begingroup%
7899     \LWR@restoreorilists%
7900     \boolfalse{LWR@verbtags}%

7901     \IfFileExists{\LWR@mathjaxfilename}{%
7902         \verbatiminput{\LWR@mathjaxfilename}%
7903         {%
7904             \PackageError{l warp}{%
7905                 \protect\MathJaxFilename\space specified the file\MessageBreak
7906                 \space\space\LWR@mathjaxfilename\MessageBreak
7907                 which does not exist%
7908             }%
7909             {Specify an existing file, or remove \protect\MathJaxFilename.}%
7910         }%
7911     }%
7912     \booltrue{LWR@verbtags}%
7913     \endgroup%
7914     \LWR@stoppars%
7915 }% end of mathjax
7916 {}%

```

End of the header:

```
7917 \LWR@htmltag{/head}\LWR@orignewline
```

Start of the body:

```

7918 \LWR@htmltag{body}\LWR@orignewline

7919 \endgroup%
7920 \LWR@traceinfo{LWR@filestart: done}%
7921 }

```

```
7922 \end{warpHTML}
```

## 66 Starting HTML output

**for HTML output:** 7923 \begin{warpHTML}

\LWR@LwarpStart Executed at the beginning of the entire document.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```
7924 \catcode`\$=\active
7925 \newcommand*\{\LWR@LwarpStart}
7926 {%
7927 \LWR@traceinfo{\LWR@l warpStart}}
```

If formatting for a word processor, force filedepth to single-file only, force HTML debug comments off.

```
7928 \ifbool{FormatWP}{%
7929     \setcounter{FileDepth}{-5}%
7930     \boolexpr{HTMLDebugComments}%
7931 }{}}
```

Expand and detokenize \HomeHTMLFilename and \HTMLFilename:

```
7932 \edef\LWR@strresult{\HomeHTMLFilename}
7933 \edef\HomeHTMLFilename{\detokenize\expandafter{\LWR@strresult}}
7934 \edef\LWR@strresult{\HTMLFilename}
7935 \edef\HTMLFilename{\detokenize\expandafter{\LWR@strresult}}
```

Force onecolumn and empty page style:

```
7936 \LWR@origonecolumn%
7937 \LWR@origpagestyle{empty}%
```

No black box for overfull lines:

```
7938 \overfullrule=0pt
```

Reduce chance of line overflow when HTML tags are added:

```
7939 \LWR@print@footnotesize%
```

In PDF output, don't allow line breaks to interfere with HTML tags:

```
7940 \LWR@print@raggedright%
7941 \LetLtxMacro{\\"}{\LWR@endofline}%
```

Spread the lines for *pdftotext* to read them well:

```
7942 \linespread{1.3}%
```

For *pdftotext* to reliably identify paragraph splits:

```
7943 \setlength{\parindent}{0pt}
7944 \setlength{\parskip}{2ex}
```

For the `lateximage` record file:

```
7945 \immediate\openout\LWR@lateximagesfile=\BaseJobname-images.txt
```

Removes space around the caption in the HTML:

```
7946 \setlength{\belowcaptionskip}{0ex}  
7947 \setlength{\abovecaptionskip}{0ex}
```

Redefine the plain page style to be empty when used by index pages:

```
7948 \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:

```
7949 \let\LWR@origcaption\caption
```

Not yet started any paragraph handling:

```
7950 \global\booltrue{\LWR@doingparhooks}  
7951 \global\boolfalse{\LWR@doingapar}  
7952 \global\boolfalse{\LWR@doingstartpars}
```

\color@endgroup's \endgraf was conflicting with lwarp's paragraph handling.

```
7953 \let\color@endgroup\endgroup
```

Document and page settings:

```
7954 \mainmatter  
7955 \LWR@origpagenumbering[arabic]
```

Start a new HTML file and a header:

```
7956 \LWR@traceinfo{\LWR@lwarpStart: Starting new file.}  
7957 \LWR@filestart%
```

Tell `lwarpmk` that the `lwarp` package is in use. This allows `lwarpmk` to warn if `usepackage{lwarp}` was somehow disabled.

```
7958 \begingroup%  
7959 \LWR@nullfonts%  
7960 \LWR@htmlblockcomment{  
7961 |Using lwarp|  
7962 \LWR@htmlsectionfilename{\LWR@thisfilename}|  
7963 }  
7964 \endgroup%  
  
7965 \LWR@traceinfo{\LWR@lwarpStart: Generating first header.}  
7966 \ifdefempty{\LWR@firstpagetop}{}{  
7967   \LWR@htmlltag{header}\LWR@orignewline  
7968   \LWR@startpars  
7969   \LWR@firstpagetop  
7970   \LWR@stoppars
```

---

```

7971     \LWR@htmlelementclass{/header}\LWR@orignewline
7972 }%
7973 \LWR@htmlelementclass{div}{bodywithoutsidetoc}
7974 \LWR@htmlelementclass{main}{bodycontainer}
7975 \LWR@traceinfo{\LWR@lwarpStart: Generating textbody.}
7976 \LWR@htmlelementclass{section}{textbody}
```

Create a label for previous/next links, and remember it has been done:

```

7977 \booltrue{\LWR@setseqfilelabel}%
7978 \label{\BaseJobname-autofile-\arabic{\LWR@htmseqfilenumber}}}
```

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`.

```
7979 \LWR@patchlists
```

Ensure that math mode is active to call `lwarp`'s patches:

```
7980 \catcode`\$=\active
```

Required for `\nameref` to work with SVG math:

```

7981 \immediate\write\@mainaux{\catcode`\$=\active}%
7982 \LetLtxMacro{\LWR@syntaxhighlightone}{$% balance for editor syntax highlighting
```

Allow HTML paragraphs to begin:

```
7983 \LWR@startpars
```

If using `MATHJAX`, disable `\ensuremath` by printing a nullified definition at the start of each file, and add further customizations:

```

7984 \ifbool{mathjax}{%
7985   \typeout{---}%
7986   \typeout{Package lwarp:}%
7987   \typeout{Processing MathJax customizations for the first HTML page.}%
7988   \typeout{Later HTML pages will take the same amount of time.}%
7989   \typeout{If this takes too long, see the Lwarp manual regarding customizing MathJax.}%
7990 }{}%
7991
7992 \LWR@customizeMathJax
7993
7994 \ifbool{mathjax}{%
7995   \typeout{Done.}%
7996   \typeout{---}%
7997 }{}}
```

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`.

```

7998 \setcounter{\LWR@currentautosecfloatpage}{\value{page}}%
7999 \LWR@newautopagelabel{\LWR@currentautosecpage}%
```

---

```

8000 \LWR@traceinfo{LWR@lwarpStart: done}
8001 }
8002 \catcode`\$=3% math shift until lwarp starts

8003 \end{warpHTML}

```

## 67 Ending HTML output

**for HTML output:** 8004 \begin{warpHTML}

\LWR@requesttoc {<boolean>} {<suffix>} Requests that a TOC, LOF, or LORbe generated.

```

8005 \newcommand*\LWR@requesttoc[2]{%
8006 \ifbool{#1}{%
8007 {%
8008     \expandafter\newwrite\@nameuse{tf@#2}%
8009     \immediate\openout \nameuse{tf@#2} \jobname.#2\relax
8010 }{}%
8011 }

```

\LWR@LwarpEnd Final stop of all HTML output:

```

8012 \newcommand*\LWR@LwarpEnd{%
8013 {
8014 \LWR@stopars
8015 \LWR@closeprevious{finished}

```

At the bottom of the ending file:

Print any pending footnotes:

```
8016 \LWR@printpendingfootnotes
```

Close the textbody.

(The \LWR@origtilde is in case no autopage is required for the label, which would not print anything, and something must be printed before the newline.)

```
8017 \label{\BaseJobname-autofile-last}\LWR@origtilde\LWR@orignewline
```

```

8018 \LWR@htmlelementclassend{section}{textbody}
8019 \LWR@htmlelementclassend{main}{bodycontainer}
8020 \LWR@htmlelementclassend{div}{bodyandsidetoc}

```

Create the footer if not EPUB

```
8021 \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.

```

8022 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
8023   {}
8024   {
8025     \ifnumcomp{\value{LWR@htmlfilenumber}}{>}{0}{\LWR@botnavigation}{}
8026   }
8027 \LWR@stopars% final stop of all paragraphs

```

Finish the HTML file:

```

8028 \LWR@htmlltag{/body}\LWR@orignewline
8029 \LWR@htmlltag{/html}\LWR@orignewline

```

Seems to be required sometimes:

```

8030 \LWR@maybe@orignewpage
8031 }

```

Hook [LaTeX] `\enddocument/info` Used to close the `*-images.txt` file.

`\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**.

```

8032 \ifdef{\AddToHook}{%
8033   \AddToHook{\enddocument/info}{%
8034     \if@filesw
8035       \ifx \atmultiplelabels \relax
8036         \if@tempswa

```

This is where warnings of duplicate labels would appear.

```
8037   \else
```

No duplicate labels, so safe to create images.

```

8038   \immediate\write\LWR@lateximagesfile{%
8039     |end|end|end|%
8040   }%
8041   \fi
8042   \fi\fi
8043 }
8044 }% newer kernel
8045 % older kernel
8046 \xpatchcmd{\enddocument}
8047 {%
8048   \if@tempswa
8049     \@latex@warning@no@line{Label(s) may have changed.
8050     Rerun to get cross-references right}%
8051   \fi
8052 }
8053 {%
8054   \if@tempswa
8055     \@latex@warning@no@line{Label(s) may have changed.
8056     Rerun to get cross-references right}%
8057   \else

```

No duplicate labels, so safe to create images.

```

8058           \immediate\write\LWR@lateximagesfile{%
8059               |end|end|end|%
8060           }%
8061           \fi
8062       }
8063   {}
8064   {
8065       \AtEndDocument{
8066           \PackageWarningNoLine{l warp}
8067           {%
8068               Could not patch \protect\enddocument.\MessageBreak
8069               If labels have changed, be sure to recompile before\MessageBreak
8070                   creating lateximages with\MessageBreak
8071                   \space\space l warpmk l images,\MessageBreak
8072                   or the images may be corrupt%
8073           }
8074       }
8075   }
8076 }% older kernel

```

## 68 Nullifying foreground/background hooks

See **texdoc lthooks-doc** and **texdoc ltshipout-doc**.

|                            |         |            |
|----------------------------|---------|------------|
| Hook<br>shipout/background | [LaTeX] | Nullified. |
| Hook<br>shipout/foreground | [LaTeX] | Nullified. |

```

8077 \ifdef{\RemoveFromHook}{%
8078     \AfterEndPreamble{%
8079         \IfHookEmptyTF{shipout/background}{}{%
8080             \PackageInfo{l warp}{Removing background hook}%
8081             \RemoveFromHook{shipout/background}[*]%
8082         }%
8083         \IfHookEmptyTF{shipout/foreground}{}{%
8084             \PackageInfo{l warp}{Removing foreground hook}%
8085             \RemoveFromHook{shipout/foreground}[*]%
8086         }%
8087     }%
8088 }{}%
8089 \end{warpHTML}

```

## 69 Title page

**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.

**affiliation** l warp provides for the **\author** macro an additional **\affiliation** macro to pro-

vide 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`  
`\and`

{*<author>*} While using `\maketitle` and print mode, the author is treated as a single-column tabular and the `\and` feature finishes the current tabular then starts a new one for the next author. Each author thus is placed into its own tabular, and an affiliation may be placed on its own line such as

```
\author{Name \\ Affiliation \and Second Name \\ Second Affiliation}
```

For HTML, the entire author block is placed inside a `<div>` of class `author`, and each individual author is inside a `<div>` of class `oneauthor`.

`\@title`  
`\@author`  
`\@date`

`\@title`, `\@author`, and `\@date` store the values as originally assigned, including any `\thanks`, `\and`, or `\affiliation`. These are low-level macros intended to be used by other macros only inside a `titlepage` or `\titlingpage`, and are used by `\maketitle`. The author is printed inside a single-column tabular, which becomes multiple single-column tabulars if multiples authors are included. For HTML, these tabulars become side-by-side `<div>`s of class `oneauthor`, all of which are combined into one `<div>` of class `author`.

`\printtitle`  
`\printauthor`  
`\printdate`

`\printtitle`, etc. are user-level macros intended to be used in custom `titlepage` or `\titlingpage` environments in cases where `\maketitle` is not desired. These commands preserve the `\thanks`, etc., and should not be used in the main text.

`\thetitle`  
`\theauthor`  
`\thedate`  
`\HTMLPageBottom`

`\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:

```
\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 l warp'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:** 8090 \begin{warpall}

\if@titlepage Some classes do not provide \if@titlepage. In this case, provide it and force it false.

```
8091 \ifcscsvvoid{@titlepagefalse} {
8092     \newif\if@titlepage
8093     \@titlepagefalse
8094 }{}}

8095 \end{warpall}
```

## 69.3 Changes for \affiliation

\affiliation {\text{}}

Adds the affiliation to the author for use in \maketitle.

Inside titlepage, this macro prints its argument. Outside, it is null.

**for HTML & PRINT:** 8096 \begin{warpall}
8097 \providerobustcmd{\affiliation}[1]{}\\
8098 \end{warpall}

**for PRINT output:** 8099 \begin{warpprint}

```
8100 \AtBeginEnvironment{titlepage} {
8101 \renewrobustcmd{\affiliation}[1]{\\ \textsc{\small#1}}
8102 }
8103
8104 \AtBeginDocument{
8105 \IfPackageLoadedTF{titling} {
8106 \AtBeginEnvironment{titlingpage} {
8107 \renewrobustcmd{\affiliation}[1]{\\ \textsc{\small#1}}
8108 }}
```

---

```

8109 }{}% titling loaded
8110 % AtBeginDocument

8111 \end{warpprint}

for HTML output: 8112 \begin{warpHTML}

```

**Env titlepage** Sets up a <div> of class titlepage. Provided even for memoir class, since it is used by \maketitle.

```

8113 \DeclareDocumentEnvironment{titlepage}{}%
8114 {%
8115     \renewrobustcmd{\affiliation}[1]{\` \InlineClass{affiliation}{##1}}%
8116     \LWR@printpendingfootnotes
8117     \LWR@forcenewpage
8118     \BlockClass{titlepage}
8119 }
8120 {
8121     \endBlockClass
8122     \LWR@printpendingfootnotes
8123 }

8124 \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: 8125 \begin{warpprint}
8126 \newcommand*{\printthanks}{\@thanks}
8127 \end{warpprint}

for HTML output: 8128 \begin{warpHTML}
8129 \newcommand*{\printthanks}{\LWR@stoppars \@thanks \LWR@startpars}
8130 \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:** 8131 \begin{warpHTML}

```

\printtitle

8132 \newcommand*{\printtitle}{%
8133 {%
8134     \LWR@stoppars%
8135     \LWR@htmltag{\LWR@tagtitle}%
8136     \@title%
8137     \LWR@htmltag{\LWR@tagtitleend}%
8138     \LWR@startpars%
8139 }

```

---

\LWR@printthetitle A private version which prints the title without footnotes, used to title each HTML page.

```
8140 \newcommand*\LWR@printthetitle{%
8141 {%
8142     \LWR@stoppars%
8143     \LWR@htmlltag{\LWR@tagtitle}%
8144     \thetitle%
8145     \LWR@htmlltag{\LWR@tagtitleend}%
8146     \LWR@startpars%
8147 }
```

\printauthor HTML version.

```
8148 \newcommand*\printauthor{%
```

The entire author block is contained in a <div> named author:

```
8149 \begin{BlockClass}{author}
```

\and finishes one author and starts the next:

```
8150 \renewcommand{\and}{%
8151 \end{BlockClass}%
8152 \begin{BlockClass}{oneauthor}%
8153 }
```

Individual authors are contained in a <div> named oneauthor:

```
8154 \begin{BlockClass}{oneauthor}%
8155 @author%
8156 \end{BlockClass}%
8157 \end{BlockClass}%
8158 }
```

\printdate

```
8159 \newcommand*\printdate{%
8160 \begin{BlockClass}{titledate}%
8161 @date%
8162 \end{BlockClass}%
8163 }
```

```
8164 \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:** 8165 \begin{warpprint}

\printtitle

```
8166 \newcommand*\printtitle{{\Huge\@title}}
```

\printauthor Print mode.

```
8167 \newcommand*{\printauthor}{%
8168     {{\Large\begin{tabular}[t]{c}\@author\end{tabular}}}}
```

\printdate

```
8169 \newcommand*{\printdate}{{\small\textrit{\@date}}}
8170 \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:** 8171 \begin{warpHTML}

```
8172 \IfClassLoadedTF{memoir}{%
8173 {%
8174     \newcommand{\LWR@setfootnoteseries}{%
8175         \renewcommand\thefootnote{\@arabic\c@footnote}%
8176     }%
8177 }{%
8178     \if@titlepage%
8179         \newcommand{\LWR@setfootnoteseries}{%
8180             \renewcommand\thefootnote{\@arabic\c@footnote}%
8181         }%
8182     \else%
8183         \newcommand{\LWR@setfootnoteseries}{%
8184             \renewcommand\thefootnote{\@fnsymbol\c@footnote}%
8185         }%
8186     \fi%
8187 }%
8188 }%
```

\LWR@maketitlesetup Patches \thanks macros.

```
8188 \newcommand*{\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```
8189 \LWR@setfootnoteseries%
8190 \def\@makefnmark{%
8191     \textsuperscript{\thefootnote}%
8192 }
```

\thefootnote  $\Rightarrow$  \nameuse{arabic}{footnote}, or  
\thefootnote  $\Rightarrow$  \nameuse{fnsymbol}{footnote}

Redefine the footnote text:

```
8193 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```
8194 \textsuperscript{@thefnmark}~%
    \makethanksmark \thanksfootmark \tamark \athefnmark \itshape a (or similar)
```

Print the text:

```
8195 {##1}%
8196 }%
8197 }
```

\@fnsymbol {*counter*}

Re-defined to use an **HTML** entity for the double vertical bar symbol. The original definition used `\|` which was not being seen by *pdftotext*.

```
8198 \def\LWR@HTML@fnsymbol#1{%
8199     \ifcase#1\or *\or
8200     \HTMLentity{dagger}\or
8201     \HTMLentity{Dagger}\or
8202     \HTMLentity{sect}\or
8203     \HTMLentity{para}\or
8204     \HTMLunicode{2016}\or
8205     **\or
8206     \HTMLentity{dagger}\HTMLentity{dagger} \or
8207     \HTMLentity{Dagger}\HTMLentity{Dagger} \else
8208     \@ctrerr\fi%
8209 }
8210 \LWR@formatted{@fnsymbol}
```

\maketitle **HTML** mode. Creates an **HTML** titlepage div and typesets the title, etc.

Code from the **titling** package is adapted, simplified, and modified for **HTML** output.

The name `\LWR@maketitle` is used to preserve its definition in case a later package overwrites `\maketitle`.

```
8211 \newcommand*{\LWR@maketitle}{%
```

An **HTML** titlepage `<div>` is used for all classes.

```
8212 \begin{titlepage}
```

Set up special patches:

```
8213 \LWR@maketitlesetup
```

Typeset the title, etc:

```
8214 \@maketitle
```

Immediately generate any `\thanks` footnotes:

```
8215 \LWR@stopars\@thanks\LWR@startpars
```

Close the HTML titlepage div and cleanup:

```

8216 \end{titlepage}
8217 \setcounter{footnote}{0}%
8218 \global\let\thanks\relax
8219 \global\let\maketitle\relax
8220 \global\let@\maketitle\relax
8221 \global\let@\thanks@\empty
8222 \global\let@\author@\empty
8223 \global\let@\date@\empty
8224 \global\let@\title@\empty
8225 \global\let\title\relax
8226 \global\let\author\relax
8227 \global\let\date\relax
8228 \global\let\and\relax
8229 }
8230
8231 \LetLtxMacro\maketitle\LWR@maketitle

```

\@maketitle HTML mode. Typesets the title, etc.:

```

8232 \providecommand*{\@maketitle}{}%
8233 \renewrobustcmd{\@maketitle}{%
8234   \LWR@stoppars%
8235   \LWR@htmlltag{\LWR@tagtitle}%
8236   \@title%
8237   \LWR@htmlltag{\LWR@tagtitleend}%
8238   \LWR@startpars%
8239   \begin{BlockClass}{author}}%

```

For IEEEtran class:

```

8240 \renewcommand*{\cr}{\%}
8241 \renewcommand*{\crrc}{\%}
8242 \renewcommand*{\noalign}{\%}

8243 \renewcommand{\and}{%
8244   \end{BlockClass}%
8245   \begin{BlockClass}{oneauthor}}%
8246 }%
8247 \begin{BlockClass}{oneauthor}%
8248   \@author%
8249   \end{BlockClass}%
8250 \end{BlockClass}%
8251 \begin{BlockClass}{titledate}%
8252   \@date%
8253 \end{BlockClass}%
8254 }

```

\LWR@titlingmaketitle \maketitle for use inside an HTML titlingpage environment.

```
8255 \newcommand*{\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
8256 \LWR@stoppars\@thanks\LWR@startpars
```

Set up special patches:

```
8257 \LWR@maketitlesetup
```

Typeset the title, etc:

```
8258 \@maketitle
```

Immediately generate any \thanks footnotes:

```
8259 \LWR@stopars\@thanks\LWR@startpars
8260 }
```

```
8261 \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:** 8262 \begin{warpall}

\AddSubtitlePublished Adds \published and \subtitle, and related.

```
8263 \newcommand*\AddSubtitlePublished{%
8264 \IfPackageLoadedTF{titling}{% yes titling package
8265   \newcommand{\@published}{}%
8266   \newcommand{\published}[1]{\gdef\@published{\#1}}%
8267   \renewcommand*\maketitlehooka{\printpublished}%
8268   \newcommand*\printpublished{%
8269     \warpprintonly{\begin{center}\unskip}%
8270     \begin{BlockClass}{published}%
8271     \warpprintonly{\large\itshape}%
8272     \@published%
8273     \end{BlockClass}%
8274     \warpprintonly{\end{center}}%
8275   }%
8276   \newcommand{\@subtitle}{}%
8277   \newcommand{\subtitle}[1]{\gdef\@subtitle{\#1}}%
8278   \renewcommand*\maketitlehookb{\prints_subtitle}%
8279   \newcommand*\prints_subtitle{%
8280     \warpprintonly{\begin{center}\unskip}%
8281     \begin{BlockClass}{subtitle}%
8282     \warpprintonly{\Large\itshape}%
8283     \@subtitle%
```

---

```

8284      \end{BlockClass}%
8285      \warpprintonly{\end{center}}%
8286    }%
8287 }% yes titling package
8288 {%- no titling package

8289  \def\@published{}%
8290  \DeclareDocumentCommand{\published}{m}{\gdef\@published{##1}}%
8291  \DeclareDocumentCommand{\printpublished}{}{%
8292    \def\@subtitle{}%
8293    \DeclareDocumentCommand{\subtitle}{m}{\gdef\@subtitle{##1}}%
8294    \DeclareDocumentCommand{\printsubtitle}{}{%
8295  }% no titling package
8296 }% \AddSubTitlePublished

8297 \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:** 8298 `\begin{warpHTML}`

`\abstractname` User-redefinable title for the abstract.

Also over-written by the `babel` package.

8299 `\providecommand*{\abstractname}{Abstract}`

Some classes allow an optional name, so it is allowed here.

`Env abstract`

```

8300 \DeclareDocumentEnvironment{abstract}{O{\abstractname}}
8301 {
8302   \LWR@forcenewpage
8303   \BlockClass{abstract}
8304   \BlockClassSingle{abstracttitle}{#1}
8305 }
8306 {
8307   \endBlockClass
8308 }

8309 \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:**

```
8310 \begin{warpall}
8311 \newcommand{\attribution}[1]{
8312   \begin{flushright}
8313   \unskip
8314   #1
8315   \end{flushright}%
8316 }
8317 \end{warpall}
```

**for HTML output:**

```
8318 \begin{warpHTML}
8319 \newcommand{\LWR@HTML@attribution}[1]{%
8320   \LWR@stoppars%
8321   \begin{BlockClass}{attribution}
8322   #1
8323   \end{BlockClass}
8324   \LWR@startpars%
8325 }
8326 \LWR@formatted{attribution}
8327 \end{warpHTML}
```

## 71.2 Quotes, quotations

**for HTML output:**

```
8328 \begin{warpHTML}
```

Env quote

```
8329 \newenvironment*{\LWR@HTML@quote}
8330 {
8331   \LWR@forcenewpage
8332   \LWR@htmlblocktag{blockquote}
8333 }
8334 {\LWR@htmlblocktag{/blockquote}}
8335
8336 \LWR@formattedenv{quote}
```

Env quotation

```
8337 \newenvironment*{\LWR@HTML@quotation}
8338 {
8339   \LWR@forcenewpage
8340   \LWR@htmlblocktag{blockquote}
8341 }
8342 {\LWR@htmlblocktag{/blockquote}}
8343
8344 \LWR@formattedenv{quotation}

8345 \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. `l warp` provides `\attribution`, which works for both print and `HTML` output. To combine the two so that `\attrib` is used for print and `\attribution` is used for `HTML`:

```
\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}
```

```
Len \vleftskip
Len \vleftmargini
Len \HTMLvleftskip
Len \HTMLleftmargini
```

These lengths are used by `verse` and `memoir` to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLvleftskip` and `\HTMLleftmargini` are provided to control the margins in `HTML` output. These new lengths may be set by the user before any `verse` environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

- ⚠ **spacing** Horizontal spacing relies on `pdftotext`'s ability to discern the layout (-layout option) of the text in the `HTML`-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLvleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to `HTML`, the stanza numbers are kept out of the left margin, which would have caused `pdftotext` to shift everything over.
- ⚠ **verse margin**

### 71.3.1 L<sup>A</sup>T<sub>E</sub>X core verse environment

**for HTML output:** 8346 `\begin{warpHTML}`

Env `verse`

```
8347 \newenvironment{LWR@HTML@verse}
8348     {\let\\\newline% l warp
8349      \list{}{\itemsep      \z@
8350          \itemindent    -1.5em%
8351          \listparindent\itemindent
8352          \rightmargin  \leftmargin
8353          \advance\leftmargin 1.5em}%
8354      \item\relax
8355      \endlist}
8356
8357 \LWR@formattedenv{verse}

8358 \end{warpHTML}
```

**for HTML & PRINT:** 8359 `\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.

```
8360 \newlength{\HTMLvleftskip}
8361 \setlength{\HTMLvleftskip}{1em}
```

Len \HTMLleftmargini Sets \leftmargini inside a verse environment in HTML.

```
8362 \newlength{\HTMLleftmargini}
8363 \setlength{\HTMLleftmargini}{4.5em}
```

```
8364 \end{warpall}
```

## 72 Verbatim and tabbing

**for HTML & PRINT:** 8365 \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.

```
8366 \newlength{\VerbatimHTMLWidth}
8367 \setlength{\VerbatimHTMLWidth}{4in}
8368 \end{warpall}
```

**for HTML output:** 8369 \begin{warpHTML}

Bool LWR@verbtags Used to temporarily turn off verbatim tags while doing \verbatiminput in the HTML head.

```
8370 \newbool{LWR@verbtags}
8371 \booltrue{LWR@verbtags}
```

\verb Patched to encapsulate the verbatim text inside span with a class of texttt.

```
8372 \LetLtxMacro\LWR@orig@verb@egroup\verb@egroup
8373
8374 \def\LWR@verb@egroup@endspan{%
8375   \LWR@orig@verb@egroup%
8376   \LWR@htmltag{/span}%
8377   \endgroup%
8378 }

8379 \xpretocmd{\verb}%
8380   {%
8381     \begingroup%
8382     \LWR@htmltag{span class=\textquotedbl{}texttt\textquotedbl}%
8383     \let\verb@egroup\LWR@verb@egroup@endspan%
8384   }%
8385   {}%
8386   {\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.

```
8387 \newcommand*{\LWR@atbeginverbatim}[2][]{%
8388 {%
```

Stop generating HTML paragraph tags:

```
8389 \LWR@stoppars%
```

Avoid excessive space between lines:

```
8390 \setlength{\parskip}{0ex}%
8391 \setlength{\topsep}{0pt}%
8392 \setlength{\partopsep}{0pt}%
```

Inside the verbatim, temporarily prevent underfull \hbox warnings.

```
8393 \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.

```
8394 \ifbool{\LWR@verbtags}{%
8395   \LWR@htmltag{pre class=\textquotedbl#2\textquotedbl}%
8396   \ifthenelse{\equal{\#1}{}{}}{\style=\textquotedbl#1\textquotedbl}%
8397 }%
8398 \par%
8399 }{}
```

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.

```
8400 \begingroup%
```

```
8401 \LWR@print@normalfont%
8402 \LWR@origttfamily%
8403 \LWR@print@scriptsize%
```

Since inside a <pre>, restore the original list processing:

```
8404 \LWR@restoreoriglists%
```

Turn off babel-french extra space before punctuation:

```
8405 \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:

```
8406 \LWR@select@print@hspace%
8407 }
```

`\LWR@afterendverbatim` Finishes enclosing a verbatim environment.

```

8408 \newcommand{\LWR@afterendverbatim}{%
8409 \endgroup%
8410 \par%

```

At the end of the environment, close the pre:

```

8411 \ifbool{\LWR@verbtags}{%
8412   \noindent\LWR@htmltag{/pre}\par% pre
8413 }{}%

```

Resume regular paragraph handling:

```

8414 \LWR@startpars%
8415 }%

```

\verbatiminput {*filename*}

Patch \verbatiminput to add HTML tags:

```

8416 \newcommand{\LWR@HTML@verbatim@input}[2]{%
8417   \ifbool{\LWR@verbtags}{\LWR@forcenewpage}{%
8418     \LWR@atbeginverbatim{Verbatim}%
8419     \LWR@print@verbatim@input{\#1}{\#2}%
8420     \LWR@afterendverbatim%
8421 }%
8422 %
8423 \LWR@formatted{verbatim@input}

```

Env verbatim

```

8424 \AfterEndPreamble{
8425 \LWR@traceinfo{Patching verbatim.}
8426 \AtBeginEnvironment{verbatim}{%
8427   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
8428     {}%
8429     {}%
8430     \LWR@forcenewpage%
8431     \LWR@atbeginverbatim{verbatim}%
8432   }%
8433 }%
8434 \AfterEndEnvironment{verbatim}{%
8435   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
8436     {}%
8437     {}%
8438     \LWR@afterendverbatim%
8439   }%
8440 }%
8441 %
8442 \AtBeginEnvironment{verbatim*}{%
8443   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
8444     {}%
8445     {}%
8446     \LWR@forcenewpage%
8447     \LWR@atbeginverbatim{verbatim}%
8448   }%
8449 }%
8450 \AfterEndEnvironment{verbatim*}{%
8451   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%

```

---

```

8452      {}%
8453      {%
8454          \LWR@afterendverbatim%
8455      }%
8456 }
8457 }
```

**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.

```

8458 \newenvironment*{\LWR@HTML@tabbing}
8459 {%
8460     \LWR@forcenewpage%
8461     \LWR@atbeginverbatim{tabbing}%
8462     \let\enskip\LWR@origskip%
8463     \let\quad\LWR@origquad%
8464     \let\quad\LWR@origquad%
8465     \let~\LWR@origtilde%
8466     \let,\LWR@origcomma%
8467     \let\tinspace\LWR@origthinspace%
8468     \let\negthinspace\LWR@orignegthinspace%
8469     \LWR@print@tabbing%
8470 }
8471 {%
8472     \endLWR@print@tabbing%
8473     \LWR@afterendverbatim%
8474 }
8475
8476 \LWR@formattedeenv{tabbing}

8477 \end{warpHTML}
```

## 73 Theorems

`\newtheorem`

{ $\langle text \rangle$ } [ $\langle counter \rangle$ ] — or — [ $\langle oldname \rangle$ ] { $\langle text \rangle$ }

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:** 8478 `\begin{warpHTML}`

`\begin{theorem} { $\langle name \rangle$ } { $\langle number \rangle$ }`

```

8479 \renewcommand{\begintheorem}[2]{%
8480 \LWR@forcenewpage
```

---

```

8481     \LWR@printpendingfootnotes%           lwarp

8482 \BlockClass{theoremcontents}
8483 \trivlist
8484 \item[\InlineClass{theoremlabel}{#1\ #2\ }]\itshape
8485 }

\@opargbegintheorem {\langle name\rangle} {\langle number\rangle} {\langle oparg\rangle}

LATEX defines this, but amsthm \relaxes it, so it will not be defined if amsthm is
loaded before lwarp.

8486 \ifundef{\@opargbegintheorem}{}{
8487     \renewcommand{\@opargbegintheorem}[3]{%
8488         \LWR@forcenewpage
8489         \BlockClass{theoremcontents}
8490         \trivlist
8491         \item[\InlineClass{theoremlabel}{#1\ #2\ (#3)\ }]\itshape
8492     }
8493 }

\@endtheorem

8494 \renewcommand*{\@endtheorem}{%
8495 \endtrivlist

8496     \LWR@printpendingfootnotes%           lwarp

8497 \endBlockClass% theoremcontents
8498 }

8499 \end{warpHTML}

```

## 74 Lists

The environments **itemize**, **enumerate**, and **description** are patched when **lwarp** is started. These patches support the standard L<sup>A</sup>T<sub>E</sub>X environments, as well as those of **enumerate**, **enumitem**, and **paralist**, and at least the French version of **babel**. Additional patches are done on a package-specific basis.

The L<sup>A</sup>T<sub>E</sub>X source for **itemize** and **enumerate** are found in **source2e**, but the source for **description** is found in **article.cls**, etc.

**empty item** To have an empty item, use **\mbox{}** or a trailing backslash. This forces a new line in print output, matching the new line which will appear in HTML output. Ex:

---

```

begin{itemize}
item \mbox{}
    \begin{itemize}
    ...
        \end{itemize}
item \

```

---

```
\begin{itemize}
...
\end{itemize}
```

---

\makelabel

While inside a list environment, `lwarp` nullifies a number of TeX horizontal skip and fill commands, allowing the user to define `\makelabel` for print mode while HTML mode ignores those commands.

-  **label font** When defining `\makelabel` in a list environment, use `\textbf` etc. instead of `\bfseries`.

## 74.1 List environment

**for HTML output:** 8500 `\begin{warpHTML}`

`\LWR@printcloselist` May be locally redefined by `enumerate` or `description`.

```
8501 \newcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}
```

`\LWR@printopenlist` May be locally redefined by `enumerate` or `description`.

```
8502 \newcommand*{\LWR@printopenlist}{%
8503   \ul style=\textquotedbl\LWR@print@mbox{list-style-type:none}\textquotedbl{}%
8504 }
```

`\@mklab` Removes PDF spacing.

```
8505 \AtBeginDocument{
8506 \def\@mklab#1{%
8507 %       \hfil %
8508 #1}
8509 \let\makelabel\@mklab
8510 }
```

`\@donoparitem` Modified for HTML output by replacing TeX boxes with plain text. Also removes PDF spacing.

```
8511 \def\@donoparitem{%
8512   \@noparitemfalse
8513 %   \global\setbox\@labels\hbox{\hskip -\leftmargin
8514 %                                         \unhbox\@labels
8515 %                                         \hskip \leftmargin}%
8516 %   \if@minipage\else
8517 %     \tempskipa\lastskip
8518 %     \vskip -\lastskip
8519 %     \advance\tempskipa\outerparskip
8520 %     \advance\tempskipa -\parskip
8521 %     \vskip\tempskipa
8522 %   \fi
8523 }
```

`\@item` Modified for HTML output by replacing TeX boxes with plain text. Also removes PDF spacing.

```
8524 \def\LWR@HTML@item[#1]{%
8525 \LWR@traceinfo{@item}%
8526   \if@noparitem
8527     \donoparitem
8528   \else
8529     \if@inlabel
8530       \indent
8531     \fi
8532     \ifhmode
8533       \unskip\unskip
8534     \fi
8535     \if@newlist
8536       \if@nobreak
8537         \nbitem
8538       \else
8539         \addpenalty\beginparpenalty
8540         \addvspace\topsep
8541         \addvspace{-\parskip}%
8542       \fi
8543     \else
8544       \addpenalty\itempenalty
8545       \addvspace\itemsep
8546     \fi
8547     \global\inlabeltrue
8548   \fi
8549 %   \everypar{%
8550 %     \minipagefalse
8551 %     \global\newlistfalse
8552 %
8553 %     \if@inlabel
8554 %       \setbox\z@\lastbox
8555 %         \ifvoid\z@
8556 %           \kern-\itemindent
8557 %         \fi}%
8558 %
8559 %     \box\@labels
8560 %   \fi
8561 %
8562 %   \if@nobreak
8563 %     \nobreakfalse
8564 %   \else
8565 %     \clubpenalty \zM
8566 %   \everypar{}%
8567 %   \fi}%
8568 \if@noitemarg
8569   \noitemargfalse
8570   \if@nmbrlist
8571     \refstepcounter\listctr
8572   \fi
8573 \fi
8574 \makelabel{#1} % extra space
```

```

8575 %   \sbox\@tempboxa{\makelabel{#1}%
8576 %   \global\setbox\@labels\hbox{%
8577 %     \unhbox\@labels
8578 %     \hskip \itemindent
8579 %     \hskip -\labelwidth
8580 %     \hskip -\labelsep
8581 %     \ifdim \wd\@tempboxa >\labelwidth
8582 %       \box\@tempboxa

8583 %     \else
8584 %       \hbox to\labelwidth {\unhbox\@tempboxa}%
8585 %     \fi
8586 %     \hskip \labelsep}%
8587 \ignorespaces%
8588 }

\@nbitem

8589 \def\@nbitem{%
8590 %   \@tempskipa\@outerparskip
8591 %   \advance\@tempskipa -\parskip
8592 %   \addvspace\@tempskipa
8593 }

```

\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.

```

8594 \newcommand*\LWR@listitem{%
8595   \LWR@stoppars%
8596   \LWR@startnewdepth{listitem}%
8597   \LWR@htmlltag{li}%
8598   \LWR@orignewline%
8599   \LWR@startpars%
8600   \LWR@ensuredoingapar%
8601   \LWR@origitem%
8602 }

```

\LWR@nulllistfills Nullifies various TeX fill commands, in case they are used inside \makelabel. Problems are caused when these are nullified all the time.

```

8603 \newcommand*\LWR@nulllistfills{%
8604   \renewcommand*\hss{}%
8605   \renewcommand*\llap[1]{##1}%
8606   \renewcommand*\rlap[1]{##1}%
8607   \renewcommand*\hfil{}%
8608   \renewcommand*\hfilneg{}%
8609   \renewcommand*\hfill{}%
8610 }

```

Env list {*<label>*} {*commands*}

```

8611 \newcommand*\LWR@liststart{%
8612   \LWR@traceinfo{\LWR@liststart}%

```

```

8613   \LWR@stoppars%
8614   \LWR@pushoneclose{list}%
8615   \LWR@htmlltag{\LWR@printopenlist}\LWR@orignewline%
8616   \LWR@startpars%
8617   \setlength{\topsep}{0pt}%
8618   \setlength{\partopsep}{0pt}%
8619   \setlength{\itemsep}{0pt}%
8620   \setlength{\parsep}{0pt}%
8621   \setlength{\leftmargin}{0pt}%
8622   \setlength{\rightmargin}{0pt}%
8623   \setlength{\listparindent}{0pt}%
8624   \setlength{\itemindent}{0pt}%
8625   \setlength{\labelsep}{1em}%
8626   \LWR@nulllistfills%
8627 }

8628 \newcommand*{\LWR@listend}{%
8629   \LWR@traceinfo{\LWR@listend}%
8630   \LWR@stoppars%
8631   \LWR@closeprevious{list}%
8632   \LWR@startpars%
8633 }

```

## 74.2 Itemize

\LWR@itemizeitem [<*label*>]

Handles \item inside an itemize or enumerate.

The optional argument is passed to \LWR@origitem.

See \LWR@openparagraph where extra \hspace is used to leave room for the label while inside a list during paragraph construction.

```

8634 \newcommand*{\LWR@itemizeitem}{%
8635   \LWR@stoppars%
8636   \LWR@startnewdepth{listitem}%
8637   \LWR@htmlltag{li}%
8638   \LWR@orignewline%
8639   \LWR@startpars%
8640   \LWR@ensuredoingapar%
8641   \LWR@origitem%
8642 }

```

Env itemize [<*options*>]

```

8643 \newcommand*{\LWR@itemizestart}{%
8644   \renewcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}%
8645   \renewcommand*{\LWR@printopenlist}{%
8646     ul style=\textquotedbl\textbackslash LWR@print@mbox{list-style-type:none}\textquotedbl{}%
8647   }%
8648   \LetLtxMacro{\item}{\LWR@itemizeitem}%
8649   \LWR@nulllistfills%
8650 }

```

### 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>*]

```
8651 \newcommand*{\LWR@enumeratestart}{%
8652     \renewcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}%
8653     \renewcommand*{\LWR@printopenlist}{%
8654         \ul style=\textquotedbl\textbackslash LWR@print@mbox{list-style-type:none}\textquotedbl{}%
8655     }%
8656     \LetLtxMacro\item\textbackslash LWR@itemizeitem%
8657     \LWR@nulllistfills%
8658 }
```

### 74.4 Description

\LWR@descitem [*<label>*] Handles an \item inside a description.

```
8659 \newcommand*{\LWR@descitem}[1][]{%
8660     \LWR@stoppars%
8661     \LWR@setlatestname{\#1}%
8662     \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.

```
8663 \begingroup%
8664 \let\textbackslash LWR@orig@desc@makelabel\makelabel
8665 \renewcommand*{\makelabel}[1]{%
8666     \textbackslash LWR@htmlltag{dt}%
8667     \textbackslash LWR@orig@desc@makelabel{\#1}%
8668     \textbackslash LWR@htmlltag{/dt}%
8669 }
8670 \LWR@select@html@nohspace%
8671 \LWR@origitem[\#1]%
8672 \endgroup%
8673 \LWR@orignewline%
8674 \LWR@htmlltag{dd}%
8675 \LWR@startpars%
8676 }
```

Env `description` [*<options>*]

Footnotes are modified to correctly parse optional arguments.

```
8677 \newcommand*{\LWR@descriptionstart}{%
8678     \renewcommand*{\LWR@printcloselist}{\LWR@printclosedescription}%
8679     \renewcommand*{\LWR@printopenlist}{\textbackslash dl}%
8680     \LetLtxMacro\item\textbackslash LWR@descitem%
8681     \LWR@nulllistfills%
8682 }
```

## 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.

```

8683 \newcommand*{\LWR@patchlists}{%
8684     \LetLtxMacro\item\LWR@listitem%
8685     \LetLtxMacro@item\LWR@HTML@item%
8686     \renewcommand*{\@trivlist}{%
8687         \LWR@traceinfo{@trivlist start}%
8688         \LWR@liststart%
8689         \LWR@orig@trivlist%
8690         \LWR@traceinfo{@trivlist done}%
8691     }%
8692     \renewcommand*{\trivlist}{%
8693         \LWR@traceinfo{trivlist}%
8694         \LWR@origtrivlist%
8695     }%
8696     \renewcommand*{\endtrivlist}{%
8697         \LWR@traceinfo{endtrivlist start}%
8698         \LWR@origendtrivlist\LWR@listend%
8699         \LWR@traceinfo{endtrivlist done}%
8700     }%
8701     \renewcommand*{\itemize}{%
8702         \LWR@itemizestart\LWR@origitemize%
8703     }%
8704     \renewcommand*{\enumerate}{%
8705         \LWR@enumeratestart\LWR@origenumerate%
8706     }%
8707     \renewcommand*{\description}{%
8708         \LWR@descriptionstart\LWR@origdescription%
8709     }%
8710 }
```

\LWR@restoreoriglists Restores the original trivlist environment.

```

8711 \newcommand*{\LWR@restoreoriglists}{%
8712     \LWR@traceinfo{\LWR@restoreoriglists}%
8713     \LetLtxMacro\item\LWR@origitem%
8714     \LetLtxMacro@item\LWR@orig@item%
8715     \let\@trivlist\LWR@orig@trivlist%
8716     \let\trivlist\LWR@origtrivlist%
8717     \let\endtrivlist\LWR@origendtrivlist%
8718     \LetLtxMacro\itemize\LWR@origitemize%
8719     \LetLtxMacro\enditemize\LWR@endorigitemize%
8720     \LetLtxMacro\enumerate\LWR@origenumerate%
8721     \LetLtxMacro\endenumerate\LWR@endorigenumerate%
8722     \LetLtxMacro\description\LWR@origdescription%
8723     \LetLtxMacro\enddescription\LWR@endorigdescription%
8724     \let\@mklab\LWR@orig@mklab%
8725     \let\makelabel\LWR@origmakelabel%
8726     \let\@donoparitem\LWR@orig@donoparitem%
8727     \let\@nbitem\LWR@orig@nbitem%
8728 }
```

---

8729 \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, lwarf'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}
{
  \begin{tabular}{cc}
    left & right \\
  }
  {
    \TabularMacro\ResumeTabular
    left & right \\
    \end{tabular}
  }
\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@subsomename}[2]{%  

    ...  

    \otherenvironmentname [args] {args} % for  

example  

}  

% Change catcode before absorbing arguments:  

\newcommand*{\LWR@HTML@somename}{%  

    \StartDefiningTabulars  

    \LWR@HTML@subsomename  

}  

% Change catcode again at the end:  

\newcommand*{\LWR@HTML@endsomename}{%  

    ...  

    \endotherenvironmentname % for example  

    \StopDefiningTabulars  

}  

% Combine with the existing print definition:  

\LWR@formattedenv{somename}
```

**Cell contents:****⚠ macro in a table**

- Using a custom macro inside a tabular data cell may result in an extra `HTML` data cell tag, corrupting the `HTML` table. To avoid this, use `\TabularMacro` just before the macro. This is ignored in print mode.

`\TabularMacro\somemacro & more row contents \\`

**Column specifiers:****⚠ math**

- Due to the way math is gathered for processing, column specifiers such as `>{$}c<{$}` do not work with `l warp`. Instead, each cell must specify math mode individually.

**@ and !**

- Only one each of `@` and `!` is used at each column, and they are used in that order.

**\multirow**

- In `\multirow` cells, the print version may have extra instances of `<`, `>`, `@`, and `!` cells on the second and later rows in the `\multirow` which do not appear in the `HTML` version.

**⚠ \newcolumntype**

- If `\newcolumntype` does not work for `HTML`, add a simplified column type using `\HTMLnewcolumntype`.

**font and alignment**

- `l warp` detects each of the following, and sets `HTML` CSS appropriately:
  - `>\centering\arraybackslash`
  - `>\raggedright\arraybackslash`
  - `>\raggedleft\arraybackslash`
  - `>\itshape`
  - `>\bfseries`
  - `>\bfseries\itshape`

These may be used with `\newcolumntype`, such as:

`\newcolumntype{P}[1]{>\centering\arraybackslash}p[#1]}`

**Rules:****vertical rules**

- Doubled `\hlines`, `\midrules`, and vertical rules are supported.
- Vertical rules next to either side of an `@` or `!` column are displayed on both sides of the column.

**width and trim**

- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with @ or ! columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.

**combined rules**

- If you wish to use \cmidrule followed by \bottomrule, it may be necessary to use:

```
\cmidrule{2-3} \\[-2ex]
\bottomrule
```

The optional -2ex is ignored in HTML, but improves the visual formatting in the print output.

- For \toprule and \bottomrule, when combined with a warpprint or warpHTML environment, if a “Misplaced \noalign” error occurs, change

This & That \endhead

to

```
\warpprintonly{This & That \endhead}
```

and likewise with the other \end headings. Keep the \endfirsthead row unchanged, as it is still relevant to HTML output.

**Other:**

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

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

- For S columns (from the 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 lwarf’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:** 8730 \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.

---

```

8731 \LetLtxMacro\hdashline\hline
8732 \LetLtxMacro\cdashline\cline
8733 \LetLtxMacro\firsthdashline\hline
8734 \LetLtxMacro\lastdashline\hline

```

### 75.3 Token lookahead

Used by `\LWR@futureonospacelet` to look at the next token.

`\LWR@mynexttoken`

```
8735 \newcommand{\LWR@mynexttoken}{\relax}
```

`\LWR@futureonospacelet` \futurelet copies the next token then executes a function to analyze it.

`\LWR@futureonospacelet` does the same, but ignores intervening spaces and paragraphs.

Based on the booktabs style:

```

8736 \def{\LWR@futureonospacelet}{\def{\LWR@cs{#1}}%
8737 {\afterassignment{\LWR@fnslone{\let{\nexttoken= }}%
8738 }%
8739 {\def{\LWR@fnslone}{\expandafter{\futurelet{\LWR@cs{\LWR@fnsltwo}}%
8740 }%
8741 {\def{\LWR@fnsltwo}{%
8742 {\expandafter{\ifx{\LWR@cs{\@sptoken}}%
8743 {\let{\next=\LWR@fnslthree}}%
8744 {\else}%
8745 {\expandafter{\ifx{\LWR@cs{\par}}%
8746 {\let{\next=\LWR@fnslthree}}%
8747 {\else}%
8748 {\let{\next=\nexttoken}}%
8749 {\fi}}%
8750 {\fi}\next}}%
8751 }%
8752 {\def{\LWR@fnslthree}{\afterassignment{\LWR@fnslone{\let{\next= }}}%

```

`\LWR@getmynexttoken` Looks ahead and copies the next token into `\LWR@mynexttoken`.

```

8753 \newcommand*{\LWR@getmynexttoken}{%
8754 {\LWR@traceinfo{\LWR@getmynexttoken}}%

```



Nothing must follow this next line:

```

8755 {\LWR@futureonospacelet{\LWR@mynexttoken{\LWR@tabledatacolumntag}}%
8756 }%

```

### 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.

True if should print a row tag before this column.

---

```
8757 \newbool{LWR@startedrow}
8758 \boolfalse{LWR@startedrow}
```

Bool LWR@tabularcelladded True if have added a data cell for this position.

```
8759 \newbool{LWR@tabularcelladded}
8760 \boolfalse{LWR@tabularcelladded}
```

Ctr LWR@hlines Number of \hlines or \midrules above the next row.

```
8761 \newcounter{LWR@hlines}
```

Ctr LWR@hdashedlines Number of arydshln dashed lines above the next row.

```
8762 \newcounter{LWR@hdashedlines}
```

Bool LWR@doingtbrule True if the next row will have a top/bottom rule above it.

```
8763 \newbool{LWR@doingtbrule}
8764 \boolfalse{LWR@doingtbrule}
```

Bool LWR@doingcmidrule True if the next row will have a cmidrule above it.

This is used by \LWR@tabularfinishrow to force a final empty row to create the border for the \cmidrule.

```
8765 \newbool{LWR@doingcmidrule}
8766 \boolfalse{LWR@doingcmidrule}
```

Bool LWR@tableparcell True if are handling a paragraph inside a table cell, so must close the paragraph tag before moving on.

```
8767 \newbool{LWR@tableparcell}
```

Bool LWR@skippingmrowcell True if are doing an empty \multirow cell, and thus there is no data tag to close.

```
8768 \newbool{LWR@skippingmrowcell}
```

Bool LWR@skippingmcolrowcell True if are doing an empty \multicolumnrow cell, and thus there is no data tag to close, and do not print @ and ! columns.

```
8769 \newbool{LWR@skippingmcolrowcell}
```

Bool LWR@usedmultirow Used to error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.

```
8770 \newbool{LWR@usedmultirow}
```

Bool LWR@foundmrowcell Used to error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.

```
8771 \newbool{LWR@foundmrowcell}
```

Bool LWR@skipatbang True if just finished a \multicolumn so should not create the trailing @ or ! columns table data cells.

```
8772 \newbool{LWR@skipatbang}
```

|                  |                                    |   |
|------------------|------------------------------------|---|
| Bool             | <code>LWR@emptyatbang</code>       | True if finishing a row and should print empty @ or ! column table data cells.  |
|                  |                                    | 8773 <code>\newbool{LWR@emptyatbang}</code>   |
| Bool             | <code>LWR@intabularmetadata</code> | True if are in a tabular but not in a data cell. Used to prevent extra HTML breaks if not inside table data.  |
|                  |                                    | 8774 <code>\newbool{LWR@intabularmetadata}</code><br>8775 <code>\boolfalse{LWR@intabularmetadata}</code>  |
| Bool             | <code>LWR@exittingtabular</code>   | When \end is found, turns off the next opening data tag.  |
|                  |                                    | 8776 <code>\newbool{LWR@exittingtabular}</code>   |
| Bool             | <code>LWR@tabularmutemods</code>   | Mutes HTML output for @, !, < and >. This is used while printing the final row to generate \bottomrules.  |
|                  |                                    | 8777 <code>\newbool{LWR@tabularmutemods}</code>   |
| Bool             | <code>LWR@validtablecol</code>     | True if found a valid table column type.  |
|                  |                                    | 8778 <code>\newbool{LWR@validtablecol}</code>   |
| Bool             | <code>LWR@opttablecol</code>       | True if found a table column optional argument.   |
|                  |                                    | 8779 <code>\newbool{LWR@opttablecol}</code>   |
|                  |                                    | Used to add a style to a table data cell:   |
|                  |                                    | 8780 <code>\newbool{LWR@tdhavecellstyle}</code>   |
| Ctr              | <code>LWR@tabularDepth</code>      | Tracks whether & is being used inside a tabular.  |
|                  |                                    | 8781 <code>\newcounter{LWR@tabulardepth}</code><br>8782 <code>\setcounter{LWR@tabulardepth}{0}</code>   |
| Ctr              | <code>LWR@tabularpardepth</code>   | Tracks whether should look ahead at the next token when encountering a \par while processing tabular contents.  |
|                  |                                    | When <code>LWR@tabularpardepth</code> is deeper than <code>LWR@tabulardepth</code> then lwarp has started looking at the contents of the tabular, and thus any \pars encountered must be followed by another token lookahead.                     |
|                  |                                    | 8783 <code>\newcounter{LWR@tabularpardepth}</code><br>8784 <code>\setcounter{LWR@tabularpardepth}{0}</code>   |
|                  |                                    | 8785 <code>\newcommand*{\LWR@colsresult}{}%</code> temp storage for column format results<br>8786 <code>\newcommand*{\LWR@pposition}{}%</code><br>8787 <code>\newcommand*{\LWR@pleft}{}%</code><br>8788 <code>\newcommand*{\LWR@pright}{}%</code> |
| LWR@tablecolspec |                                    | Holds the parsed column specification, of total width <code>LWR@tabletotalLaTeXcols</code> , 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.

```
8789 \providecommand*\LWR@strresult{}  
8790 \providecommand*\LWR@strresulttwo{}
```

\LWR@origcolspec Holds the original column specs given to tabular.

```
8791 \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, @, !, <, > 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.)

```
8792 \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.

```
8793 \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.

```
8794 \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.)

```
8795 \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.

```
8796 \newcounter{\LWR@tabletotalLaTeXcolsnext}
```

\LWR@colatspec A data array of specifications for @ columns. The leftmost's index is lefthead, the others are counter values. See section 42.

\LWR@colbangspec A data array of specifications for ! columns. The leftmost's index is lefthead, the others are counter values. See section 42.

\LWR@colbeforespec A data array of specifications for > columns.

\LWR@colafterspec A data array of specifications for < columns.

\LWR@colbarspec A data array of specifications for vertical rules.

\LWR@coladdclass A data array of extra css class, as set by >.

Ctr \LWR@cellcolordepth Counts how many cell color <div>s were added to the current tabular data cell.

```
8797 \newcounter{\LWR@cellcolordepth}
```

### 75.4.1 Multicolumn variables

```
8798 \newcounter{LWR@tablemulticolswidth}
```

Indexes into the multicolumn specification:

```
8799 \newcounter{LWR@tablemulticolspos}
```

Remembers multicolumn vertical rules if found in the column spec.

```
8800 \newcounter{LWR@mcolvertbarsl}
8801 \newcounter{LWR@mcolvertbarsr}
8802 \newcounter{LWR@mcolvertbarsldash}
8803 \newcounter{LWR@mcolvertbarsrdash}
8804 \newbool{LWR@mcolvertbaronleft}
```

### 75.4.2 Longtable variables

Bool LWR@starredlongtable Per the caption package, step the counter if longtable\*.

```
8805 \newbool{LWR@starredlongtable}
8806 \boolexfalse{LWR@starredlongtable}
```

### 75.4.3 Midrule variables

Ctr LWR@midrulecounter Indexes across the LWR@midrules and LWR@trim<l/r>rules data arrays.

```
8807 \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@insertatbangcols

```
8808 \newcommand*{\LWR@insertatbangcols}{%
8809     \ifbool{LWR@skipatbang}{%
8810         {}%
8811         {}%
8812         \LWR@printatbang{at}{\arabic{LWR@tableLaTeXcolindex}}%
8813         \LWR@printatbang{bang}{\arabic{LWR@tableLaTeXcolindex}}%
8814     }%
8815 }
```

\LWR@closetabledatacell If LWR@skippingmrowcell or LWR@skippingmcolrowcell then there is no data tag to close. Otherwise, close any paragraphs, then close the data tag.

```
8816 \newcommand*{\LWR@closetabledatacell}{%
8817     \booltrue{LWR@intabularmetadata}%
8818     \ifbool{LWR@exittingtabular}{%
8819         {}%
```

```

8820      \LWR@stopars%
8821      }%
8822      {%
8823      \ifboolexpr{bool{\LWR@skippingmrowcell} or bool{\LWR@skippingmcolrowcell}}{%
8824      {%
8825      \LWR@stopars%

```

If not skipping a \multicolumnrow cell, insert the @ and ! columns after this non-existent column.

```

8826      \ifbool{\LWR@skippingmcolrowcell}{%
8827      {}%
8828      {\LWR@insertatbangcols}%
8829      }%
8830      {%
8831      \not skippingmrowcell

```

Insert any < then any @ and ! column contents, unless muted for the \bottomrule or a \multicolumn:

```

8831      \unskip%
8832      \ifboolexpr{%
8833      bool{\LWR@tabularmutemods} or
8834      bool{\LWR@skipatbang} or
8835      bool{\LWR@emptyatbang}
8836      }%
8837      {}%
8838      {%
8839      \LWR@getexpparray{\LWR@colafterspec}{%
8840      {\arabic{\LWR@tableLaTeXcolindex}}%
8841      }%

```

Close paragraphs:

```

8842      \LWR@stopars%
8843      \boolfalse{\LWR@tableparcell}%

```

Close the table data cell.

Close any color <div>s.

```

8844      \whileboolexpr{test {\ifnumcomp{\value{\LWR@cellcolordepth}}{>}{0}}}{%
8845      \LWR@htmlltag{/div}\LWR@orignewline%
8846      \defaddtocounter{\LWR@cellcolordepth}{-1}%
8847      }%

```

Skip the @ and ! cells if are closing a multicolumn cell.

```

8848      \leavevmode\unskip\LWR@htmlltag{/td}\LWR@orignewline%
8849      \global\booltrue{\LWR@tabularcelladded}%
8850      \LWR@insertatbangcols%
8851      {%
8852      \not skipping mrowcell
8853      \not exiting tabular
8854      \boolfalse{\LWR@skippingmrowcell}%
8855      \boolfalse{\LWR@skippingmcolrowcell}%
8856      \boolfalse{\LWR@skipatbang}%

```

Color control. Column is set by >{} for each cell, so it must be cleared here.

```
8856     \def\LWR@cellHTMLcolor{}%
8857     \def\LWR@columnHTMLcolor{}%
8858     \defcounter{LWR@cellcolordepth}{0}%
8859 }
```

When not used inside a `tabular`, & performs its original function as recorded here ( with catcode 4 ).

```
8860 \let\LWR@origampmacro&
8861 \end{warpHTML}
```

### 75.5.1 Handling &

**for HTML output:** 8862 `\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.

```
8863 \newcommand*{\LWR@tabularampersand}{%
8864     \LWR@traceinfo{\LWR@tabularampersand}%
8865     \ifnumcomp{\value{LWR@tabulardepth}}{>}{0}%
8866     {%
```

If not skipping a multirow cell, close the current data cell.

```
8867     \unskip%
8868     \LWR@closetabledatacell%
```

Move to the next column.

```
8869     \defaddtocounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
8870     \global\boolfalse{LWR@tabularcelladded}%
```

Look at the next token to decide multi or single column data tag.

```
8871     \LWR@getmynexttoken%
8872     }%
```

If not inside a `tabular`, performs the original action:

```
8873     {%
8874         \LWR@origampmacro%
8875     }%
8876 }
```

& is left with its original catcode for now.

tikz package seems to require & be left alone until after tikz has been loaded. Also, cleveref uses the ampersand in one of its options.

& is made active inside a tabular.

& is left alone when in math alignments.

## 75.6 Filling an unfinished row

\LWR@tabularfinishrow Adds empty table cells if necessary to finish the row.

At the end of the table, if any bottom rules are requested then an empty row must be generated to form the borders which show the rules.

```
8877 \newcommand*{\LWR@tabularfinishrow}{%
```

If not exiting the tabular, or doing a rule, or have already started a row, finish this row:

```
8878 \ifboolexpr{%
8879     not bool {\LWR@exittingtabular} or%
8880     bool{\LWR@doingtbrule} or%
8881     bool{\LWR@doingcmidrule} or%
8882     test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}} or%
8883     test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}} or%
8884     bool{\LWR@startedrow}%
8885 }{%
```

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:

```
8886 \ifbool{\LWR@exittingtabular}{%
8887     \booltrue{\LWR@tabularmutemods}%
8888 }{%
8889     \boolfalse{\LWR@tabularmutemods}%
8890 }%
```

Locally reenable the table data tags until finished with the final row:

```
8891 \boolfalse{\LWR@exittingtabular}%
```

Generate table data tags and ampersands until the right edge:

```
8892 \whileboolexpr{%
8893     test {
8894         \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{<}{%
8895             \value{\LWR@tabletotalLaTeXcols}%
8896         } or %
8897         (%
8898             bool{\LWR@intabularmetadata} and%
8899                 not bool{\LWR@tabularcelladded} and%
```

```

8900      test {
8901          \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}
8902              {\value{LWR@tabletotalLaTeXcols}}
8903          }%
8904      )%
8905  }%
8906 {%
8907     \LWR@tabledatasinglecolumntag%

```

The following is essentially `\LWR@tabularampersand` with `LWR@emptyatbang` added to empty the following cells:

```

8908     \LWR@closetabledatcell%
8909     \defaddtocounter{LWR@tableLaTeXcolindex}{1}%
8910     \global\boolfalse{LWR@tabularcelladded}%
8911     \booltrue{LWR@emptyatbang}%

```

Starts the next cell:

```

8912     \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
8913         {\value{LWR@tabletotalLaTeXcols}}%
8914         {\LWR@getmynexttoken}%
8915     }%
8916 }%

```

Reenable the original `LWR@exittingtabular` to close the entire table:

```

8917     \ifbool{LWR@tabularmutemods}{%
8918         \booltrue{LWR@exittingtabular}%
8919     }{%
8920         \boolfalse{LWR@exittingtabular}%
8921     }%
8922     \boolfalse{LWR@tabularmutemods}%

8923     \boolfalse{LWR@emptyatbang}%
8924 }{}% ifboolexpr
8925 }

```

## 75.7 Handling \\

Inside tabular, `\\` is redefined to `\LWR@tabularendofline`

Throws away options `\[dim]` or `\*`

`\LWR@tabularendofline`

```
8926 \NewDocumentCommand{\LWR@tabularendofline}{s o}{%
```

Finish the row:

```

8927     \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
8928         {\value{LWR@tabletotalLaTeXcols}}%
8929         {\LWR@tabularfinishrow}%
8930         {\LWR@closetabledatcell}%
8931     \LWR@htmltag{/tr}\LWR@orignewline%

```

xcolor row color support:

```
8932     \@rowc@lors%
```

No longer inside a data cell:

```
8933     \booltrue{LWR@intabularmetadata}%
```

Not yet started a table row:

```
8934     \boolfalse{LWR@startedrow}%
```

Additional setup:

```
8935     \defcounter{LWR@hlines}{0}%
8936     \defcounter{LWR@hdashedlines}{0}%
8937     \boolfalse{LWR@doingtbrule}%
8938     \boolfalse{LWR@doingsmidrule}%
8939     \LWR@clearmidrules%
```

```
8940     \def\LWR@rowHTMLcolor{}%
```

Start at first column:

```
8941     \defcounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
8942     \global\boolfalse{LWR@tabularcelladded}%
```

Allow TeX to flush the pending paragraph. Not doing so causes a slowdown for very large tables.

```
8943     \LWR@stoppars%
8944     \LWR@origpar%
```

Look at the next token to decide between single column data tag or a special case:

```
8945     \LWR@getmynexttoken%
8946 }
```

## 75.8 Looking ahead in the column specifications

\LWR@columnspeclookahead {⟨offset⟩}

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}.

```
8947 \newcommand*{\LWR@columnspeclookahead}[1]{%
8948     \setcounter{LWR@tempcountone}{\value{LWR@tablecolspecindex}}%
8949     \addtocounter{LWR@tempcountone}{#1}%
8950     \fullexpandarg%
8951     \StrChar{\LWR@origcolspec}{\arabic{LWR@tempcountone}}[\LWR@strresulttwo]%
```

Get the contents of the first group in `\LWR@strresulttwo`:

```
8952      \exploregroups%
8953      \StrChar{\LWR@strresulttwo}{1}[\LWR@strresulttwo]%
8954      \noexploregroups%
8955 }
```

## 75.9 Parsing @, >, <, !, bar columns

Holds the parsed argument for @, >, <, or ! columns:

```
8956 \newcommand*{\LWR@colparameter}{}%
```

`\LWR@parseatcolumn` {*(this column type)*}

Handles @{text} columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
8957 \newcommand*{\LWR@parseatcolumn}[1]{%
```

Move to the next token after the '@':

```
8958 \LWR@traceinfo{at column}%
8959 \defaddtocounter{\LWR@tablecolsindex}{1}%
```

Read the next token into `\LWR@colparameter`, expanding once:

```
8960 \LWR@traceinfo{about to read the next token}%
8961 \expandarg%
8962 \StrChar{\LWR@origcolspec}%
8963 {\arabic{\LWR@tablecolsindex}}[\LWR@colparameter]%
8964 \fullexpandarg%
```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```
8965 \LWR@traceinfo{have now read the next token}%
8966 \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
8967 {%
8968   \LWR@traceinfo{at the left edge}%
8969   \LWR@setexpparray{\LWR@colatspec}%
8970   {leftedge}%
8971   {\expandafter\@firstofone\LWR@colparameter}%
8972   \LWR@traceinfo{at the left edge: %}%
8973   \LWR@getexpparray{\LWR@colatspec}{leftedge}%
8974 }%
8975 {%
8976   \LWR@traceinfo{not at the left edge}%
8977   \LWR@setexpparray{\LWR@colatspec}%
8978   {\arabic{\LWR@tabletotalLaTeXcols}}%
8979   {\expandafter\@firstofone\LWR@colparameter}%
8980   \LWR@traceinfo{at \arabic{\LWR@tabletotalLaTeXcols}}%
8981   : % space
8982   \LWR@getexpparray{\LWR@colatspec}{\arabic{\LWR@tabletotalLaTeXcols}}%
8983 }%
8984 \let\LWR@colparameter\relax%
```

```
8985     \booltrue{LWR@validtablecol}%
8986 }
```

\LWR@parsebangcolumn {*(this column type)*} Handles !{text} columns.

The argument is ignored, but provided for compatibility with \LWR@parsenormalcolumn.

```
8987 \newcommand*{\LWR@parsebangcolumn}[1]{%
```

Move to the next token after the '!':

```
8988     \LWR@traceinfo{bang column}%
8989     \defaddtocounter{LWR@tablecolsindex}{1}%
```

Read the next token into \LWR@colparameter, expanding once:

```
8990     \LWR@traceinfo{about to read the next token:}%
8991     \expandarg%
8992     \StrChar{\LWR@origcolspec}%
8993         {\arabic{LWR@tablecolsindex}}[\LWR@colparameter]%
8994     \fullexpandarg%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```
8995     \LWR@traceinfo{have now read the next token}%
8996     \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
8997     {% left edge of the table:
8998         \LWR@traceinfo{at the left edge}%
8999         \LWR@setexparray{\LWR@colbangspec}%
9000             {leftedge}%
9001             {\expandafter\@firstofone\LWR@colparameter}%
9002     }%
9003     {% not at the left edge:
9004         \LWR@traceinfo{not at the left edge}%
9005         \LWR@setexparray{\LWR@colbangspec}%
9006             {\arabic{LWR@tabletotalLaTeXcols}}%
9007             {\expandafter\@firstofone\LWR@colparameter}%
9008         \LWR@traceinfo{bang \arabic{LWR@tabletotalLaTeXcols}: \LWR@colparameter!}%
9009     }%
9010     \let\LWR@colparameter\relax%
9011     \booltrue{LWR@validtablecol}%
9012 }
```

\LWR@checkbeforeaddclass {*(compared csname)*} {*(css class to add)*}

```
9013 \newcommand*{\LWR@checkbeforeaddclass}[2]{%
9014     \ifcsstrequal{\LWR@tempone}{#1}%
9015     {%
9016         \LWR@setexparray{\LWR@coladdclass}%
9017             {\arabic{LWR@tabletotalLaTeXcolsnext}}%
9018             { #2}% space is intentional
9019     }{}%
9020 }
```

\LWR@checkmathcolpar Error if using math in column parameters.

```
9021 \newcommand*{\LWR@checkmathcolpar}{%
```

```

9022   \IfSubStr{\detokenize\expandafter{\LWR@colparameter}}{\LWRdollar}%
9023     {%
9024       \PackageError{l warp}%
9025         {%
9026           L warp does not support '$' in column specifiers.\MessageBreak
9027             Specify '$' math for each cell in the column.\MessageBreak
9028               Enter 'h' for more info%
9029             }%
9030             {%
9031               For example, replace '>{$}c<{$}' with 'c', and then\MessageBreak
9032                 use '$cell contents$' for each cell in the column.%%
9033             }%
9034           }{}}%
9035 }

```

\LWR@parsebeforecolumn {*(this column type)*}

Handles >{text} columns.

The argument is ignored, but provided for compatibility with \LWR@parsenormalcolumn.

```
9036 \newcommand*{\LWR@parsebeforecolumn}[1]{%
```

Move to the next token after the '>':

```
9037 \defaddtocounter{\LWR@tablecolsindex}{1}%
```

Read the next token, expanding once into \LWR@colparameter:

```

9038   \expandarg%
9039   \StrChar{\LWR@origcolspec}%
9040     {\arabic{\LWR@tablecolsindex}}[\LWR@colparameter]%
9041   \fullexpandarg%

```

Error if using >{\$}, which is not supported by l warp.

```
9042 \LWR@checkmathcolpar%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

9043   \LWR@setexpparray{\LWR@colbeforespec}%
9044     {\arabic{\LWR@tabletotalLaTeXcolsnext}}%
9045     {\expandafter\@firstofone\LWR@colparameter}%
9046 %
9047   \edef\tempone{\expandafter\@firstofone\LWR@colparameter}%

```

If detect >{\centering\arraybackslash} or related, add a css class.

```

9048   \LWR@checkbeforeaddclass{\LWR@detect@centeringarraybackslash}{tdcenter}%
9049   \LWR@checkbeforeaddclass{\LWR@detect@raggedrightarraybackslash}{tdleft}%
9050   \LWR@checkbeforeaddclass{\LWR@detect@raggedleftarraybackslash}{tdright}%
9051   \LWR@checkbeforeaddclass{\LWR@detect@itshape}{tditshape}%
9052   \LWR@checkbeforeaddclass{\LWR@detect@bfseries}{tdbfseries}%
9053   \LWR@checkbeforeaddclass{\LWR@detect@bf}{tdbf}%

9054   \let\LWR@colparameter\relax%
9055   \booltrue{\LWR@validtablecol}%
9056 }

```

---

```
\LWR@parseaftercolumn {<this column type>}
```

Handles <{text} columns.

The argument is ignored, but provided for compatibility with \LWR@parsenormalcolumn.

```
9057 \newcommand*{\LWR@parseaftercolumn}[1]{%
```

Move to the next token after the '<':

```
9058     \defaddtocounter{\LWR@tablecolsindex}{1}%
```

Read the next token, expanding once into \LWR@colparameter:

```
9059     \expandarg%
9060     \StrChar{\LWR@origcolspectext}%
9061         {\arabic{\LWR@tablecolsindex}}[\LWR@colparameter]%
9062     \fullexpandarg%
```

Error if using >{\$}, which is not supported by l warp.

```
9063     \LWR@checkmathcolpar%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```
9064     \LWR@setexpparray{\LWR@colafterspec}%
9065         {\arabic{\LWR@tabletotalLaTeXcols}}%
9066         {\expandafter\@firstofone\LWR@colparameter}%
9067     \let\LWR@colparameter\relax%
9068     \booltrue{\LWR@validtablecol}%
9069 }
```

---

```
\LWR@parsebarcolumn {<this column type>}
```

Handles vertical rules.

The argument is ignored, but provided for compatibility with \LWR@parsenormalcolumn.

```
9070 \newcommand*{\LWR@parsebarcolumn}[1]{%
9071     \LWR@traceinfo{\LWR@parsebarcolumn}%
```

Remember the bar at this position:

```
9072     \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
9073     {% left edge of the table:
9074         \edef\LWR@tempone{\LWR@getexpparray{\LWR@colbarspec}{leftedge}}%
9075         \ifdefstring{\LWR@tempone}{tvertbarl}%
9076             {\LWR@setexpparray{\LWR@colbarspec}{leftedge}{tvertbarldouble}}%
9077             {\LWR@setexpparray{\LWR@colbarspec}{leftedge}{tvertbarl}}%
9078     }%
9079     {% not at the left edge:
9080         \edef\LWR@tempone{%
9081             \LWR@getexpparray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcols}}}%
9082         \ifdefstring{\LWR@tempone}{tvertbarr}%
9083             {%
9084                 \LWR@setexpparray{\LWR@colbarspec}%
9085                     {\arabic{\LWR@tabletotalLaTeXcols}}{tvertbarrdouble}}%
```

```

9087      }%
9088      {%
9089          \LWR@setexpparray{\LWR@colbarspec}%
9090              {\arabic{\LWR@tabletotalLaTeXcols}}{tvertbarr}%
9091      }%
9092      }%
9093      \booltrue{\LWR@validtablecol}%
9094 }

```

\LWR@parsecoloncolumn {*this column type*}

Handles vertical rules.

The argument is ignored, but provided for compatibility with \LWR@parsenormalcolumn.

```

9095 \newcommand*{\LWR@parsecoloncolumn}[1]{%
9096     \LWR@traceinfo{\LWR@parsecoloncolumn}%

```

Remember the bar at this position:

```

9097 \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
9098 {%
9099     % left edge of the table:
9100     \edef\LWR@tempone{\LWR@getexpparray{\LWR@colbarspec}{leftedge}}%
9101     \ifdefstring{\LWR@tempone}{tvertbarldash}%
9102         {\LWR@setexpparray{\LWR@colbarspec}{leftedge}{tvertbarldoubledash}}%
9103         {\LWR@setexpparray{\LWR@colbarspec}{leftedge}{tvertbarldash}}%
9104     }%
9105     % not at the left edge:
9106     \edef\LWR@tempone{%
9107         \LWR@getexpparray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcols}}}%
9108     \ifdefstring{\LWR@tempone}{tvertbarrdash}%
9109         {\LWR@setexpparray{\LWR@colbarspec}{%
9110             {\arabic{\LWR@tabletotalLaTeXcols}}{tvertbarrdoubledash}}%}
9111         {\LWR@setexpparray{\LWR@colbarspec}{%
9112             {\arabic{\LWR@tabletotalLaTeXcols}}{tvertbarrdash}}}%}
9113     }%
9114     \booltrue{\LWR@validtablecol}%
9115 }

```

\LWR@parsesemicoloncolumn {*this column type*}

Handles vertical rules.

The argument is ignored, but provided for compatibility with \LWR@parsenormalcolumn.

The arguments to the column type are absorbed by \LWR@columntype@<char>, defined by \LWR@modifycolumntype.

```

9116 \newcommand*{\LWR@parsesemicoloncolumn}[1]{%

```

Treat ; as a : column:

```

9117     \LWR@parsecoloncolumn{}%
9118 }

```

## 75.10 Parsing common column types

```
\LWR@parsenormalcolumn {\langle this column type\rangle}
```

Add to the accumulated column specs, advance counters, and pre-clear another column of at, before, and after specs.

\newcolumntype definitons use \LWR@parsenormalcolumn, so an HTML and print version are given so that they may work inside a `lateximage`.

The arguments to the column type are absorbed by \LWR@columntype@<char>, defined by \LWR@modifycolumntype.

```
9119 \newcommand*{\LWR@HTML@LWR@parsenormalcolumn}[1]{%
9120     \defaddtocounter{LWR@tabletotalLaTeXcols}{1}%
9121     \defaddtocounter{LWR@tabletotalLaTeXcolsnext}{1}%
9122     \LWR@setexparray{LWR@tablecolspec}{\arabic{LWR@tabletotalLaTeXcols}}{\#1}%
9123     \LWR@traceinfo{normal column \arabic{LWR@tabletotalLaTeXcols}: #1}%
9124     \LWR@setexparray{LWR@colatspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9125     \LWR@setexparray{LWR@colbangspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9126     \LWR@setexparray{LWR@colbeforespec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9127     \LWR@setexparray{LWR@col afterspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9128     \LWR@setexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9129     \LWR@setexparray{LWR@coladdclass}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9130     \booltrue{LWR@validtablecol}%
9131 }
9132
9133 \newcommand*{\LWR@print@LWR@parsenormalcolumn}[1]{}
9134
9135 \LWR@formatted{LWR@parsenormalcolumn}
```

## 75.11 Parsing ‘w’ columns

W and w columns are handled via array with \HTMLnewcolumntype.

## 75.12 Parsing ‘\*’ columns

```
\LWR@parsestarcolumn {\langle this column type\rangle}
```

Star columns should already have been expanded, so this should never be used.

The arguments to the column type are absorbed by \LWR@columntype@<char>, defined by \LWR@modifycolumntype.

The argument is ignored, but provided for compatibility with \LWR@parsenormalcolumn.

```
9136 \newcommand*{\LWR@parsestarcolumn}[1]{}
```

## 75.13 Expanding the star column specifications

```
\LWR@expandpreamble {\langle tabular preamble\rangle}
```

Table 13: Tabular baseline

| l | p   | m   | b   | r   |
|---|-----|-----|-----|-----|
|   |     |     | bot |     |
|   |     |     | mid | bot |
| 1 | par | mid | bot | r   |
|   | par | mid |     |     |
|   | par |     |     |     |

From array \@mkpream.

The resulting expanded preamble is stored in \the\@temptokena. Assign as:

```
\edef\destination{\the\@temptokena}
```

```
9137 \newcommand*\LWR@expandpreamble}[1]{%
9138   \edef\@tempa{\@temptokena{#1}}%
9139   \atempa%
9140   \tempswatrue%
9141   \@whilesw\if@tempswa\fi{%
9142     \atempswafalse\the\NC@list%
9143   }%
9144 }
```

## 75.14 Parsing the column specifications

### ⚠ tabular baselines

HTML CSS cannot exactly match the L<sup>A</sup>T<sub>E</sub>X concept of a baseline for a table row. Table 13 shows the L<sup>A</sup>T<sub>E</sub>X results for various vertical-alignment choices, with the baseline of the first column drawn across all the columns for comparison. See the p column specification in table 14 for details.

Table 14 describes how each kind of column is converted to HTML.

Table 15 shows the various internal macros generated for each column type.

```
\LWR@modifycolumntype {<1: column type letter>} {<2: number args to ignore>} {<3: csname of the cell action>} {<4: csname of the multicolumn print type action>} {<5: csname of the multicolumn print data action>}
```

Add HTML functionality to an existing print version column type.

```
9145 \newcommand*\LWR@modifycolumntype}[5]{%
9146   \LWR@traceinfo{\LWR@modifycolumntype !#1!#2!#3!#4!#5!}%
9147   \LWR@traceinfo{\LWR@modifycolumntype #1}%
9148   \edef\@tempa{%
9149     \noexpand\csdef{\LWR@columntype@#1}{%
9150       \noexpand\@nameuse{\#3}{#1}%
9151       \noexpand\defaddtocounter{\LWR@tablecolspecindex}{#2}%
9152     }%
9153     \noexpand\csdef{\LWR@columntype@mctype@#1}{%
9154       \noexpand\@nameuse{\#4}{#1}%
9155     }%
9156     \noexpand\csdef{\LWR@columntype@madata@#1}{%
```

Table 14: Tabular HTML column conversions

Each cell is given a css class of `td<columntype>`.

**l, r, c:** Converted to table cells without paragraph tags.

Uses css `vertical-align:middle` so that top or bottom-aligned cells may go above or below this cell.

**p:** Converted to table cells with paragraph tags. Ref: Table 13, L<sup>A</sup>T<sub>E</sub>X places the top line of a parbox aligned with the rest of the text line, so css `vertical-align:bottom` is used to have the HTML result appear with the paragraph extending below the L, R, C cells at the middle, if possible. This may be confusing as a P cell may not top-align with an L,R,C cell in the HTML conversion, especially in the presence of a B cell, and two P cells side-by-side will be aligned at the bottom instead of the top. Some adjustment of the css may be desired, changing `td.tdp`, `td.tdP`, `td.tdprule`, and `td.tdPrule` to `vertical-align: middle`. Another possibility is to change L,R,C, and P to `vertical-align: top` and not worry about the alignment of B and M cells or trying to approximate L<sup>A</sup>T<sub>E</sub>X baselines.

**m:** With paragraph tags, css `vertical-align:middle`.

**b:** With paragraph tags, css `vertical-align:top` so that the bottom of the text is closest to the middle of the text line.

**w and W:** Converted to l, c, or r. No paragraph tags.

**P, M, B:** Horizontally-centered versions.

**S:** Treated as 'c'. Ignores optional argument. From the `siunitx` package.

**D:** Treated as 'c'. From the `dcolumn` package.

**@, !, >, <:** One each, in that order.

**|:** Vertical rule.

**Unknown:** Converted to 'l'.

**\newcolumntype:** Expands to its replacement text.

**\HTMLnewcolumntype:** Provides simplified replacement text for HTML.

---

Table 15: HTML column type internal macros

**<coltype>**: The single-letter column type, such as c or X.

**Created by \LWR@modifycolumntype**: Used by lwarf to add HTML functionality to each built-in column type.

**\LWR@columntype@<coltype>**: Handles tabular columns depending on the type. Calls \LWR@parsenormalcolumn or related, then advances \LWR@tablecolsindex.

**\LWR@columntype@mctype@<coltype>**: Generates the \multicolumn HTML cell css class. Calls \LWR@printmccoltype@normal or related.

**\LWR@columntype@madata@<coltype>**: Generates the \multicolumn HTML cell data. Calls \LWR@printmccoldata@normal or related.

**Created by \newcolumntype**: From array.

**\NC@find@<coltype>**: Internally used to parse the column specifier.

**\NC@rewrite@<coltype>**: Stores the print-mode replacement text.

**Created by \HTMLnewcolumntype**: From lwarf.

**\LWR@print@NC@rewrite@<coltype>**: Copied from \NC@rewrite@<type>.

**\LWR@HTML@NC@rewrite@<coltype>**: Stores the HTML-mode replacement text.

**\NC@rewrite@<coltype>**: Redefined to use the print or HTML version.

---

```

9157           \noexpand\@nameuse{\#5}{\#2}%
9158           }%
9159           }%
9160           \atempa%
9161   \LWR@traceinfo{\LWR@modifycolumntype done}%
9162 }

9163 \LWR@modifycolumntype{l}{0}{\LWR@parsenormalcolumn}
9164   {\LWR@printmccoltype@normal}{\LWR@printmccoldata@normal}
9165
9166 \LWR@modifycolumntype{c}{0}{\LWR@parsenormalcolumn}
9167   {\LWR@printmccoltype@normal}{\LWR@printmccoldata@normal}
9168
9169 \LWR@modifycolumntype{r}{0}{\LWR@parsenormalcolumn}
9170   {\LWR@printmccoltype@normal}{\LWR@printmccoldata@normal}

9171 \LWR@modifycolumntype{@}{0}{\LWR@parseatcolumn}
9172   {\LWR@printmccoltype@ignore}{\LWR@printmccoldata@other}
9173
9174 \LWR@modifycolumntype{!}{0}{\LWR@parsebangcolumn}
9175   {\LWR@printmccoltype@ignore}{\LWR@printmccoldata@other}
9176
9177 \LWR@modifycolumntype{>}{0}{\LWR@parsebeforecolumn}
9178   {\LWR@printmccoltype@ignore}{\LWR@printmccoldata@other}
9179
9180 \LWR@modifycolumntype{<}{0}{\LWR@parseaftercolumn}
9181   {\LWR@printmccoltype@ignore}{\LWR@printmccoldata@other}
9182

```

```

9183 \LWR@modifycolumntype{ | }{0}{\LWR@parsebarcolumn}
9184     {\LWR@printmccoltype@vertbar}{\LWR@printmccoldata@skip}
9185
9186 \LWR@modifycolumntype{ : }{0}{\LWR@parsecoloncolumn}
9187     {\LWR@printmccoltype@colon}{\LWR@printmccoldata@skip}
9188
9189 \LWR@modifycolumntype{ ; }{1}{\LWR@parsesemicoloncolumn}
9190     {\LWR@printmccoltype@semicolon}{\LWR@printmccoldata@skip}

9191 \LWR@modifycolumntype{p}{1}{\LWR@parsonormalcolumn}
9192     {\LWR@printmccoltype@normal}{\LWR@printmccoldata@paragraph}
9193
9194 \LWR@modifycolumntype{m}{1}{\LWR@parsonormalcolumn}
9195     {\LWR@printmccoltype@normal}{\LWR@printmccoldata@paragraph}
9196
9197 \LWR@modifycolumntype{b}{1}{\LWR@parsonormalcolumn}
9198     {\LWR@printmccoltype@normal}{\LWR@printmccoldata@paragraph}

```

A star column:

```

9199 \LWR@modifycolumntype{ * }{2}{\LWR@parsestarcolumn}
9200     {\LWR@printmccoltype@ignore}{\LWR@printmccoldata@skip}

```

\HTMLnewcolumntype {<col type>} [<num args>] [<optional arg>] [<replacement text>]

A user-level macro to creates an HTML version of the replacement text for the column type.

This is the equivalent to:

```

\newcommand*{\LWR@HTML@NC@rewrite@<columntype>}[<num args>]
    {\NC@find <replacement text>}
\LWR@formatted{\NC@rewrite@<columntype>}

```

```

9201 \NewDocumentCommand{\HTMLnewcolumntype}{m O{0} o m}{%
9202     \IfValueTF{#3}
9203     {
9204         \expandafter\newcommand\expandafter*%
9205             \csname LWR@HTML@NC@rewrite@#1\endcsname[#2][#3]{\NC@find #4}%
9206             \LWR@formatted{\NC@rewrite@#1}%
9207     }
9208     {
9209         \expandafter\newcommand\expandafter*%
9210             \csname LWR@HTML@NC@rewrite@#1\endcsname[#2]{\NC@find #4}%
9211             \LWR@formatted{\NC@rewrite@#1}%
9212     }
9213 }

9214 \end{warpHTML}

```

**for PRINT output:** 9215 \begin{warpprint}

```
9216 \NewDocumentCommand{\HTMLnewcolumntype}{m O{0} o m}{}
```

```
9217 \end{warpprint}
```

**for HTML output:** 9218 \begin{warpHTML}

---

```
\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.

```
9219 \newcommand*{\LWR@parsetablecols}[1]{%
9220   \LWR@traceinfo{\LWR@parsetablecols}{%
```

Remember the original supplied column spec:

```
9221 \renewcommand*{\LWR@origcolspec}{#1}{%
```

Remove spaces:

```
9222 \expandarg%
9223 \StrSubstitute{\LWR@origcolspec}{}{}[\LWR@origcolspec]{%
```

Expand any star columns:

```
9224 \LWR@expandpreamble{\LWR@origcolspec}{%
9225 \edef\LWR@origcolspec{\the\@temptokena}{%
```

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:

```
9226 \defcounter{\LWR@tabletotalLaTeXcols}{0}{%
9227 \defcounter{\LWR@tabletotalLaTeXcolsnext}{1}{%
9228 \LWR@setexpparray{\LWR@colatspec}{leftedge}{}}{%
9229 \LWR@setexpparray{\LWR@colatspec}{1}{}}{%
9230 \LWR@setexpparray{\LWR@colatspec}{2}{}}{%
9231 \LWR@setexpparray{\LWR@colatspec}{3}{}}{%
9232 \LWR@setexpparray{\LWR@colbangspec}{leftedge}{}}{%
9233 \LWR@setexpparray{\LWR@colbangspec}{1}{}}{%
9234 \LWR@setexpparray{\LWR@colbangspec}{2}{}}{%
9235 \LWR@setexpparray{\LWR@colbangspec}{3}{}}{%
9236 \LWR@setexpparray{\LWR@colbeforespec}{1}{}}{%
9237 \LWR@setexpparray{\LWR@colbeforespec}{2}{}}{%
9238 \LWR@setexpparray{\LWR@colbeforespec}{3}{}}{%
9239 \LWR@setexpparray{\LWR@colafterspec}{1}{}}{%
9240 \LWR@setexpparray{\LWR@colafterspec}{2}{}}{%
9241 \LWR@setexpparray{\LWR@colafterspec}{3}{}}{%
9242 \LWR@setexpparray{\LWR@colbarspec}{leftedge}{}}{%
9243 \LWR@setexpparray{\LWR@colbarspec}{1}{}}{%
9244 \LWR@setexpparray{\LWR@colbarspec}{2}{}}{%
9245 \LWR@setexpparray{\LWR@colbarspec}{3}{}}{%
9246 \LWR@setexpparray{\LWR@coladdclass}{1}{}}{%
9247 \LWR@setexpparray{\LWR@coladdclass}{2}{}}{%
9248 \LWR@setexpparray{\LWR@coladdclass}{3}{}}{%
```

Starting at the first column specification:

```
9249 \defcounter{\LWR@tablecolspecindex}{1}{%
```

Place the colspecs string length into `\LWR@strresult`, and remember the number of characters in the column specification:

```
9250  \expandarg%
9251  \StrLen{\LWR@origcolspec}[\LWR@strresult]%
9252  \fullexpandarg%
9253  \LWR@traceinfo{original column spec length: \LWR@strresult}%
9254  \defcounter{LWR@tablecolspecwidth}{\LWR@strresult}%
```

Haven't seen any optional arguments so far

```
9255  \boolfalse{LWR@opttablecol}%
```

Scan through the column specifications:

```
9256  \whileboolexpr{%
9257    not test{%
9258      \ifnumcomp{\value{LWR@tablecolspecindex}}{>}{%
9259        {\value{LWR@tablecolspecwidth}}%
9260      }%
9261    }%
9262  }%
```

Place the next single-character column type into `\LWR@strresult`:

```
9263  \expandarg%
9264  \StrChar{\LWR@origcolspec}{\arabic{LWR@tablecolspecindex}}[\LWR@strresult]%
9265  \LWR@traceinfo{position \arabic{LWR@tablecolspecindex}: \LWR@strresult}%
9266  \fullexpandarg%
```

Not yet found a valid column type:

```
9267  \boolfalse{LWR@validtablecol}%
```

Skip over any optional arguments, such as `siunitx S` column:

```
9268  \IfStrEq{\LWR@strresult}{}{\booltrue{LWR@opttablecol}}{}
```

Throw away anything found inside the optional argument:

```
9269  \ifbool{LWR@opttablecol}{%
9270  {}% inside an optional argument
9271  {}% not an optional tabular argument
}
```

Not inside an optional argument, so consider the column type:

```
9272  \ifcsdef{LWR@columntype@\LWR@strresult}{%
9273    {\csuse{LWR@columntype@\LWR@strresult}}%
9274  }%
```

If an unknown column type, use `l`:

```
9275  \ifbool{LWR@validtablecol}{%
9276    \LWR@traceinfo{invalid column type: \LWR@strresult}%
9277    \LWR@parsenormalcolumn{l}%
9278  }%
9279  {}% not an optional column argument
```

If read the closing bracket, no longer inside the optional argument:

```
9280     \IfStrEq{\LWR@strresult}{}{\boolfalse{\LWR@opttablecol}}{}
```

Move to the next character:

```
9281     \def\addtocounter{\LWR@tablecolspecindex}{1}
9282     }% while do
9283 }
```

## 75.15 colortbl and xcolor tabular color support

These macros provide a minimal emulation of some `colortbl` macros which might appear between table cells. If `colortbl` is loaded, these macros will be replaced with functional versions.

For each of the HTML colors below, the text for the HTML color is set if requested, but the macro is empty if none has been set.

`\rownum` Reserve a counter register.

```
9284 \@ifundefined{\rownum}{\newcount\rownum}{}
```

`\@rowcolors` Emulated in case `xcolor` is not used.

```
9285 \newcommand*{\@rowcolors}{}%
```

`\@rowc@lors` Emulated in case `xcolor` is not used.

```
9286 \newcommand*{\@rowc@lors}{}%
```

`\LWR@xcolorrowHTMLcolor` Emulated `xcolor` row color.

```
9287 \newcommand*{\LWR@xcolorrowHTMLcolor}{}%
```

`\LWR@columnHTMLcolor` HTML style code for the column color.

```
9288 \def\LWR@columnHTMLcolor{}
```

`\LWR@rowHTMLcolor` HTML style code for the row color.

```
9289 \def\LWR@rowHTMLcolor{}
```

`\LWR@cellHTMLcolor` HTML style code for the cell color.

```
9290 \def\LWR@cellHTMLcolor{}
```

`\LWR@ruleHTMLcolor` HTML style code for the rule color.

```
9291 \newcommand*{\LWR@ruleHTMLcolor}{}%
```

\rowcolor [*model*] {[*color*] [*left overhang*] [*right overhang*] } Print version. The HTML version is in `lwarf-colortbl`. Used before starting a tabular data cell, thus `\LWR@getmynexttoken`.

```
9292 \newcommand*{\rowcolor}{\LWR@getmynexttoken}%
```

\arrayrulecolor [*model*] {[*color*] }

\arrayrulecolornexttoken [*model*] {[*color*] }

Print versions for use outside and inside a tabular:

```
9293 \newcommand{\arrayrulecolor}[2][named]{}
9294 \newcommand{\arrayrulecolornexttoken}[2][named]{\LWR@getmynexttoken}
```

\doublerulesepcolor [*model*] {[*color*] }

\doublerulesepcolornexttoken [*model*] {[*color*] }

Print versions for use inside and outside a tabular:

```
9295 \newcommand{\doublerulesepcolor}[2][named]{}
9296 \newcommand{\doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
```

## 75.16 Starting a new row

\LWR@maybenewtablerow If have not yet started a new table row, begin one now. Creates a new row tag, adding a class for `hline` or `tbrule` if necessary.

```
9297 \newcommand*{\LWR@maybenewtablerow}{%
9298 {%
9299   \ifbool{\LWR@startedrow}{%
9300     {}% started the row
9301     {}% not started the row
9302       \booltrue{\LWR@startedrow}%
9303       Create the row tag, with a class if necessary.
9304       \booltrue{\LWR@intabularmetadata}%
9305       \ifboolexpr{%
9306         test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}} or%
9307         test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}}%
9308       }%
9309       \LWR@htmlltag{tr class=\textquotedbl{}hline\textquotedbl }%
9310       \LWR@orignewline%
9311     }%
9312     {}% not doing hline
9313     \ifbool{\LWR@doingtbrule}{%
9314       {}%
9315       \ifdefvoid{\LWR@ruleHTMLcolor}{%
9316         \LWR@htmlltag{tr class=\textquotedbl{}tbrule\textquotedbl}%
```

Remember that now have started the row:

```
9302       \booltrue{\LWR@startedrow}%
9303       Create the row tag, with a class if necessary.
9304       \booltrue{\LWR@intabularmetadata}%
9305       \ifboolexpr{%
9306         test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}} or%
9307         test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}}%
9308       }%
9309       \LWR@htmlltag{tr class=\textquotedbl{}hline\textquotedbl }%
9310       \LWR@orignewline%
9311     }%
9312     {}% not doing hline
9313     \ifbool{\LWR@doingtbrule}{%
9314       {}%
9315       \ifdefvoid{\LWR@ruleHTMLcolor}{%
9316         \LWR@htmlltag{tr class=\textquotedbl{}tbrule\textquotedbl}%
```

```

9317      }{%
9318          \LWR@htmltag{%
9319              tr class=\textquotedbl{}tbrule\textquotedbl\ % space
9320                  style=\textquotedbl{}border-top: 1px solid % space
9321                      \LWR@origpound\LWR@ruleHTMLcolor \textquotedbl{%
9322              }%
9323          }%
9324          \LWR@orignewline%
9325      }%
9326          {\LWR@htmltag{tr}\LWR@orignewline}%
9327      }% end of not doing hline
9328  }% end of not started the row
9329 }

```

### 75.17 Printing vertical bar tags

\LWR@printbartag {*(index)*}

Adds to a tabular data cell an HTML class name for a left/right vertical bar.

```

9330 \newcommand*{\LWR@printbartag}[1]{%
9331     \LWR@traceinfo{\LWR@printbartag !#1!}%
9332     \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}{%
9333         {}% muting or empty
9334         {}% not muting
9335             \edef\tempone{\LWR@getexpparray{\LWR@colbarspec}{#1}}%
9336                 \ifdefempty{\LWR@tempone}{}{ \LWR@tempone}%
9337             }% not muting
9338     \LWR@traceinfo{\LWR@printbartag done}%
9339 }

```

### 75.18 Printing @ or ! tags

\LWR@printatbang {*(at—or—bang)*} {*(index)*}

```
9340 \newcommand*{\LWR@printatbang}[2]{%
```

Fetch the column at or bang spec:

```

9341     \xdef\tempone{\LWR@getexpparray{\LWR@col#1spec}{#2}}%
9342     \LWR@traceinfo{atbang: #2 !\LWR@atbangspec!}%

```

Only generate if is not empty;

```

9343     \ifdefempty{\LWR@atbangspec}{%
9344         {}%
9345         {}% not empty
9346             \LWR@htmltag{%
9347                 td class=\textquotedbl{}td#1%
9348                     \LWR@subaddcmidruletrim{}{}%
9349                     \LWR@printbartag{#2}%
9350                     \textquotedbl{}%
9351                     \LWR@tdstartstyles%
9352                     \LWR@addcmidrulewidth%
9353                     \LWR@addcdashline%

```

```

9354           \LWR@addtabularrulecolors%
9355           \LWR@tdendstyles%
9356       }%

```

Create an empty cell if muting for the \bottomrule:

```

9357           \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}{%
9358               {}%
9359               {\LWR@atbangspec}%
9360 }%
9361           \LWR@htmltag{/td}\LWR@orignewline%
9362           \global\booltrue{\LWR@tabularcelladded}%
9363       }% not empty
9364 }%

```

\LWR@addleftmostbartag

```

9365 \newcommand*{\LWR@addleftmostbartag}{%
9366     \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{=}{1}{%
9367         \LWR@printbartag{leftedge}%
9368     }{}%
9369 }

```

\LWR@tabularleftedge

```

9370 \newcommand*{\LWR@tabularleftedge}{%
9371     \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{=}{1}{%
9372         {}%
9373         \LWR@printatbang{at}{leftedge}%
9374         \LWR@printatbang{bang}{leftedge}%
9375     }% left edge
9376     {}% not left edge
9377 }

```

## 75.19 Cell opening tag

\LWR@thiscolspec Temporary storage.

```
9378 \newcommand*{\LWR@thiscolspec}{}%
```

\LWR@tabledatasinglecolumntag Print a table data opening tag with style for alignment and color.

```

9379 \newcommand*{\LWR@tabledatasinglecolumntag}{%
9380 {}%
9381     \LWR@traceinfo{\LWR@tabledatasinglecolumntag}%
9382     \LWR@maybenewtablerow%

```

Don't start a new paragraph tag if have already started one:

```

9383     \ifbool{\LWR@intabularmetadata}{%
9384         {}%

```

If have found the end of tabular command, do not create the next data cell:

```

9385     \ifbool{\LWR@exittingtabular}{%
9386         {}% not exiting tabular

```

Print the @ and ! contents before first column:

```
9387          \LWR@tabularleftedge%
```

Fetch the current column's alignment character into \LWR@strresult:

```
9388          \xdef\LWR@strresult{%
9389              \LWR@getexpparray{\LWR@tablecolspe}{\arabic{\LWR@tableLaTeXcolindex}}%
9390          }%
```

Print the start of a new table data cell:

```
9391          \LWR@traceinfo{\LWR@tabledatasinglecolumntag: about to print td tag}%
9392              \LWR@htmlltag{%
9393                  td class=\textquotedbl{}td%
```

Append this column's spec:

```
9394          \LWR@strresult%
```

If this column has a cmidrule, add “rule” to the end of the HTML class tag. Also add vertical bar tags.

```
9395          \LWR@addcmidruletrim%
9396          \LWR@addleftmostbartag%
9397          \LWR@printbartag{\arabic{\LWR@tableLaTeXcolindex}}%
```

Add any tabular > column text alignment or font control css:

```
9398          \LWR@getexpparray{\LWR@coladdclass}{%
9399              \arabic{\LWR@tableLaTeXcolindex}}%
```

Close the class description:

```
9400          \textquotedbl{}
```

Add styles for rules, alignment:

```
9401          \LWR@tdstartstyles%
9402          \LWR@addcmidrulewidth%
9403          \LWR@addcdashline%

9404          \xdef\LWR@thiscolspe{%
9405              \LWR@getexpparray{\LWR@tablecolspe}{%
9406                  \arabic{\LWR@tableLaTeXcolindex}}%
9407              }%
9408          \LWR@addformatwpaignment{\LWR@thiscolspe}%
```

Add styles for cell and rule colors:

```
9409          \LWR@addtabulararrowcolor%
9410          \LWR@addtabularrulecolors%

9411          \LWR@tdendstyles%
9412          }% HTML td
9413          \LWR@traceinfo{\LWR@tabledatasinglecolumntag: done printing td tag}%

```

If this is a p, m, b, or X column, allow paragraphs:

```

9414      \ifboolexpr{%
9415          test{ \ifdefstring{\LWR@strresult}{p} } or
9416          test{ \ifdefstring{\LWR@strresult}{m} } or
9417          test{ \ifdefstring{\LWR@strresult}{b} } or
9418          }%
9419          {%
9420              \LWR@traceinfo{\LWR@tabledatasinglecolumntag: about to \LWR@startpars}%
9421                  \booltrue{\LWR@tableparcell}%
9422                  \LWR@startpars%
9423          \LWR@traceinfo{\LWR@tabledatasinglecolumntag: done with \LWR@startpars}%
9424          }%
9425          {}%
9425      }%

```

Print the > contents unless muted for the \bottomrule:

```

9426      \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}{%
9427          {}%
9428          {}%
9429          \LWR@getexpparray{\LWR@colbeforespec}{\arabic{\LWR@tableLaTeXcolindex}}{%
9430              }%
9431              \boolfalse{\LWR@intabularmetadata}%
9432              }%
9433          }{}% in tabular metadata
9434          \LWR@traceinfo{\LWR@tabledatasinglecolumntag: done}%
9435      }%

```

## 75.20 Midrules

`LWR@midrules` `LWR@midrules` is a data array (section 42) of columns each containing a non-zero width if a midrule should be created for this column.

`LWR@trimlrules` `LWR@trimlrules` is a data array (section 42) of columns containing l if a midrule should be left trimmed for each column.

`LWR@trimrrules` `LWR@trimrrules` is a data array (section 42) of columns containing r if a midrule should be right trimmed for each column.

`LWR@cdashlines` `LWR@cdashlines` is a data array (section 42) of columns each containing a Y if an `arydshln` package "cdashed line" should be created for this column.

`Len \LWR@heavyrulewidth` The default width of the rule.

```

9436 \newlength{\LWR@heavyrulewidth}
9437 \setlength{\LWR@heavyrulewidth}{.08em}

```

`Len \LWR@lightrulewidth` The default width of the rule.

```

9438 \newlength{\LWR@lightrulewidth}
9439 \setlength{\LWR@lightrulewidth}{.05em}

```

`Len \LWR@cmidrulewidth` The default width of the rule.

```

9440 \newlength{\LWR@cmidrulewidth}
9441 \setlength{\LWR@cmidrulewidth}{.03em}

```

|   |  |
|---|--|
| <pre>Len \LWR@thiscmidrulewidth</pre>   | <p>The width of the next rule, defaulting to <code>\LWR@cmidrulewidth</code>.<br/> If not <code>\LWR@cmidrulewidth</code>, a style will be used to generate the custom width.<br/> Assigned from the <code>LWR@midrules</code> array.</p>  |
|   | <pre>9442 \newlength{\LWR@thiscmidrulewidth} 9443 \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}</pre>   |
| <pre>\LWR@clearmidrules</pre>   | <p>Start new midrules. Called at beginning of tabular and also at <code>\`</code>.<br/> Clears all <code>LWR@midrules</code> and <code>LWR@trimrules</code> markers for this line.</p>   |
|   | <pre>9444 \newcommand*{\LWR@clearmidrules} 9445 {% 9446     \defcounter{LWR@midrulecounter}{1}% 9447     \whileboolexpr{% 9448         not test{% 9449             \ifnumcomp{\value{LWR@midrulecounter}}{&gt;}% 9450                 {\value{LWR@tabletotalLaTeXcols}}% 9451             }% 9452         }% 9453     {% 9454         \LWR@setexpparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{0pt}% 9455         \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}% 9456         \LWR@setexpparray{LWR@trimlrules}{\arabic{LWR@midrulecounter}}{}% 9457         \LWR@setexpparray{LWR@trimrrules}{\arabic{LWR@midrulecounter}}{}% 9458         \LWR@setexpparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{N}% 9459         \defaddtocounter{LWR@midrulecounter}{1}% 9460     }% 9461 }</pre> |
| <pre>\LWR@subcmidrule {&lt;width&gt;} {&lt;trim&gt;} {&lt;leftcolumn&gt;} {&lt;rightcolumn&gt;}</pre> | <p>Marks <code>LWR@midrules</code> data array elements to be non-zero widths from left to right columns. Also marks trimming for the L and/or R columns.<br/> <code>LWR@doingcmidrule</code> is set to force an empty row at the end of the tabular to create the rule.</p>  |
|   | <pre>9462 \newcommand*{\LWR@subcmidrule}[4]{% 9463     \defcounter{LWR@midrulecounter}{#3}% 9464     \whileboolexpr{% 9465         not test {% 9466             \ifnumcomp{\value{LWR@midrulecounter}}{&gt;}{{#4}}% 9467             }% 9468         }% 9469     {% 9470         \LWR@setexpparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{#1}% 9471         \defaddtocounter{LWR@midrulecounter}{1}% 9472     }% whiledo 9473     \IfSubStr{#2}{l}{\LWR@setexpparray{LWR@trimlrules}{#3}{l}}{}% 9474     \IfSubStr{#2}{r}{\LWR@setexpparray{LWR@trimrrules}{#4}{r}}{}% 9475     \booltrue{LWR@doingcmidrule}% 9476 }</pre>   |
| <pre>\LWR@docmidrule [&lt;width&gt;] (&lt;trim&gt;) {&lt;leftcolumn-rightcolumn&gt;}</pre>            |  |

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.

```
9477 \NewDocumentCommand{\LWR@docmidrule}{%
9478   O{\LWR@cmidrulewidth} D(){} >{\SplitArgument{1}{-}}m}%
9479   {\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.

```
9480 \newcommand*{\LWR@subcdashline}[2]{%
9481   \defcounter{LWR@midrulecounter}{#1}%
9482   \whileboolexpr{%
9483     not test {%
9484       \ifnumcomp{\value{LWR@midrulecounter}}{>}{#2}%
9485     }%
9486   }%
9487   {%
9488     \LWR@setexparray{\LWR@cdashlines}{\arabic{LWR@midrulecounter}}{Y}%
9489     \defaddtocounter{LWR@midrulecounter}{1}%
9490   }%
9491   \booltrue{LWR@doingcmidrule}%
9492 }
```

\LWR@docdashline {<leftcolumn-rightcolumn>}

Marks LWR@cdashlines data array elements to be Y from left to right columns.

```
9493 \NewDocumentCommand{\LWR@docdashline}{>{\SplitArgument{1}{-}}m}%
9494 {%
9495   \LWR@subcdashline#1%
9496 }
```

\LWR@tdstartstyles Begins possibly adding a table data cell style.

```
9497 \newcommand*{\LWR@tdstartstyles}{\boolfalse{LWR@tdhavecellstyle}}
```

\LWR@tdaddstyle Starts adding a table data cell style.

```
9498 \newcommand*{\LWR@tdaddstyle}{%
9499   \ifbool{LWR@tdhavecellstyle}{%
9500     {}%
9501     { style=\textquotedbl}%
9502   }%
9503 }
```

\LWR@tdendstyles Finishes possibly adding a table data cell style. Prints the closing quote.

```
9504 \newcommand*{\LWR@tdendstyles}{%
9505   \ifbool{LWR@tdhavecellstyle}{%
9506     {}%
9507     \textquotedbl}}
```

```

9508           \boolfalse{LWR@tdhavecellstyle}%
9509           }{}%
9510 }

```

\LWR@subaddcmidruletrim {*lefttrim*} {*righttrim*} Adds a \cmidrule with optional trim.

```

9511 \newcommand*{\LWR@subaddcmidruletrim}[2]{%
9512   \setlength{\LWR@templengthone}{%
9513     \LWR@getexpparray{\LWR@midrules}{\arabic{LWR@tableLaTeXcolindex}}%
9514   }%
9515   \ifdimcomp{\LWR@templengthone}{>}{0pt}%
9516   {%

```

Print the class with left and right trim letters appended:

```
9517           \LWR@origtilde_tdrule#1#2%
```

Remember the width of the rule:

```

9518   \setlength{\LWR@thiscmidrulewidth}{\LWR@templengthone}%
9519   }%
9520   {%
9521     \setlength{\LWR@thiscmidrulewidth}{0pt}%
9522   }%
9523 }

```

\LWR@addcmidruletrim Adds left or right trim to a \cmidrule.

```

9524 \newcommand*{\LWR@addcmidruletrim}{%
9525   \LWR@subaddcmidruletrim%
9526   {\LWR@getexpparray{\LWR@trimlrules}{\arabic{LWR@tableLaTeXcolindex}}}{%
9527   {\LWR@getexpparray{\LWR@trimrrules}{\arabic{LWR@tableLaTeXcolindex}}}}%
9528 }

```

\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.

```
9529 \newcommand{\LWR@addrulewidth}[2]{%
```

Only add a custom width if *thiswidth* is different than the *defaultwidth*, or if a color is being used:

```

9530   \ifboolexpr{%
9531     test{\ifdimcomp{#1}{=}{0pt}} or
9532     (
9533       ( test{\ifdimcomp{#1}{=}{#2}} and not bool{FormatWP} )
9534       and ( test {\ifdefvoid{\LWR@ruleHTMLcolor}} )
9535     )
9536   }%
9537   {}% default width and color
9538   {}% custom width and/or color

```

Ensure that the width is wide enough to display in the browser:

```
9539 \LWR@forceminwidth{\#1}%
```

Begin adding another style:

```
9540 \LWR@tdaddstyle%
```

The style itself:

```
9541 border-top:\LWR@printlength{\LWR@atleastonept} solid % space
```

If default gray, the darkness of the color depends on the thickness of the rule:

```
9542 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9543   \ifdimcomp{\#1}{<}{\LWR@lightrulewidth}{%
9544     {\LWR@origpound{A0A0A0}}%
9545     {% lightrule or heavier
9546       \ifdimcomp{\#1}{<}{\LWR@heavyrulewidth}{%
9547         {\LWR@origpound{808080}}%
9548         {black}}%
9549       {% lightrule or heavier
9550     }{%
9551       \LWR@origpound{\LWR@ruleHTMLcolor}%
9552     }%
9553   }% custom width and/or color
9554 }
```

\LWR@addcmidrulewidth Adds a style for the rule width.

Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```
9555 \newcommand{\LWR@addcmidrulewidth}{%
9556   \LWR@addrulewidth{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
9557 }
```

\LWR@addcdashline Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```
9558 \newcommand{\LWR@addcdashline}{%
9559   \edef\LWR@tempone{%
9560     \LWR@getexparray{\LWR@cdashlines}{\arabic{\LWR@tableLaTeXcolindex}}%
9561   }%
9562   \ifdefstring{\LWR@tempone}{Y}{%
9563     \LWR@tdaddstyle%
9564     border-top: 1pt dashed %
9565     \ifdefvoid{\LWR@ruleHTMLcolor}{%
9566       {black}}%
9567       {\LWR@origpound{\LWR@ruleHTMLcolor}}%
9568   }{}%
9569 }
```

\LWR@WPcell {\text-align} {\vertical-align}

```
9570 \newcommand*{\LWR@WPcell}[2]{%
9571   \LWR@tdaddstyle%
9572   \LWR@print@mbox{text-align:#1}; \LWR@print@mbox{vertical-align:#2}%
9573 }
```

\LWR@addformatwpa{alignment} {<colspec>}

If FormatWP, adds a style for the alignment.

Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

## 75.21 Cell colors

\LWR@addtabularrowcolor Adds a cell's row color style, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```
9584 \newcommand*{\LWR@addtabularrowcolor}{%
9585     \ifbool{\LWR@tabularmutemods}{\relax}{%
9586         \ifdefvoid{\LWR@rowHTMLcolor}{%
9587             \ifdefvoid{\LWR@xcolorrowHTMLcolor}{\relax}{%
9588                 \xcolor{row color}%
9589                 \LWR@tdaddstyle\relax%
9590                 background:\LWR@origpound\LWR@xcolorrowHTMLcolor\relax%
9591             }%
9592         }%
9593         \expandafter\def\expandafter{\LWR@rowHTMLcolor}{%
9594             \LWR@tdaddstyle\relax%
9595             background:\LWR@origpound\LWR@rowHTMLcolor\relax%
9596         }%
9597     }%
9598 }
```

\LWR@addtabularrulecolor Adds a cell's horizontal rule color style, if needed.

9599 \newcommand\*{\LWR@addtabularhrulecolor}{%

If either form of horizontal rule is requested:

```
9600 \ifboolexpr{%
9601     test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
9602     test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}} or%
9603     bool{LWR@doingtbrule}%
9604 }{%
```

If there is a no custom color:

```
9605     \ifdefvoid{\LWR@ruleHTMLcolor}{%
9606     {%
9607         \ifnumcomp{\value{\LWR@hlines}}{>}{1}{%
```

```

9608      {%
9609          \LWR@tdaddstyle%
9610          border-top: 4px double%
9611      }{%
9612          \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
9613      {%
9614          \LWR@tdaddstyle%
9615          border-top: 2px dashed%
9616      }{%
9617          \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
9618      {%
9619          \LWR@tdaddstyle%
9620          border-top: 1px dashed%
9621      }{}}%

```

If no color and not doubled or dashed, then add nothing, since a simpler rule is the default.

```
9622      }%
```

If there is a custom color:

```

9623      {%
9624          \ifnumcomp{\value{LWR@hlines}}{>}{1}%
9625      {%
9626          \LWR@tdaddstyle%
9627          border-top: 4px double \LWR@origpound\LWR@ruleHTMLcolor%
9628      }{%
9629          \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
9630      {%
9631          \LWR@tdaddstyle%
9632          border-top: 2px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9633      }{%
9634          \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
9635      {%
9636          \LWR@tdaddstyle%
9637          border-top: 1px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9638      }{%
9639          \LWR@tdaddstyle%
9640          border-top: 1px solid \LWR@origpound\LWR@ruleHTMLcolor%
9641      }{}}%
9642      }%
9643  }{}}%
9644 }

```

`\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.

```
9645 \newcommand*{\LWR@addtabularrulecolors}{%
```

Custom horizontal rule color:

```
9646      \LWR@addtabularhrulecolor%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
9647      \ifbool{LWR@tabularmutemods}{ }{%
```

If at the leftmost cell, possibly add a leftmost vertical rule:

```
9648 \ifnumequal{\value{LWR@tableLaTeXcolindex}}{1}{%
```

Fetch the left edge's vertical bar specification:

```
9649 \edef\tempone{\getexparray{LWR@colbarspec}{leftedge}}%
```

Add a custom style if a vertical bar was requested:

```
9650 \ifdefstring{\tempone}{tvertbarl}{%
9651   \LWR@tdaddstyle%
9652   border-left: 1px solid % space
9653   \LWR@verruleHTMLcolor%
9654 }{%
9655 \ifdefstring{\tempone}{tvertbarldouble}{%
9656   \LWR@tdaddstyle%
9657   border-left: 4px double % space
9658   \LWR@verruleHTMLcolor%
9659 }{%
9660 \ifdefstring{\tempone}{tvertbarldash}{%
9661   \LWR@tdaddstyle%
9662   border-left: 1px dashed % space
9663   \LWR@verruleHTMLcolor%
9664 }{%
9665 \ifdefstring{\tempone}{tvertbarrdoubledash}{%
9666   \LWR@tdaddstyle%
9667   border-left: 2px dashed % space
9668   \LWR@verruleHTMLcolor%
9669 }{%
9670 }}
```

Possibly add a right vertical rule for this cell:

```
9671 \edef\tempone{%
9672 \getexparray{LWR@colbarspec}{\arabic{LWR@tableLaTeXcolindex}}%
9673 }%
9674 \ifdefstring{\tempone}{tvertbarr}{%
```

Add a custom style if a vertical bar was requested:

```
9675 \LWR@tdaddstyle%
9676 border-right: 1px solid \LWR@verruleHTMLcolor%
9677 }{%
9678 \ifdefstring{\tempone}{tvertbarrdouble}{%
9679   \LWR@tdaddstyle%
9680   border-right: 4px double \LWR@verruleHTMLcolor%
9681 }{%
9682 \ifdefstring{\tempone}{tvertbarrdash}{%
9683   \LWR@tdaddstyle%
9684   border-right: 1px dashed \LWR@verruleHTMLcolor%
9685 }{%
9686 \ifdefstring{\tempone}{tvertbarrdoubledash}{%
9687   \LWR@tdaddstyle%
9688   border-right: 2px dashed \LWR@verruleHTMLcolor%
9689 }{%
9690 }}
```

```
\LWR@subaddtabularcellcolor {\langle html color\rangle}

9692 \newcommand*{\LWR@subaddtabularcellcolor}[1]{%
9693     \LWR@htmltag{div class=\textquotedbl{}cellcolor\textquotedbl\ % space
9694         style=\textquotedbl{}%
9695         background:\LWR@origpound{}{}#1 %
9696         \textquotedbl\ %
9697     }% space
9698     \defaddtocounter{\LWR@cellcolordepth}{1}%
9699 }
```

\LWR@addtabularcellcolor Adds a cell color style, if needed.

```
9700 \newcommand*{\LWR@addtabularcellcolor}{%
9701     \ifdefvoid{\LWR@cellHTMLcolor}{%
9702         {%
9703             \ifdefvoid{\LWR@rowHTMLcolor}{%
9704                 {%
9705                     \ifdefvoid{\LWR@xcolorrowHTMLcolor}{%
9706                         {%
9707                             \ifdefvoid{\LWR@columnHTMLcolor}{%
9708                                 {%
9709                                     {\LWR@subaddtabularcellcolor{\LWR@columnHTMLcolor}}%
9710                                 }%
9711                                     {\LWR@subaddtabularcellcolor{\LWR@xcolorrowHTMLcolor}}%
9712                                 }%
9713                                     {\LWR@subaddtabularcellcolor{\LWR@rowHTMLcolor}}%
9714                                 }%
9715                                     {\LWR@subaddtabularcellcolor{\LWR@cellHTMLcolor}}%
9716     }}
```

## 75.22 Multicolumns

### 75.22.1 Parsing multicolumns

```
\LWR@printmccoltype@normal {\langle col type\rangle}
```

Prints the column type, and remembers that any vertical bars are no longer on the left edge.

```
9717 \newcommand*{\LWR@printmccoltype@normal}[1]{%
9718     #1%
9719     \boolfalse{\LWR@mcolvertbaronleft}%
9720 }
```

```
\LWR@printmccoltype@ignore {\langle col type\rangle}
```

This type does not print a multi-column data cell.

```
9721 \newcommand*{\LWR@printmccoltype@ignore}[1]{}
```

```
\LWR@printmccoltype@vertbar {\langle col type\rangle}
```

Adds a left or right vertical bar.

```

9722 \newcommand*{\LWR@printmccoltype@vertbar}[1]{%
9723     \ifbool{\LWR@mcolvertbaronleft}{%
9724         {\defaddtocounter{\LWR@mcolvertbarsl}{1}}% left edge
9725         {\defaddtocounter{\LWR@mcolvertbarsr}{1}}% not left edge
9726 }

```

\LWR@printmccoltype@colon {*col type*}

Adds a left or right vertical bar.

```

9727 \newcommand*{\LWR@printmccoltype@colon}[1]{%
9728     \ifbool{\LWR@mcolvertbaronleft}{%
9729         {\defaddtocounter{\LWR@mcolvertbarsldash}{1}}% left edge
9730         {\defaddtocounter{\LWR@mcolvertbarsrdash}{1}}% not left edge
9731 }

```

\LWR@printmccoltype@semicolon {*col type*}

Adds a left or right vertical bar.

```
9732 \let\LWR@printmccoltype@semicolon\LWR@printmccoltype@colon
```

\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.

\LWR@columntype@mctype@<type> is defined by \LWR@modifycolumntype.

```

9733 \newcommand*{\LWR@printmccoltype}[1]{%
9734     \LWR@traceinfo{lwr@printmccoltype -#1-}%

```

Get one token of the column spec:

```
9735 \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]
```

Detokenize to avoid problems with special characters:

```
9736 \edef\LWR@strresult{\detokenize\expandafter{\LWR@strresult}}%
```

Add to the HTML tag depending on which column type is found:

```

9737 \ifcsdef{\LWR@columntype@mctype@\LWR@strresult}{%
9738     {\csuse{\LWR@columntype@mctype@\LWR@strresult}}%%
9739     {\boolfalse{\LWR@mcolvertbaronleft}}%%
9740     \LWR@traceinfo{lwr@printmccoltype done}%
9741 }

```

\LWR@printmccoldata@other {*num args to skip*} {*entire colspec*}

For @, !, >, <, print the next token without paragraph tags:

```

9742 \newcommand*{\LWR@printmccoldata@other}[2]{%
9743     \defaddtocounter{\LWR@tablemulticolspos}{1}%
9744     \StrChar{#2}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
9745     \LWR@strresult%

```

A valid column data type was found:

```
9746     \booltrue{LWR@validtablecol}%
9747 }
```

```
\LWR@printmccoldata@skip {⟨num args to skip⟩} {⟨entire colspec⟩}
```

Nothing to print for this column type.

```
9748 \newcommand*{\LWR@printmccoldata@skip}[2]{%
9749     \defaddtocounter{LWR@tablemulticolspos}{#1}%
```

A valid column data type was found:

```
9750     \booltrue{LWR@validtablecol}%
9751 }
```

For `\LWR@printmccoldata@...>`, {⟨num args to skip⟩} is provided by `\LWR@columntype@mldata@<coltype>` when it was defined by `\LWR@modifycolumntype`. ⟨entire colspec⟩ is provided by `\LWR@printmccoldata` when it uses `\LWR@columntype@mldata@<coltype>`.

```
\LWR@printmccoldata@normal {⟨num args to skip⟩} {⟨entire colspec⟩}
```

```
9752 \newcommand*{\LWR@printmccoldata@normal}[2]{%
9753     \LWR@multicoltext%
9754     \defaddtocounter{LWR@tablemulticolspos}{#1}%
9755 }
```

```
\LWR@printmccoldata@paragraph {⟨num args to skip⟩} {⟨entire colspec⟩}
```

```
9756 \newcommand*{\LWR@printmccoldata@paragraph}[2]{%
9757     \LWR@startpars%
9758     \LWR@multicoltext%
9759     \defaddtocounter{LWR@tablemulticolspos}{#1}%
9760     \LWR@stoppars%
9761 }
```

```
\LWR@printmccoldata {⟨entire colspec⟩}
```

Print the data for any valid column type found.

```
9762 \newcommand*{\LWR@printmccoldata}[1]{%
9763     \LWR@traceinfo{lwr@printmccoldata -#1}%
}
```

Not yet found a valid column type:

```
9764     \boolefalse{LWR@validtablecol}%
```

Get one token of the column spec, into a local copy in case nested.

```
9765     \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
9766     \edef\LWR@printmccoldatatoken{\LWR@strresult}%
```

Print the text depending on which column type is found. Also handles @, >, < as it comes to them.

```

9767     \ifcsdef{LWR@columntype@mdata@}{\LWR@printmccoldatatoken}{%
9768         {\csuse{LWR@columntype@mdata@}{\LWR@printmccoldatatoken}{#1}}{%
9769             {}}

```

If an unknown column type, print the text:

```
9770     \ifbool{LWR@validtablecol}{}{\LWR@multicoltext{}}{}
```

Tracing:

```

9771     \LWR@traceinfo{lwr@printmccoldata done}{%
9772 }

```

\parsemulticolumnalignment {⟨1: colspec⟩} {⟨2: printresults cname⟩}

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.

```

9773 \newcommand*{\LWR@parsemulticolumnalignment}[2]{%
9774     \defcounter{LWR@tablemulticolspos}{1}{%
9775         \StrLen{#1}[\LWR@strresult]{%
9776             \defcounter{LWR@tablemulticolwidth}{\LWR@strresult}{%

```

Scan across the tokens in the column spec:

```

9777     \whileboolexpr{%
9778         not test {%
9779             \ifnumcomp{\value{LWR@tablemulticolspos}}{>}{%
9780                 \value{LWR@tablemulticolwidth}}{%
9781             }{%
9782         }{%
9783     }{%

```

Execute the assigned print function for each token in the column spec:

```
9784     \csuse{#2}{#1}{}
```

Move to the next token in the column spec:

```

9785     \defaddtocounter{LWR@tablemulticolspos}{1}{%
9786     }{%
9787 }

```

### 75.22.2 Multicolumn factored code

\LWR@addmulticolverrulecolor

```
9788 \newcommand*{\LWR@addmulticolverrulecolor}{%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
9789     \ifbool{LWR@tabularmutemods}{}{%
```

Left side:

```

9790      \ifnumcomp{\value{LWR@mclovertbarsl}}{=}{1}{%
9791          \LWR@tdaddstyle%
9792          border-left: 1px solid \LWR@verruleHTMLcolor%
9793      }{%
9794      \ifnumcomp{\value{LWR@mclovertbarsl}}{>}{1}{%
9795          \LWR@tdaddstyle%
9796          border-left: 4px double \LWR@verruleHTMLcolor%
9797      }{%
9798      \ifnumcomp{\value{LWR@mclovertbarsldash}}{=}{1}{%
9799          \LWR@tdaddstyle%
9800          border-left: 1px dashed \LWR@verruleHTMLcolor%
9801      }{%
9802      \ifnumcomp{\value{LWR@mclovertbarsldash}}{>}{1}{%
9803          \LWR@tdaddstyle%
9804          border-left: 2px dashed \LWR@verruleHTMLcolor%
9805      }{%

```

Right side:

```

9806      \ifnumcomp{\value{LWR@mclovertbarsr}}{=}{1}{%
9807          \LWR@tdaddstyle%
9808          border-right: 1px solid \LWR@verruleHTMLcolor%
9809      }{%
9810      \ifnumcomp{\value{LWR@mclovertbarsr}}{>}{1}{%
9811          \LWR@tdaddstyle%
9812          border-right: 4px double \LWR@verruleHTMLcolor%
9813      }{%
9814      \ifnumcomp{\value{LWR@mclovertbarsrdash}}{=}{1}{%
9815          \LWR@tdaddstyle%
9816          border-right: 1px dashed \LWR@verruleHTMLcolor%
9817      }{%
9818      \ifnumcomp{\value{LWR@mclovertbarsrdash}}{>}{1}{%
9819          \LWR@tdaddstyle%
9820          border-right: 2px dashed \LWR@verruleHTMLcolor%
9821      }{%
9822  }{%
9823 }

9824 \newcommand{\LWR@multicoltext}{}{}
```

To find multicolumn right trim:

```

9825 \newcounter{LWR@lastmulticolumn}

\LWR@domulticolumn  [<1: vpos>] [<2: #rows>] {<3: numLaTeXcols>} {<4: numHTMLcols>} {<5: colspec>}
{<6: text>}

9826 \NewDocumentCommand{\LWR@domulticolumn}{o o m m m +m}{%
9827     \LWR@traceinfo{\LWR@domulticolumn -#1- -#2- -#4- -#5-}%
```

Remember the text to be inserted, and when used remember that a valid column type was found:

```

9828 \renewcommand{\LWR@multicoltext}{%
9829     #6%
9830     \booltrue{\LWR@validtablecol}%
```

```
9831     }%
```

Expand the preamble and save it.

```
9832     \LWR@expandpreamble{#5}%
9833     \edef\LWR@origmccolspec{\the\temptokena}%
```

Compute the rightmost column to be included. This is used to create the right trim.

```
9834     \defcounter{LWR@lastmulticolumn}{\value{LWR@tableLaTeXcolindex}}%
9835     \defaddtocounter{LWR@lastmulticolumn}{#3}%
9836     \defaddtocounter{LWR@lastmulticolumn}{-1}%
```

Row processing:

```
9837     \LWR@maybenewtablerow%
```

Begin the opening table data tag:

```
9838     \LWR@htmlltag{%
9839         td colspan=\textquotedbl#4\textquotedbl\ %
9840         \IfValueT{#2}{ % rows?
9841             rowspan=\textquotedbl#2\textquotedbl\ %
9842         }%
9843         class=\textquotedbl{}td%
```

Print the column type and vertical bars:

```
9844     \defcounter{LWR@mcolvertbarsl}{0}%
9845     \defcounter{LWR@mcolvertbarsr}{0}%
9846     \defcounter{LWR@mcolvertbarsldash}{0}%
9847     \defcounter{LWR@mcolvertbarsrdash}{0}%
9848     \booltrue{LWR@mcolvertbaronleft}%
9849     \LWR@parsemulticolumnalignment{\LWR@origmccolspec}{\LWR@printmccoltype}%

```

If this column has a cmidrule, add “rule” to the end of the HTML class tag.

If this position had a “Y” then add “rule” for a horizontal rule:

```
9850     \LWR@subaddcmidruletrim%
9851     {%
9852         \LWR@getexparray{\LWR@trimlrules}%
9853         {\arabic{LWR@tableLaTeXcolindex}}%
9854     }%
9855     {%
9856         \LWR@getexparray{\LWR@trimrrules}%
9857         {\arabic{LWR@lastmulticolumn}}%
9858     }%
```

Also add vertical bar class.

```
9859     \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{ tvertbarl}{}
9860     \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{ tvertbarldouble}{}
9861     \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{ tvertbarr}{}
```

```

9862      \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{ tvertbarrdouble}{}
9863      \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{ tvertbarldash}{}
9864      \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{%
9865          tvertbarldoubledash}{}
9866      \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{ tvertbarrdash}{}
9867      \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}{1}{%
9868          tvertbarrdoubledash}{}

```

Close the class tag's opening quote:

```

9869      \textquotedbl{}%
9870      \LWR@tdstartstyles%

```

Style for vertical position:

```

9871      \IfValueT{\#1}{%
9872          \ifstreq{\#1}{b}{%
9873              \%
9874              \LWR@tdaddstyle%
9875              \LWR@print@mbox{vertical-align:bottom}%
9876          }{%
9877          \ifstreq{\#1}{t}{%
9878              \%
9879              \LWR@tdaddstyle%
9880              \LWR@print@mbox{vertical-align:top}%
9881          }{%
9882      }% vpos?

```

Style for row colors:

```
9883      \LWR@addtabularrowcolor%
```

Other styles:

```

9884      \LWR@addcmidrulewidth%
9885      \LWR@addcdashline%
9886      \LWR@addtabularhrulecolor%
9887      \LWR@addmulticolvertrulecolor%
9888      \LWR@addformatwpalignment{\LWR@origmccolspec}%
9889      \LWR@tdendstyle%
9890  }% end of the opening table data tag
9891  \boolfalse{\LWR@intabularmetadata}%
9892  \LWR@parsemulticolumnalignment{\LWR@origmccolspec}{\LWR@printmccoldata}%
9893 }

```

### 75.22.3 Multicolumn

```
\LWR@htmlmulticolumn {⟨numcols⟩} {⟨alignment⟩} {⟨text⟩}
```

```

9894 \NewDocumentCommand{\LWR@htmlmulticolumn}{m m +m}%
9895 {%

```

Figure out how many extra HTML columns to add for @ and ! columns:

```
9896      \LWR@tabularhtmlcolumns{\arabic{\LWR@tableLaTeXcolindex}}{#1}%
```

Create the multicolumn tag:

```
9897 \LWR@domulticolumn{\arabic{LWR@tabhtmlcoltotal}}{\#2}{\#3}%
```

Move to the next L<sup>A</sup>T<sub>E</sub>X column:

```
9898 \defaddtocounter{LWR@tableLaTeXcolindex}{#1}%
9899 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
9900 \booltrue{LWR@skipatbang}%
9901 }
```

#### 75.22.4 Longtable captions

longtable captions use \multicolumn.

Per the caption package. User-redefinable float type.

```
9902 \providecommand*{\LTcaptype}[1]
```

```
\LWR@longtabledatacaptiontag * [<toc entry>] {<caption>}
```

```
9903 \NewDocumentCommand{\LWR@longtabledatacaptiontag}{s o +m}%
9904 {%
```

Remember the latest name for \nameref:

```
9905 \IfValueTF{\#2}{% optional given?
9906   \ifblank{\#2}{% optional empty?
9907     {\LWR@setlatestname{\#3}}% empty
9908     {\LWR@setlatestname{\#2}}% given and non-empty
9909   }% optional given
9910   {\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:

```
9911 \LWR@tabularhtmlcolumns{1}{\arabic{LWR@tabletotalLaTeXcols}}%
```

Create the multicolumn tag. The caption will be centered by the css caption class.

```
9912 \LWR@domulticolumn{\arabic{LWR@tabletotalLaTeXcols}}%
9913   {\arabic{LWR@tabhtmlcoltotal}}%
9914   {p}%
9915 {%
9916 \LWR@domulticolumn
\IfBooleanTF{\#1}{star?}
```

Star version, show a caption but do not make a LOT entry:

```
9917 {%
9918   yes star
\LWR@figcaption%
```

```

9919      \LWR@isolate{#3}%
9920      \endLWR@figcaption%
9921  }%
9922  {%
  { No star:

```

Not the star version:

Don't step the counter if \caption[]{}{A caption.}

```

9923      \ifbool{LWR@starredlongtable}%
9924      {%
9925          \ifblank{#2}{ TOC entry
9926          {}%
9927          {}%
9928              \refstepcounter{\LTcaptype}%
9929              \protected@edef{@currentlabel{%
9930                  \nameuse{p@\LTcaptype}\nameuse{the\LTcaptype}}%
9931              }%
9932          {}%
9933      }%

```

Create an HTML caption. Afterwards, maybe make a LOT entry.

```

9934      \LWR@figcaption%
9935      \LWR@isolate{\nameuse{fnum@\LTcaptype}}%
9936      \CaptionSeparator%
9937      \LWR@isolate{#3}%
9938      \endLWR@figcaption%

```

See if an optional caption was given:

```
9939      \ifblank{#2}{ TOC entry empty
```

if the optional caption was given, but empty, do not form a TOC entry

```
9940      {}%
```

If the optional caption was given, but might only be []:

```

9941      {%
  TOC entry not empty
9942      \IfNoValueTF{#2}{ No TOC entry? }
```

The optional caption is []:

```

9943      {%
  No TOC entry
9944      \addcontentsline{%
9945          \nameuse{ext@\LTcaptype}}{%
9946          \LTcaptype}%
9947      {}%
9948      \protect\numberline{%
9949          \LWR@isolate{\nameuse{p@\LTcaptype}\nameuse{the\LTcaptype}}%
9950          \ignorespaces \LWR@isolate{#3}\protect\relax}%
9951      }%
9952  }% end of No TOC entry

```

The optional caption has text enclosed:

```
9953      {%
  yes TOC entry
```

```

9954          \addcontentsline%
9955          {\@nameuse{ext@\LTcaptype}}%
9956          {\LTcaptype}%
9957          {%
9958              \protect\numberline%
9959              {\LWR@isolate{\@nameuse{p@\LTcaptype}}\@nameuse{the\LTcaptype}}%
9960              {\ignorespaces \LWR@isolate{\#2}\protect\relax}%
9961          }%
9962      }% end of yes TOC entry
9963  }% end of TOC entry not empty
9964 }% end of no star

```

Skip any trailing @ or ! columns for this cell:

```

9965  \booltrue{\LWR@skipatbang}%
9966  }% end of \LWR@domulticolumn
9967 \defaddtocounter{\LWR@tableLaTeXcolindex}{\value{\LWR@tabletotalLaTeXcols}}%
9968  \defaddtocounter{\LWR@tableLaTeXcolindex}{-1}
9969
9970 }

```

### 75.22.5 Counting HTML tabular columns

The L<sup>A</sup>T<sub>E</sub>X specification for a table includes a number of columns separated by the & character. These columns differ in content from line to line. Additional virtual columns may be specified by the special @ and ! columns. These columns are identical from line to line, but may be skipped during a multicolumn cell.

For HTML output, @ and ! columns are placed into their own tabular columns. Thus, a L<sup>A</sup>T<sub>E</sub>X \multicolumn command may span several additional @ and ! columns in HTML output. These additional columns must be added to the total number of columns spanned by an HTML multi-column data cell.

```

9971 \newcounter{\LWR@tabhtmlcolindex}
9972 \newcounter{\LWR@tabhtmlcolend}
9973 \newcounter{\LWR@tabhtmlcoltotal}

```

\LWR@subtabularhtmlcolumns {{*index*}}

Factored from \LWR@tabularhtmlcolumns, which follows.

```
9974 \newcommand*{\LWR@subtabularhtmlcolumns}[1]{%
```

Temporarily define a macro equal to the @ specification for this column:

```
9975 \edef\LWR@atbangspec{\LWR@getexpparray{\LWR@colatspec}{#1}}%
```

If the @ specification is not empty, add to the count:

```

9976 \ifdefempty{\LWR@atbangspec}%
9977     {}%
9978     {\defaddtocounter{\LWR@tabhtmlcoltotal}{1}}%

```

Likewise for the ! columns:

```
9979 \edef\LWR@atbangspec{\LWR@getexpparray{\LWR@colbangspec}{#1}}%
```

```

9980     \ifdefempty{\LWR@atbangspec}%
9981         {}%
9982         {\defaddtocounter{\LWR@tabhtmlcoltotal}{1}}%
9983 }

```

\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 L<sup>A</sup>T<sub>E</sub>X@tabhtmlcoltotal.

```
9984 \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:

```

9985     \defcounter{\LWR@tabhtmlcolindex}{#1}%
9986     \defcounter{\LWR@tabhtmlcoltotal}{#2}%
9987     \defcounter{\LWR@tabhtmlcolend}{#1}%
9988     \defaddtocounter{\LWR@tabhtmlcolend}{#2}%

```

If at the left edge, add the at/bang columns for the left edge:

```

9989     \ifnumcomp{\value{\LWR@tabhtmlcolindex}}{=}{1}{%
9990         \LWR@subtabularhtmlcolumns{leftedge}%
9991     }%

```

Walk across the L<sup>A</sup>T<sub>E</sub>X columns looking for @ and ! columns:

```

9992     \whileboolexpr{%
9993         test {%
9994             \ifnumcomp{\value{\LWR@tabhtmlcolindex}}{<}{\value{\LWR@tabhtmlcolend}}{%
9995                 }%
9996             }%
9997             {%
9998                 \LWR@subtabularhtmlcolumns{\arabic{\LWR@tabhtmlcolindex}}%
9999                 \defaddtocounter{\LWR@tabhtmlcolindex}{1}%
10000             }% whiledo
10001 }%

```

```
10002 \end{warpHTML}
```

### 75.23 Multirow if not loaded

A default defintion in case multirow is not loaded. This is used during table parsing.

```

10003 \begin{warpHTML}
10004 \newcommand{\multirow}[2][c]{}%
10005 \end{warpHTML}

```

### 75.24 Multicolumnrow

A print-mode version is defined here, and is also used during HTML output while inside a `lateximage`.

See section 429 for the HTML versions.

**for HTML & PRINT:** 10006 \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.

10007 \AtBeginDocument{

\@ifundefined{@xmultirow} determines if multirow was never loaded.

Null action if not loaded:

```
10008 \@ifundefined{@xmultirow}
10009 {
10010 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
10011 {+m +m +0{c} +m +0{0} +m +0{0pt} +m}%
10012 {}%
10013 }% no version of multirow was loaded
10014 {% \@xmultirow defined, so some version of multirow was loaded
```

\IfPackageLoadedTF{multirow} determines if v2.0 or later of multirow was used, which included the \ProvidesPackage macro.

The print version:

```
10015 \IfPackageLoadedTF{multirow}{% v2.0 or newer
10016 \IfPackageAtLeastTF{multirow}{2016/09/01}{% 2016/09/27 for v2.0
10017 {% v2.0+:
10018 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
10019 {+m +m +0{c} +m +0{0} +m +0{0pt} +m}%
10020 {\multicolumn{\#1}{\#2}{\@xmultirow{\#3}{\#4}{\#5}{\#6}{\#7}{\#8}}}%
10021 }
10022 {% loaded but older, probably not executed:
10023 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
10024 {+m +m +0{c} +m +0{0} +m +0{0pt} +m}%
10025 {\multicolumn{\#1}{\#2}{\@xmultirow{\#4}{\#5}{\#6}{\#7}{\#8}}}%
10026 }
10027 }% package loaded{multirow}
```

If not \IfPackageLoadedTF{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.

```
10028 {% v1.6 or older did not \ProvidePackage
10029 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
10030 {+m +m +0{c} +m +0{0} +m +0{0pt} +m}%
10031 {\multicolumn{\#1}{\#2}{\@xmultirow{\#4}{\#5}{\#6}{\#7}{\#8}}}%
10032 }
10033
```

---

```

10034 }% \@ifundefined{@xmultirow}
10035
10036 \providecommand*\multicolumnrow{\LWR@print@multicolumnrow}
10037
10038 }% AtBeginDocument

10039 \end{warpall}

```

## 75.25 Utility macros inside a table

**for HTML output:** 10040 \begin{warpHTML}

Used to prevent opening a tabular data cell if the following token is one which does not create tabular data:

```
10041 \newcommand*\LWR@donothing{}
```

In case `array` is not loaded:

```

10042 \let\firstline\relax
10043 \let\lastline\relax
10044 \newcommand*\firstline(){}
10045 \newcommand*\lastline(){}

```

In case `bigdelim` is not loaded:

```

10046 \newcommand*\ldelim(){}
10047 \newcommand*\rdelim{}

10048 \end{warpHTML}

```

## 75.26 Special-case tabular markers

**for HTML & PRINT:** 10049 \begin{warpall}

\TabularMacro Place this just before inserting a custom macro in a table data cell. Doing so tells l warp not to automatically start a new HTML table data cell yet. See section 8.10.1.

```

10050 \newcommand*\TabularMacro(){}
10051 \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, l warp'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:** 10052 \begin{warpHTML}

```
10053 \newcommand*{\ResumeTabular}{%
10054     \boolfalse{LWR@exittingtabular}%
10055     \boolfalse{LWR@tabularmutemods}%
10056     \LWR@getmynexttoken%
10057 }
```

```
10058 \end{warpHTML}
```

**for PRINT output:** 10059 \begin{warpprint}

```
10060 \newcommand*{\ResumeTabular}{}
10061 \end{warpprint}
```

## 75.27 Checking for a new table cell

**for HTML output:** 10062 \begin{warpHTML}

\LWR@tabledatacolumnntag Open a new HTML table cell unless the next token is for a macro which does not create data, such as \hline, \toprule, etc:

```
10063 \newcommand*{\LWR@tabledatacolumnntag}{%
10064 {%
10065     \LWR@traceinfo{\LWR@tabledatacolumnntag}%
}
```

\show\LWR@mynexttoken to see what tokens to look for

If not any of the below, start a new table cell:

```
10066 \global\let\LWR@mynextaction\LWR@tabledatasinglecolumntag%
```

If exiting the tabular:

```
10067 \ifdefequal{\LWR@mynexttoken}{\end}%
10068     {\booltrue{LWR@exittingtabular}}{}%
```

`\longtable` can have a caption in a cell

```
10069 \ifdefequal{\LWR@mynexttoken}{\caption}%
10070   {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

Look for other things which would not start a table cell:

```
10071 \ifdefequal{\LWR@mynexttoken}{\multicolumn}%
10072   {\global\let\LWR@mynextaction\LWR@donothing}{}}%
10073 \ifdefequal{\LWR@mynexttoken}{\multirow}%
10074   {\global\let\LWR@mynextaction\LWR@donothing}{}}%
10075 \ifdefequal{\LWR@mynexttoken}{\multicolumnrow}%
10076   {\global\let\LWR@mynextaction\LWR@donothing}{}}%
10077 \ifdefequal{\LWR@mynexttoken}{\noalign}%
10078   {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

If an `\mrowcell`, this is a cell to be skipped over:

```
10079 \ifdefequal{\LWR@mynexttoken}{\mrowcell}%
10080   {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

If an `\mcolrowcell`, this is a cell to be skipped over:

```
10081 \ifdefequal{\LWR@mynexttoken}{\mcolrowcell}%
10082   {\global\let\LWR@mynextaction\LWR@donothing}{}}%

10083 \ifdefequal{\LWR@mynexttoken}{\TabularMacro}%
10084   {\global\let\LWR@mynextaction\LWR@donothing}{}}%

10085 \ifdefequal{\LWR@mynexttoken}{\hline}%
10086   {\global\let\LWR@mynextaction\LWR@donothing}{}}%

10087 \ifdefequal{\LWR@mynexttoken}{\firsthline}%
10088   {\global\let\LWR@mynextaction\LWR@donothing}{}}%

10089 \ifdefequal{\LWR@mynexttoken}{\lasthline}%
10090   {\global\let\LWR@mynextaction\LWR@donothing}{}}%

10091 \ifdefequal{\LWR@mynexttoken}{\toprule}%
10092   {\global\let\LWR@mynextaction\LWR@donothing}{}}%

10093 \ifdefequal{\LWR@mynexttoken}{\midrule}%
10094   {\global\let\LWR@mynextaction\LWR@donothing}{}}%

10095 \ifdefequal{\LWR@mynexttoken}{\cmidrule}%
10096   {\global\let\LWR@mynextaction\LWR@donothing}{}}%

10097 \ifdefequal{\LWR@mynexttoken}{\morecmidrules}%
10098   {\global\let\LWR@mynextaction\LWR@donothing}{}}%

10099 \ifdefequal{\LWR@mynexttoken}{\specialrule}%
10100   {\global\let\LWR@mynextaction\LWR@donothing}{}}%

10101 \ifdefequal{\LWR@mynexttoken}{\cline}%
10102   {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

```

10103  \ifdefequal{\LWR@mynexttoken}{\bottomrule}%
10104    {\global\let\LWR@mynextaction\LWR@donothing}{ }%
10105  \ifdefequal{\LWR@mynexttoken}{\hhline}%
10106    {\global\let\LWR@mynextaction\LWR@donothing}{ }%
10107  \ifdefequal{\LWR@mynexttoken}{\rowcolor}%
10108    {\global\let\LWR@mynextaction\LWR@donothing}{ }%
10109  \ifdefequal{\LWR@mynexttoken}{\arrayrulecolor}%
10110    {\global\let\LWR@mynextaction\LWR@donothing}{ }%
10111  \ifdefequal{\LWR@mynexttoken}{\doublerulesepcolor}%
10112    {\global\let\LWR@mynextaction\LWR@donothing}{ }%
10113  \ifdefequal{\LWR@mynexttoken}{\warpprintonly}%
10114    {\global\let\LWR@mynextaction\LWR@donothing}{ }%
10115  \ifdefequal{\LWR@mynexttoken}{\warpHTMLonly}%
10116    {\global\let\LWR@mynextaction\LWR@donothing}{ }%
10117  \ifdefequal{\LWR@mynexttoken}{\ldelim}%
10118    {\global\let\LWR@mynextaction\LWR@donothing}{ }%
10119  \ifdefequal{\LWR@mynexttoken}{\rdelim}%
10120    {\global\let\LWR@mynextaction\LWR@donothing}{ }%

```

For `arydshln`:

```

10121  \ifdefequal{\LWR@mynexttoken}{\hdashline}%
10122    {\global\let\LWR@mynextaction\LWR@donothing}{ }%
10123  \ifdefequal{\LWR@mynexttoken}{\cdashline}%
10124    {\global\let\LWR@mynextaction\LWR@donothing}{ }%
10125  \ifdefequal{\LWR@mynexttoken}{\firsthdashline}%
10126    {\global\let\LWR@mynextaction\LWR@donothing}{ }%
10127  \ifdefequal{\LWR@mynexttoken}{\lasthdashline}%
10128    {\global\let\LWR@mynextaction\LWR@donothing}{ }%

```

Ignore an empty line between rows:

```

10129  \ifdefequal{\LWR@mynexttoken}{\par}%
10130    {%
10131      \global\let\LWR@mynextaction\LWR@donothing%
10132    }{ }%

```

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:

```

10133  \LWR@traceinfo{\LWR@tabledatacolumntag: done, about to do \LWR@mynextaction}%
10134  \LWR@mynextaction%
10135 }%

```

---

10136 \end{warpHTML}

## 75.28 \mrowcell

**for HTML & PRINT:** 10137 \begin{warpall}

- \mrowcell The user must insert \mrowcell into any \multirow cells which must be skipped.  
⚠ **multirow cells** This command has no action during print output.

10138 \newcommand\*\{\mrowcell\}{}%

10139 \end{warpall}

## 75.29 \mcolrowcell

**for HTML & PRINT:** 10140 \begin{warpall}

- \mcolrowcell The user must insert \mcolrowcell into any \multicolumnrow cells which must be skipped. This command has no action during print output.  
⚠ **multirow cells**

10141 \newcommand\*\{\mcolrowcell\}{}%

10142 \end{warpall}

## 75.30 HTML tabular environment

**for HTML output:** 10143 \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.

```
10144 \providecommand*\{\toprule}[1][]{\hline}
10145 \providecommand*\{\midrule}[1][]{\hline}
10146 \providecommand*\{\cmidrule}{\cline}
10147 \providecommand*\{\bottomrule}[1][]{\hline}
10148 \providecommand*\{\addlinespace}[1][]{}
10149 \providecommand*\{\morecmidrules}{}%
10150 \providecommand*\{\specialrule}[3]{\hline}
```

\noalign {⟨text⟩} Redefined for use inside tabular.

```
10151 \LetLtxMacro{\LWR@orignoalign}{\noalign}
10152
10153 \newcommand{\LWR@tabularnoalign}[1]{%
10154   \advance\rownum\m@ne%
10155   \LetLtxMacro{\LWR@save@xcolorrowHTMLcolor}{\LWR@xcolorrowHTMLcolor}%
10156   \renewcommand*\{\LWR@xcolorrowHTMLcolor}{}%
10157   \multicolumn{\value{\LWR@tabletotalLaTeXcols}}{l}{#1} \\
10158   \LetLtxMacro{\LWR@xcolorrowHTMLcolor}{\LWR@save@xcolorrowHTMLcolor}%
10159   \% \rowc@lors%
10160   \LWR@getmynexttoken%
10161 }
```

\LWR@HTMLhline The definition of \hline depends on whether `tbls` has been loaded. If so, optional space below the line may be specified, but will be ignored.

```

10162 \AtBeginDocument{
10163
10164 \IfPackageLoadedTF{lwarf-tbls}
10165 {
10166     \newcommand*\LWR@HTMLhline[1][]{%
10167         \ifboolexpr{FormatWP}{%
10168             {\LWR@docmidrule{1-\arabic{LWR@tabletotalLaTeXcols}}}{%
10169                 \defaddtocounter{LWR@hlines}{1}}{%
10170                 \LWR@getmynexttoken}}{%
10171 }{%
10172 {
10173     \newcommand*\LWR@HTMLhline[]{%
10174         \ifboolexpr{FormatWP}{%
10175             {\LWR@docmidrule{1-\arabic{LWR@tabletotalLaTeXcols}}}{%
10176                 \defaddtocounter{LWR@hlines}{1}}{%
10177                 \LWR@getmynexttoken}}{%
10178 }{%
10179
10180 }% AtBeginDocument

```

\LWR@HTMLcline {*columns*}

```

10181 \NewDocumentCommand{\LWR@HTMLcline}{m}{%
10182     {\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.

```

10183 \newcommand{\LWR@tabular@warpprintonly}[1]{%
10184     \ifboolexpr{warpingprint}{#1}{\LWR@getmynexttoken}%
10185     \LWR@getmynexttoken%
10186 }

```

\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`.

```

10187 \AtBeginDocument{
10188 \ifundefined{NoAutoSpacing}{%
10189 % no babel-french
10190     \newcommand*\LWR@nullifyNoAutoSpacing{}{%
10191 }% no babel-french
10192 % yes babel-french
10193     \newcommand*\LWR@nullifyNoAutoSpacing{}{%
10194         \NoAutoSpacing{%
10195             \renewcommand*\NoAutoSpacing{}{%
10196                 \renewcommand*\LWR@FBcancel{}{%
10197             }{%
10198 }% yes babel-french
10199 }% AtBeginDocument

```

Env `tabular` <direction> [<vertposition>] {<colspecs>}

The <direction> is from plect for Japanese documents, and is ignored.

```
10200 \StartDefiningTabulars
10201
10202 \NewDocumentCommand{\LWR@HTML@@tabular}{d<> o m}
10203 {%
10204     \LWR@traceinfo{LWR@HTML@@tabular started}%
```

- ⚠ **<table> inside <span>** In L<sup>A</sup>T<sub>E</sub>X, a tabular may be placed inside a minipage, but in HTML a <table> may not be inside a <span>. Since there may be several nested <span>s, with an unknown number of other objects between, it is hard to undo all these <span>s before the <table> then redo them after. The browser probably compensates for this situation, but formatting may be lost inside the <table> because several things are neutralized inside a <span>. Furthermore, in the HTML output, the entire <table> is placed on a single line of HTML code, since the line breaking commands are neutralized inside a <span>. Since this is such a sloppy situation, a warning is issued here instructing the user to please isolate the <span> to print-only.

```
10205     \LWR@spanwarnformat{tabular}%
10206     \addtocounter{LWR@tabulardepth}{1}%
```

Not yet started a table row:

```
10207     \boolfalse{LWR@startedrow}%
```

Not yet doing any rules:

```
10208     \defcounter{LWR@hlines}{0}%
10209     \defcounter{LWR@hdashedlines}{0}%
10210     \boolfalse{LWR@doingtbrule}%
10211     \boolfalse{LWR@doingcmidrule}%
```

For babel-french, turn off auto spacing one time, then nullify the autospacing commands since were not compatible with the tabular parsing code.

```
10212     \LWR@nullifyNoAutoSpacing%
```

Have not yet found the end of tabular command. Unmute the @ and ! columns.

```
10213     \boolfalse{LWR@exittingtabular}%
10214     \boolfalse{LWR@tabulararmutemods}%
```

Error if failed to use \mrowcell or \mcolrowcell when needed.

```
10215     \boolfalse{LWR@usedmultirow}%
10216     \boolfalse{LWR@foundmrowcell}%
```

In case of nesting:

```
10217     \renewcommand*\{\LWR@multicoltext\}{}%
10218     \booltrue{LWR@intabularmetadata}%
```

New PDF page, unless in a \multirow:

```
10219     \ifbool{LWR@in@multirow@par}%
10220         {\leavevmode\LWR@orignewline}%
10221         {\LWR@forcenewpage}%
```

In case of nesting, locally no longer in a `\multirow`:

```
10222 \boolearn{LWR@in@multirow@par}%
```

Create the table tag:

```
10223 \LWR@htmlblocktag{table}%
```

Parse the table columns:

```
10224 \LWR@parsetablecols{#3}%
```

Table col spec is: `\LWR@tablecols` which is a string of llccrr, etc.

Do not place the table inside a paragraph:

```
10225 \LWR@stoppars%
```

Track column #:

```
10226 \defcounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
10227 \global\boolearn{LWR@tabularcelladded}%
```

Start looking for midrules:

```
10228 \LWR@clearmidrules%
```

`\`` becomes a macro to end the table row:

```
10229 \LetLtxMacro{\`}{\LWR@tabularendofline}%
```

`\warpprintonly` inside a tabular must grab the next token.

```
10230 \LetLtxMacro{\warpprintonly}{\LWR@tabular@warpprintonly}%
```

The following adjust for `colortbl`.

```
10231 \LetLtxMacro{\arrayrulecolor}{\arrayrulecolor\nexttoken}%
10232 \LetLtxMacro{\doublerulesepcolor}{\doublerulesepcolor\nexttoken}%
10233 \def\LWR@columnHTMLcolor{}%
10234 \def\LWR@rowHTMLcolor{}%
10235 \def\LWR@cellHTMLcolor{}%
10236 \@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.

```
10237 \ifdefvoid{\LWR@ruleHTMLcolor}%
10238   {\edef\LWR@vertruleHTMLcolor{black}}%
10239   {\edef\LWR@vertruleHTMLcolor{\LWR@origpound\LWR@ruleHTMLcolor}}%
```

Tracking the depth of cell color <div>s:

```
10240 \defcounter{LWR@cellcolordepth}{0}%
```

The following may appear before a data cell is created, so after doing their actions, we look ahead with `\LWR@getmynexttoken` to see if the next token might create a new data cell:

The optional parameter for `\hline` supports the `tbls` package.

```

10241  \LWR@traceinfo{LWR@@HTML@tabular: redefining macros}%
10242  \LetLtxMacro\noalign{\LWR@tabularnoalign}%
10243  \LetLtxMacro\hline{\LWR@HTMLhline}%
10244  \LetLtxMacro\cline{\LWR@HTMLcline}%

10245  \DeclareDocumentCommand{\hdashline}{o}{%
10246    \ifboolexpr{FormatWP}{%
10247      {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}{%
10248        {\defaddtocounter{LWR@hdashedlines}{1}}{%
10249          \LWR@getmynexttoken}%
10250        }%
10251    \DeclareDocumentCommand{\cdashline}{m}{%
10252      \LWR@docdashline{##1}\LWR@getmynexttoken}%
10253    }%
10254    \DeclareDocumentCommand{\firstdashline}{o}{%
10255      \ifboolexpr{FormatWP}{%
10256        {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}{%
10257          {\defaddtocounter{LWR@hdashedlines}{1}}{%
10258            \LWR@getmynexttoken}%
10259          }%
10260    \DeclareDocumentCommand{\lastdashline}{o}{%
10261      \ifboolexpr{FormatWP}{%
10262        {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}{%
10263          {\defaddtocounter{LWR@hdashedlines}{1}}{%
10264            \LWR@getmynexttoken}%
10265          }%

```

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`.

```

10266  \renewcommand{\multicolumn}{\LWR@htmlmulticolumn}%
10267  \renewcommand*\{mrowcell}{%
10268    \LWR@maybenewtablerow%
10269    \LWR@tabularleftedge%
10270    \booltrue{\LWR@skippingmrowcell}%
10271    \booltrue{\LWR@foundmrowcell}%
10272  }%
10273  \renewcommand*\{mcolrowcell}{%
10274    \LWR@maybenewtablerow%
10275    \booltrue{\LWR@skippingmcolrowcell}%
10276    \booltrue{\LWR@foundmrowcell}%
10277  }%
10278  \LetLtxMacro\caption{\LWR@longtabledatacaptiontag}%

```

Reset for new processing:

```

10279  \boolfalse{\LWR@tableparcell}%
10280  \boolfalse{\LWR@skippingmrowcell}%

```

```

10281 \boolearn{LWR@skippingmcolrowcell}%
10282 \boolearn{LWR@skipatbang}%
10283 \boolearn{LWR@emptyatbang}%

```

Set & for its special meaning inside the tabular:

```

10284 \StartDefiningTabulars%
10285 \protected\gdef&{\LWR@tabularampersand}%

```

Locally force any minipages to be fullwidth, until the end of the tabular:

```
10286 \booltrue{LWR@forceminipagefullwidth}%
```

Nest one level deeper of tabular paragraph handling:

```
10287 \addtocounter{LWR@tabularpardepth}{1}%
```

Look ahead for a possible table data cell:

```

10288 \LWR@traceinfo{LWR@HTML@tabular: about to LWR@getmynexttoken}%
10289 \LWR@getmynexttoken%
10290 }%

```

Ending the environment:

```

10291 \newcommand*{\LWR@HTML@endtabular}%
10292 {%
10293 \LWR@traceinfo{LWR@HTML@endtabular}%

```

Unnest one level of tabular paragraph handling:

```

10294 \addtocounter{LWR@tabularpardepth}{-1}%
10295 \ifboolexpr{%
10296   test {%
10297     \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}{%
10298       \value{LWR@tabletotalLaTeXcols}%
10299     } or %
10300     (%
10301       bool{LWR@intabularmetadata} and%
10302       not bool{LWR@tabularcelladded} and%
10303       test {%
10304         \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{%
10305           \value{LWR@tabletotalLaTeXcols}%
10306         }%
10307       )%
10308     }%
10309     {%
10310       \LWR@tabularfinishrow%
10311     }%
10312     {%
10313       \LWR@closetabledatacell%
10314     }%
10315   \LWR@htmlblocktag{/tr}%
}

```

xcolor row color support:

```
10316 \@rowc@lors%
```

```
10317     \LWR@htmlblocktag{/table}%
10318     \boolfalse{LWR@intabularmetadata}%
```

Unnest one level of tabular:

```
10319     \addtocounter{LWR@tabulardepth}{-1}%
```

Restore & to its usual meaning:

```
10320     \ifnumequal{\value{LWR@tabulardepth}}{0}{%
10321         \protected\gdef&{\LWR@origampmacro}%
10322         \StopDefiningTabulars%
10323     }{}%
```

Error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.

```
10324     \ifbool{LWR@usedmultirow}{%
10325         \ifbool{LWR@foundmrowcell}{%
10326             {\relax}%
10327             {%
10328                 \PackageError{l warp}%
10329                 {%
10330                     When using \protect\multirow, \protect\multicolumnrow, \MessageBreak
10331                     or the bigdelim package, \MessageBreak
10332                     place \protect\mrowcell\space or \protect\mcolrowcell\MessageBreak
10333                     in empty cells which are to be skipped.\MessageBreak
10334                     See the L warp package documentation:\MessageBreak
10335                     "Special cases and limitations" -> "Tabular"
10336                 }%
10337                 {%
10338                     See the L warp package documentation:\MessageBreak
10339                     "Special cases and limitations" -> "Tabular".
10340                 }%
10341             }%
10342         }{}%
10343     }{\LWR@traceinfo{LWR@HTML@endtabular finished}%
10344 }%
10345 %
10346 \csletcs{LWR@HTML@endtabular*}{LWR@HTML@endtabular}%
10347 %
10348 \StopDefiningTabulars
```

**siunitx** may redefine tabular, so set the following later:

```
10349 \AtBeginDocument{
10350     \LetLtxMacro{\LWR@origendtabular}{\endtabular}
10351     \csletcs{\LWR@origendtabular*}{\endtabular*}
10352     \LWR@formatted{@tabular}
10353     \LWR@formatted{endtabular}
10354     \LWR@formatted{endtabular*}
10355 }%
10356 \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>}{<imagenumber>}}
```

Table 16 shows the data structures related to cross-referencing.

**for HTML output:** 10357 \begin{warpHTML}

### 76.1 Setup

\@currentlabelname To remember the most recently defined section name, description, or caption, for \nameref.

```
10358 \def\@currentlabelname{\linkhomename}%
```

\LWR@stripperiod {\langle text\rangle} [⟨.⟩]

Removes a trailing period.

```
10359 \def\LWR@stripperiod#1.\ltx@empty#2@\nil{#1}%
```

\LWR@setlatestname {\⟨object name⟩}

Removes \label, strips any final period, and remembers the result.

```
10360 \newcommand*\LWR@setlatestname[1]{%
```

Remove \label and other commands from the name, the strip any final period.  
See `gettitlestring`.

```
10361     \GetTitleStringExpand{#1}%
10362     \edef\@currentlabelname{\detokenize\expandafter{\GetTitleStringResult}}%
10363     \edef\@currentlabelname{%
10364         \expandafter\LWR@stripperiod\@currentlabelname%
10365         \ltx@empty.\ltx@empty\@nil%
10366     }%
10367 }
```

### 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:

Table 16: Cross-referencing data structures

|   |                  |
|---|------------------|
| <b>Original L<sup>A</sup>T<sub>E</sub>X:</b>  | (print and HTML) |
| \refstepcounter: Steps the counter and sets \@currentlabel.   |                  |
| \@currentlabel: \p@<ctr>\the<ctr> Updated by \refstepcounter.   |                  |
| \label: Writes to the .aux file:<br>\newlabel{<label>}{{\@currentlabel}{\thepage}}  |                  |
| \newlabel: When the .aux file is read, sets \r@<label>.   |                  |
| \r@<label>: Set to: {{\@currentlabel}{\thepage}}  |                  |
| \ref: Returns the first part of \r@<label>.   |                  |
| \pageref: Returns the second part of \r@<label>.  |                  |
| <b>Added by l warp:</b>   | (HTML only)      |
| \label: 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.  |                  |
| \newlabel: Unchanged. When the .aux file is read, sets \r@<label>@l warp.   |                  |
| \r@<label>@l warp: Set to {{section_name}{file_name}{depth}{number}}:<br>\lwr@nameref: The section or object name for this label.<br>\lwr@currentautosecpageref: The \lwr@currentautosecpageref for this label.<br>\lwr@htmlfileref: The filenumber or name for this label.<br>\lwr@lateximagedepthref: The \lwr@lateximagedepthref for this label.<br>\lwr@lateximagenumberref: The \lwr@lateximagenumberref for this label. |                  |
| \nameref: Emulated from hyperref for l warp. See section 76.4.  |                  |
| \ref and \nameref: Adds HTML tags. See section 76.4.  |                  |
| <b>Added by amsmath:</b>  | (print and HTML) |
| \label: Execution is delayed until the math environment is completed.   |                  |
| \ltx@label: L <sup>A</sup> T <sub>E</sub> X \label, (HTML: patched by l warp,) later patched by cleveref.   |                  |
| <b>Added by cleveref:</b>   | (print and HTML) |
| \refstepcounter: Added: sets \cref@currentlabel.  |                  |
| \cref@currentlabel: (<type>=<ctr> unless an alias is used):<br>[<type>][\arabic{<ctr>}][<parent ctrs>]{\p@<ctr>\the<ctr>} Also see section 60.4 for use with footnotes.   |                  |
| \label: Writes to the .aux file:<br>\newlabel{<label>@\cref}{{\cref@currentlabel}{\thepage}}  |                  |
| \newlabel: Unchanged. When the .aux file is read, sets \r@<label>@\cref.  |                  |
| \r@<label>@\cref: 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.  |                  |
| <b>Additionally patched by l warp:</b>  | (HTML only)      |
| \cref, etc.: Modified for l warp. See section 202.  |                  |
| \label inside math: See section 83.7.1.   |                  |
| <b>Footnotes:</b> See \noteentry in section 60.4.   |                  |

---

```
\newlabel{<labelname>}@lwarf}{\{<section name>\}\{<filename>\}
{\<limagedepth>\}\{<imagenum>\}}
```

See:

[http://tex.stackexchange.com/questions/57194/  
extract-section-number-from-equation-reference](http://tex.stackexchange.com/questions/57194/extract-section-number-from-equation-reference)

\LWR@setref {*args list*} {*selector*} {*label*}

\@setref without the \null (\hbox), and without the warning messages. Each caused problems with lwarf references. The regular reference will cause the warning.

```
10368 \def\LWR@setref#1#2#3{%
10369   \ifx#1\relax%
10370     ??%
10371   \else%
10372     \expandafter#2#1%
10373   \fi}
```

\LWR@nameref {*label*} Returns the section name for this label:

```
10374 \newcommand*{\LWR@nameref}[1]{%
10375   \begingroup%
10376   \LWR@nullifyfootnotes%
10377   \expandafter\LWR@setref\csname r@#1@lwarf\endcsname\LWR@firstoffive{#1}%
10378   \endgroup%
10379 }
```

\LWR@currentautosecpageref {*label*} Returns the LWR@currentautosecpage for this label:

```
10380 \newcommand*{\LWR@currentautosecpageref}[1]{%
10381   \expandafter\LWR@setref\csname r@#1@lwarf\endcsname\LWR@secondoffive{#1}%
10382 }
```

\LWR@htmlfileref {*label*} Returns the file number or name for this label:

```
10383 \newcommand*{\LWR@htmlfileref}[1]{%
10384   \expandafter\LWR@setref\csname r@#1@lwarf\endcsname\LWR@thirdoffive{#1}%
10385 }
```

\LWR@lateximagedepthref {*label*} Returns the lateximagedepth for this label:

```
10386 \newcommand*{\LWR@lateximagedepthref}[1]{%
10387   \expandafter\LWR@setref\csname r@#1@lwarf\endcsname\LWR@fourthoffive{#1}%
10388 }
```

\LWR@lateximagenumberref {*label*} Returns the lateximagenumber for this label:

```
10389 \newcommand*{\LWR@lateximagenumberref}[1]{%
10390   \expandafter\LWR@setref\csname r@#1@lwarf\endcsname\LWR@fifthoffive{#1}%
10391 }
```

\LWR@write@lwarplabel {*label*} Sanitize the name and then creates the label:

```

10392 \newcommand*{\LWR@write@lwarplabel}[1]{%
10393     \LWR@traceinfo{\LWR@write@lwarplabel !#1!}%
10394     \LWR@setlatestname{@currentlabelname}%
10395     \@bsphack%
10396     \protected@write\@auxout{}{%
10397         {%
10398             \string\newlabel{-#1@lwarf}{%
10399                 {@currentlabelname}%
10400                 {\the\LWR@currentautosecpage}%
10401                 {%
10402                     \ifbool{FileSectionNames}%
10403                         {\LWR@thisfilename}%
10404                         {\arabic{\LWR@htmldocumentnumber}}%
10405                 }%
10406                 {\arabic{\LWR@lateximagedepth}}%
10407                 {\arabic{\LWR@lateximagenumber}}%
10408             }%
10409         }%
10410     \@esphack%
10411 }
```

### 76.3 Labels

\LWR@label@subcreatetag Creates the tag from \LWR@sanitized.

```

10412 \newcommand*{\LWR@label@subcreatetag}{%
10413     \LWR@htmlltag{a \LWR@print@mbox{id=\textquotedbl\textquotedbl}}%
10414     \LWR@htmlltag{/a}%
10415 }
```

\LWR@label@inmathcomment

```

10416 \newcommand*{\LWR@label@inmathcomment}{%
10417     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
10418         {%
```

The combined L<sup>A</sup>T<sub>E</sub>X & HTML label is printed in a \mbox field:

```
10419     \mbox{%
```

Shift the label over to the right side of the environment to avoid over-printing the math:

```
10420     \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.)

```

10421     \LWR@htmllclosecomment%
10422     \LWR@label@subcreatetag%
10423     \LWR@htmlopencomment%
10424     }% mbox
10425     }% mathjax
```

```

10426      {%
10427          \LWR@label@subcreatetag%
10428      }%
10429 }

```

\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.

```

10430 \newcommand*{\LWR@label@createtag}[1]{%
10431     \LWR@traceinfo{\LWR@label@createtag !#1!}%

```

Create an HTML id tag unless are inside a `lateximage`, since it would appear in the image:

```

10432     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
10433     {}%
10434     {% not lateximage

```

If not doing a `lateximage`, create an HTML ID tag.

```

10435     \LWR@sanitize{#1}%
10436     \ifbool{\LWR@insidemathcomment}{%
10437         {% inside HTML math comment
10438             \LWR@label@inmathcomment%
10439         }%
10440         {% not inside HTML math comment
10441             \ifbool{\LWR@doingstartpars}{%
10442                 {% pars allowed
10443                     \ifbool{\LWR@doingapar}{%
10444                         {% par started
10445                             \LWR@label@subcreatetag%
10446                         }%
10447                         {% par not started
10448                             \LWR@stoppars%
10449                             \LWR@label@subcreatetag%
10450                             \LWR@startpars%
10451                         }%
10452                         {% pars allowed
10453                             {% pars not allowed
10454                                 \LWR@label@subcreatetag%
10455                             }%
10456                             {% not inside HTML math comment
10457                         }%
10458                     }%

```

\LWR@new@label {*(label)*}

\label during HTML output when not in SVG math mode, removing extra spaces around the label, as done by a regular L<sup>A</sup>T<sub>E</sub>X \label.

The is also used during a `lateximage`, including SVG math, since the special label handling is required, but \LWR@label@createtag does not generate HTML tags inside a `lateximage`.

If `memoir` is used, it's \mem@old@label is pointed here.

---

clevereref later encases this to add its own cross-referencing, and also patches memoir.

```
10459 \newcommand*{\LWR@new@label}[1]{%
10460     \LWR@traceinfo{\LWR@new@label: starting}%
10461     \LWR@traceinfo{\LWR@new@label: !#1!}%
10462 } \@bsphack%
```

Create a traditional L<sup>A</sup>T<sub>E</sub>X label, as modified by cleveref:

```
10463 \LWR@orig@label{#1}%
```

Create a special label which holds the section number, section name, LWR@htmlfilename, LWR@lateximagedepth, and LWR@lateximagenumber:

```
10464 \LWR@traceinfo{%
10465     LWR@new@label: filesectionnames is %
10466     \ifbool{FileSectionNames}{true}{false}%
10467 }%
10468 \LWR@traceinfo{%
10469     LWR@new@label: LWR@thisfilename is !\LWR@thisfilename!%
10470 }%
10471 \LWR@traceinfo{%
10472     LWR@new@label: LWR@htmlfilename is \arabic{LWR@htmlfilename}%
10473 }%
10474 \LWR@write@lwarplabel{#1}%
10475 \LWR@label@createtag{#1}%
10476 \% \@esphack%
10477 \LWR@traceinfo{\LWR@new@label: done}%
10478 }
```

## 76.4 References

\LWR@addlinktitle

```
10479 \newcommand*{\LWR@addlinktitle}{%
10480     \ifdefvoid{\LWR@ThisAltText}{}{ % space
10481         title=\textquotedbl\text{\LWR@ThisAltText}\textquotedbl\ % space
10482         \gdef\LWR@ThisAltText{}%
10483     }%
10484 }
```

\LWR@startref {<label>} (Common code for \ref and \nameref.)

Open an HTML tag reference to a filename, # character, and a label.

```
10485 \newcommand*{\LWR@startref}[1]%
10486 {%
10487     \LWR@sanitize{#1}%
10488     \LWR@traceinfo{\LWR@startref A: !#1!}%
}
```

Create the filename part of the link:

```
10489 \LWR@htmlltag{a href=\textquotedbl%
10490 \LWR@traceinfo{\LWR@startref B}%
}
```

```
10491     \LWR@print@mbox{\LWR@htmlrefsectionfilename{#1}}%
10492     \LWR@traceinfo{\LWR@startref C}%
10493     \LWR@origpound%
```

Create the destination id:

See if `\LWR@lateximagedepth` is unknown:

```
10494     \LWR@traceinfo{\LWR@startref D: !#1!}%
10495     \ifcsundef{r@#1@lwarf}{}
```

“??” if `\LWR@lateximagedepth` is unknown, so create a link with an unknown destination:

```
10496     {%
10497         \LWR@traceinfo{\LWR@startref D0: ??}%
10498         ??%
10499     }%
```

If `\LWR@lateximagedepth` is known. Use a `\textrimage` if the depth is greater than zero, or a regular link otherwise:

```
10500     {%
10501         \ifthenelse{\cnttest{\LWR@lateximagedepthref{#1}}>}{0}{%
10502             {%
10503                 \textrimage-\BaseJobname-\LWR@lateximagenumberref{#1}%
10504             }%
10505             {%
10506                 \LWR@traceinfo{\LWR@startref D3}}}}
```

`\detokenize` is used to allow underscores in the labels:

```
10507             \LWR@print@mbox{\LWR@sanitized}%
10508         }%
10509     }%
10510     \LWR@traceinfo{\LWR@startref E}%%
```

Closing quote:

```
10511     \textquotedbl%
```

Maybe add a title:

```
10512     \LWR@addlinktitle%
10513     }%
10514     \LWR@traceinfo{\LWR@startref F}%
10515 }
```

`\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)”.

```
10516 \NewDocumentCommand{\LWR@subnewref}{m m}{%
10517     \LWR@traceinfo{\LWR@subnewref #1 #2}%
10518     \LWR@startref{#1}}%
```

```
10519     \LWR@print@ref{#2}%
10520     \LWR@htmltag{/a}%
10521 }
```

\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:

```
10522 \LWR@absorbstar{ref}%
```

The HTML version:

```
10523 \NewDocumentCommand{\LWR@HTML@ref}{s m}{%
10524     \LWR@traceinfo{\LWR@HTML@ref !#2!}%
10525     \IfBooleanTF{#1}%
10526         {\LWR@print@ref{#2}}%
10527         {\LWR@subnewref{#2}{#2}}%
10528 }
10529
10530 \LWR@formatted{ref}
```

\LWR@refwithsection \* {*label*}

Creates a reference, using the section number as the text. Used for back references.

```
10531 \NewDocumentCommand{\LWR@refwithsection}{s m}{%
10532     \LWR@traceinfo{\LWR@refwithsection !#2!}%
```

If starred, just use the text without a hyperlink:

```
10533 \IfBooleanTF{#1}%
10534     {\LWR@print@ref{\BaseJobname-autopage-\LWR@currentautosecpageref{#2}}}%
10535     {}%
```

Open the reference:

```
10536 \LWR@startref{#2}%
```

Add the text of the link.

Check for and handle an undefined reference:

```
10537 \edef@\tempa{\LWR@currentautosecpageref{#2}}%
10538 \ifdefstring{@tempa}{??}%
10539     {??}%
```

For a defined reference:

```
10540 {}%
```

Set `\@tempa` to `\r@<label>`, which is `{section number}{page number}`.

```
10541          \edef\@tempa{%
10542              \csname
10543                  r@\BaseJobname-autopage-\LWR@currentautosecpageref{#2}%
10544                      \endcsname%
10545      }%
```

Check the section number alone:

```
10546          \edef\@tempa{\expandafter\@firstoftwo\@tempa}%
```

If the reference has no section number print an asterisk:

```
10547          \expandafter\ifblank\expandafter{\@tempa}%
10548              {*}%
```

If there is a section number, print it:

```
10549          {%
10550              \LWR@print@ref{%
10551                  \BaseJobname-autopage-\LWR@currentautosecpageref{#2}%
10552                      }%
10553              }%
10554      }%
```

Close the reference:

```
10555          \LWR@htmltag{/a}%
10556      }%
10557 }
```

For MATHJAX:

```
10558 \CustomizeMathJax{\let\LWRref\ref}
10559 \CustomizeMathJax{\renewcommand{\ref}{\ifstar\LWRref\LWRref}}
```

`\pagerefPageFor` Text for page references.

```
10560 \newcommand*{\pagerefPageFor}{see }
```

`\pageref * {<label>}` Create an internal document reference, or just the unlinked number if starred, per `hyperref`.

```
10561 \NewDocumentCommand{\LWR@new@pageref}{s m}{%
10562     \IfBooleanTF{#1}{%
10563         {(\pagerefPageFor\LWR@print@ref{#2})}%
10564         {(\cpageref{#2})}%
10565     }%
```

`\nameref {<label>}`

```
10566 \newrobustcmd*{\nameref}[1]{%
10567     \LWR@traceinfo{nameref}%
```

```

10568  \LWR@startref{\#1}%
10569  \LWR@traceinfo{nameref_B}%
10570  \LWR@nameref{\#1}%
10571  \LWR@traceinfo{nameref_C}%
10572  \LWR@htmlltag{/a}%
10573  \LWR@traceinfo{nameref: done}%
10574 }

```

\Nameref {⟨label⟩} In print, adds the page number. In HTML, does not.

```
10575 \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.

```

10576 % DO NOT TELL OTHER PACKAGES TO ASSUME HYPERREF, lest they attempt to patch it:
10577 % \EmulatesPackage{hyperref}[2015/08/01]% Disabled. Do not do this.

```

Emulates `hyperref`:

\@currentHref Added to support backref.

```

10578 \AtBeginDocument{
10579   \def\@currentHref{\BaseJobname-autopage-\theLWR@previousautopagelabel}%
10580 }

```

\LWR@linkcatcodes Sets catcodes before processing macros which have hyperlinks as arguments.

```

10581 \newcommand*{\LWR@linkcatcodes}{%
10582   \catcode`\#=12%
10583   \catcode`\%=12%
10584   \catcode`\&=12%
10585   \catcode`\~=12%
10586   \catcode`\_=12%

```

For `babel-french`:

```

10587   \LWR@hook@processingtags%
10588 }

```

\LWR@linkmediacatcodes Sets catcodes before processing macros which have hyperlinks as arguments. Modified for multimedia links.

```

10589 \newcommand*{\LWR@linkmediacatcodes}{%
10590   \catcode`\#=12%

```

```

10591      \catcode`\%=12%
10592 %    \catcode`\&=12% left alone for splitting flash variables
10593      \catcode`\~=12%
10594      \catcode`\_=12%

```

For babel-french:

```

10595      \LWR@hook@processingtags%
10596 }

```

\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.

```

10597 \NewDocumentCommand{\LWR@subhyperref}{m}{%
10598     \LWR@traceinfo{\LWR@subhyperref !#1!}%
10599     \LWR@sanitize{#1}%
10600     \LWR@htmltag{%
10601         a href=\textquotedbl\text{sanitized}\textquotedbl\ % space
10602         \LWR@addlinktitle % space
10603         target=\textquotedbl\text{blank}\textquotedbl\ % space
10604     }%
10605 }

```

\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.

```

10606 \newcommand{\LWR@subhyperreftext}[1]{%
10607     #1%
10608     \LWR@htmltag{/a}%
10609     \LWR@ensuredoingapar%
10610 }

```

\LWR@subhyperrefclass {⟨URL⟩} {⟨text⟩} {⟨htmlclass⟩}

```

10611 \NewDocumentCommand{\LWR@subhyperrefclass}{m +m m}{%
10612     \LWR@htmltag{%
10613         a % space
10614         href=\textquotedbl\begingroup\@sanitize\endgroup\textquotedbl\ % space
10615         class=\textquotedbl#3\textquotedbl\ % space
10616         \LWR@addlinktitle % space
10617     }\LWR@orignewline%
10618     #2%
10619     \LWR@htmltag{/a}%
10620     \LWR@ensuredoingapar%
10621 }

```

\LWR@href [⟨options⟩] {⟨URL⟩} {⟨text⟩}

Create a link with accompanying text:

```

10622 \DeclareDocumentCommand{\LWR@hrefb}{O{} m}{%

```

```

10623   \LWR@ensuredoingapar%
10624   \LWR@subhyperref{#2}%
10625   \endgroup% restore catcodes
10626   \LWR@subhyperreftext%
10627 }
10628
10629 \newrobustcmd*\{\LWR@href}{%
10630   \begingroup%
10631   \LWR@linkcatcodes%
10632   \LWR@hrefb%
10633 }

```

\LWR@nolinkurl {*URL*}

Print the name of the link without creating the link:

```

10634 \newcommand*\{\LWR@nolinkurlb}[1]{%
10635   \LWR@ensuredoingapar%
10636   \def\LWR@templink{#1}%
10637   \@onelvel@sanitize\LWR@templink%
10638   \LWR@templink%
10639   \endgroup%
10640 }
10641
10642 \newrobustcmd*\{\LWR@nolinkurl}{%
10643   \begingroup%
10644   \LWR@linkcatcodes%
10645   \LWR@nolinkurlb%
10646 }

```

\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`.

```

10647 \DeclareDocumentCommand{\LWR@urlb}{m}{%
10648   \LWR@ensuredoingapar%
10649   \def\LWR@templink{#1}%
10650   \@onelvel@sanitize\LWR@templink%
10651   \LWR@href{\LWR@templink}{\LWR@templink}%
10652   \endgroup%
10653 }
10654
10655 \newrobustcmd*\{\LWR@url}{%
10656   \begingroup%
10657   \LWR@linkcatcodes%
10658   \LWR@urlb%
10659 }

```

\LWR@subinlineimage {{1:<alt> *tag*} {{2:*class*} {{3:*filename*} {{4:*extension*} {{5:*css style*} {{6:*aria role*}}}}

Factored from `lateximage`.

```

10660 \newcommand*\{\LWR@subinlineimage}[6]{%
10661   \ifblank{#6}%

```

```
10662      {\renewcommand*{\LWR@tempone}{}}
10663      {\renewcommand*{\LWR@tempone}{\role="#6"\LWR@indentHTML}}
10664 \ifblank{#1}%
10665 {%
10666     \LWR@htmltag{img \LWR@indentHTML
10667         src=\textquotedbl#3.\#4\textquotedbl \LWR@indentHTML
10668         alt=\textquotedbl#3\textquotedbl \LWR@indentHTML
10669         \LWR@tempone
10670         style=\textquotedbl#5\textquotedbl \LWR@indentHTML
10671         class=\textquotedbl#2\textquotedbl \LWR@orignewline
10672     }%
10673 }%
10674 {%
10675     \LWR@htmltag{img \LWR@indentHTML
10676         src=\textquotedbl#3.\#4\textquotedbl \LWR@indentHTML
10677         alt=\textquotedbl#1\textquotedbl \LWR@indentHTML
10678         \LWR@tempone
10679         style=\textquotedbl#5\textquotedbl \LWR@indentHTML
10680         class=\textquotedbl#2\textquotedbl \LWR@orignewline
10681     }%
10682 }%
10683 }

10684 \end{warpHTML}
```

Table 17: Float data structures

---

For each <type> of float (figure, table, etc.) there exists the following:

---

**counter <type>**: A counter called <type>, such as figure, table.

**\<type>name**: Name. \figurename prints “Figure”, etc.

**\ext@<type>**: File extension. \ext@figure prints “lof”, etc.

**\fps@<type>**: Placement.

**\the<type>**: Number. \thetable prints the number of the table, etc.

**\p@<type>**: Parent’s number. Prints the number of the [within] figure, etc.

**\fnum@<type>**: Prints the figure number for the caption.  
 <type>name \the<type>, “Figure 123”.

**\<type>**: Starts the float environment. \figure or \begin{figure}

**\end<type>**: Ends the float environment. \endfigure or \end{figure}

**\tf@<ext>**: The 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 17 shows the data structure associated with each <type> of float.

### 77.1 Float environment

**for HTML output:** 10685 \begin{warpHTML}

\LWR@floatbegin {<type>} [<placement>]      Begins a \newfloat environment.

10686 \NewDocumentCommand{\LWR@floatbegin}{m o}{%

Warn if starting a float inside a <span>:

10687 \LWR@spanwarninvalid{float}%

10688 \ifbool{FormatWP}{\newline}{}%

10689 \LWR@stoppars%

There is a new float, so increment the unique float counter:

```
10690     \addtocounter{LWR@thisautoid}{1}%
10691     \booltrue{LWR@freezethisautoid}%
10692     \begingroup%
```

Settings while inside the environment:

```
10693     \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.

```
10694     \LWR@htmlltag{%
10695         figure id=\textquotedbl%
10696             \LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}%
10697             \textquotedbl\ % space
10698             class=\textquotedbl#1 \nameuse{LWR@floatstyle@#1}\textquotedbl%
10699         }%
10700     \ifbool{FormatWP}{%
10701         \LWR@newline%
10702         \LWR@BlockClassWP{}{}{wp#1}%
10703     }{}%
```

Update the caption type:

```
10704     \renewcommand*{\@capttype}{#1}%
```

Mark the float for a word processor conversion:

```
10705     \LWR@startpars%
10706     \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10707     === begin #1 ===
10709     }{}%
```

After each `\LWR@floatbegin`, look for `\centering`, etc next, using `\LWR@floatalignment`.

```
10711 }
```

For **koma-script**. The following does not work for tables.

```
10712 \AtBeginDocument{
10713
10714 \IfPackageLoadedTF{tocbasic}{
10715
10716 \appto\figure@atbegin{%
10717     \LWR@futurenonspacelet\LWR@mynexttoken\LWR@floatalignment%
10718 }
10719
10720 }{}% tocbasic
10721
10722 }% AtBeginDocument
```

---

\@xfloat Support packages which create floats directly.  
\@xdlbfloat Look for \centering, etc using \LWR@floatalignment.

```

10723 \AtBeginDocument{
10724     \def\@xfloat #1[#2]{%
10725         \LWR@floatbegin{#1}[#2]
10726         \LWR@futurenonspacelet\LWR@mynexttoken\LWR@floatalignment%
10727     }
10728     \def\@xdlbfloat #1[#2]{%
10729         \LWR@floatbegin{#1}[#2]
10730         \LWR@futurenonspacelet\LWR@mynexttoken\LWR@floatalignment%
10731     }
10732 }
```

\LWR@floatend Ends a \newfloat environment.

```
10733 \newcommand*{\LWR@floatend}{%
```

If saw a \centering, finish the center environment:

```
10734     \LWR@endfloatalignment%
```

Mark the float end for a word processor conversion:

```

10735     \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10736     === end ===
10738
10739     }{}%
10740     \LWR@stoppars%
```

Close an HTML figure tag:

```

10741     \ifbool{FormatWP}{\endLWR@BlockClassWP}{}
10742     \LWR@htmlelementend{figure}%
10743     \endgroup%
10744     \boolexpr{LWR@freezethisautoid}%
10745     \LWR@startpars%
10746     \ifbool{FormatWP}{\newline}{}
10747 }
```

\end@float Support packages which create floats directly.  
\end@dlbfloat

```

10748 \AtBeginDocument{
10749     \let\end@float\endLWR@floatend
10750     \let\end@dblfloat\endLWR@floatend
10751 }
```

## 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.

```
10752 \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.

```
10753 \newcounter{LWR@thisautoidWP}
```

Bool LWR@freezethisautoid Prevents multiple increments of \LWR@thisautoid inside a float.

```
10754 \newbool{LWR@freezethisautoid}
10755 \boolfalse{LWR@freezethisautoid}
```

\LWR@forcenewautoidanchor Adds a new <autoid> anchor.

```
10756 \newcommand*{\LWR@forcenewautoidanchor}{%
10757     \addtocounter{LWR@thisautoid}{1}%
10758     \ifbool{LWR@doingapar}{%
10759         {%
10760             \LWR@htmlltag{a id=\textquotedbl%
10761                 \LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}%
10762                 \textquotedbl\ }% space
10763             \LWR@htmlltag{/a }%
10764         }%
10765     {%
10766         \LWR@stoppars%
10767         \LWR@htmlltag{a id=\textquotedbl%
10768             \LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}%
10769             \textquotedbl\ }% space
10770             \LWR@htmlltag{/a }%
10771             \LWR@startpars%
10772         }%
10773 }
```

\LWR@newautoidanchor Sometimes adds a new <autoid> anchor.

```
10774 \newcommand*{\LWR@newautoidanchor}{%
10775     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
10776         {}%
10777         {\ifbool{LWR@freezethisautoid}{}{\LWR@forcenewautoidanchor}}%
10778 }
```

\@capttype Remembers which float type is in use.

```
10779 \newcommand*{\@capttype}{}%
```

\LWR@floataignmentname Set to center, flushleft, or flushright if saw \centering, \raggedright, or \raggedleft.

```
10780 \newcommand*{\LWR@floataignmentname}{}%
```

\LWR@floataignment If sees a \centering, \raggedleft, or \raggedright, creates a center, flushright, or flushleft environment.

```
10781 \newcommand*{\LWR@floataignment}{%
10782     \ifdefstrelqual{\LWR@mynexttoken}{\centering}{%
10783         \center%
10784         \renewcommand*{\LWR@floataignmentname}{center}%
10785     }{}%
```

```

10786   \ifdefstreq{\LWR@mynexttoken}{\raggedright}{%
10787     \flushleft%
10788     \renewcommand*{\LWR@floatalignmentname}{flushleft}%
10789   }{%
10790   \ifdefstreq{\LWR@mynexttoken}{\raggedleft}{%
10791     \flushright%
10792     \renewcommand*{\LWR@floatalignmentname}{flushright}%
10793   }{%
10794 }

```

\LWR@endfloatalignment Closes an environment from \LWR@floatalignment.

```

10795 \newcommand*{\LWR@endfloatalignment}{%
10796   \ifdefvoid{\LWR@floatalignmentname}{%
10797     {}%
10798     {\@nameuse{end\LWR@floatalignmentname}}%
10799   \renewcommand*{\LWR@floatalignmentname}{()}%
10800 }

```

### 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.

```
10801 \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.

```

10802 \AtBeginDocument{
10803   \IfPackageLoadedTF{caption}{}{%
10804     \let\LWR@orig@caption\@caption%
10805     \long\def\@caption#1[#2]{%

```

Warn if using a caption inside a <span>:

```

10806           \LWR@spanwarnformat{caption}%
10807           \LWR@setlatestname{#2}%
10808           \LWR@orig@caption{#1}[{#2}]% also takes third argument
10809         }%
10810         \renewcommand{\@makecaption}[2]{%
10811           \LWR@traceinfo{@makecaption}%
10812           \caption@begin{\@capttype}%
10813           \LWR@isolate{#1}%
10814           \edef\LWR@tempone{#1}%
10815           \LWR@tempone{#1}%
10816           \ifdefvoid{\LWR@tempone}{}{\CaptionSeparator}%
10817           \LWR@isolate{#2}%

```

```

10818      \caption@end%
10819      \LWR@traceinfo{@makecaption: done}%
10820      }%
10821  }
10822 }
```

## 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 <code>LWR@nextautoid</code>   | Tracks autoid for floats. Tracks autopage for floats.                                  |
| Ctr <code>LWR@nextautopage</code> | These are updated per float as the <code>.lof</code> , <code>.lot</code> file is read. |

```

10823 \newcounter{LWR@nextautoid}
10824 \newcounter{LWR@nextautopage}
```

```
\LWRsetnextfloat {\langle autopage\rangle} {\langle float autoid\rangle}
```

|                              |   |
|------------------------------|---|
| File <code>*_html.lof</code> | This is written to the <code>*_html.lof</code> or <code>*_html.lot</code> file just before each float's usual entry. The autopage and the float's autoid are remembered for <code>\l@figure</code> to use when creating the HTML links. |
|------------------------------|---|

```

10825 \newcommand*{\LWRsetnextfloat}[2]{%
10826   \setcounter{LWR@nextautopage}{#1}%
10827   \setcounter{LWR@nextautoid}{#2}%
10828 }
```

|                                 |  |
|---------------------------------|--|
| Env <code>LWR@figcaption</code> | An HTML <code>&lt;figcaption&gt;</code> is not allowed in places where L <sup>A</sup> T <sub>E</sub> X does allow a figure caption, such as inside a <code>longtable</code> where the tabular has already started, or inside a <code>center</code> environment. Therefore, a <code>&lt;div&gt;</code> of class <code>figurecaption</code> is used instead. |
|---------------------------------|--|

```

10829 \newenvironment*{LWR@figcaption}
10830   {%
10831     \ifbool{FormatWP}{%
10832       \BlockClass[font-style:italic]{figurecaption}%
10833     }{%
10834       \BlockClass{figurecaption}%
10835     }%
10836 }
```

Inside the caption, temporarily prevent underfull `\hbox` warnings, such as when the caption contains a math SVG image.

```

10836           \hbadness=10000\relax%
10837         }%
10838   {\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.

```
10839 \newcommand*\LWR@HTML@caption@begin[1]
10840 {%
10841     \LWR@traceinfo{\LWR@HTML@caption@begin}%
```

Keep par and minipage changes local:

```
10842     \begingroup%
```

No need for a `minipage` or `\parbox` inside the caption:

```
10843     \RenewDocumentEnvironment{minipage}{0{t} o 0{t} m}{}{%
10844         \RenewDocumentCommand{\parbox}{0{t} O{} 0{t} m +m}##5}%
```

Enclose the original caption code inside an HTML tag:

```
10845     \LWR@figcaption%
10846     \LWR@traceinfo{\LWR@HTML@caption@begin: about to \LWR@origcaption@begin}%
10847     \LWR@print@caption@begin{#1}%
10848     \LWR@traceinfo{\LWR@HTML@caption@begin: done}%
10849 }
```

```
\LWR@HTML@caption@end Low-level patches to create HTML tags for captions.
```

```
10850 \newcommand*\LWR@HTML@caption@end{%
10851 {%
10852     \LWR@traceinfo{\LWR@HTML@caption@end}%
10853     \LWR@print@caption@end%
```

Closing tag:

```
10854     \endLWR@figcaption%
10855     \endgroup%
10856     % \leavevmode% avoid bad space factor (0) error
10857     \LWR@traceinfo{\LWR@HTML@caption@end: done}%
10858 }
```

```
\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.

```
10859 \AtBeginDocument{
10860     \providecommand{\caption@begin}[1]{}
10861     \LWR@formatted{caption@begin}
10862
10863     \providecommand{\caption@end}{}
10864     \LWR@formatted{caption@end}
10865 }
```

\captionlistentry Tracks the float number for this caption used outside a float. Patched to create an HTML anchor.

```

10866 \AtBeginDocument{%
10867 \IfPackageLoadedTF{caption}%
10868   \let\LWR@origcaptionlistentry\captionlistentry
10869
10870   \renewcommand*\captionlistentry{%
10871     \LWR@ensuredoingapar%
10872     \LWR@origcaptionlistentry%
10873   }
10874
10875   \def\LWR@LTcaptionlistentry{%
10876     \LWR@ensuredoingapar%
10877     \LWR@forcenewautoidanchor%
10878     \bgroup%
10879     \@ifstar{\egroup\LWR@LT@captionlistentry}{% gobble *
10880       \egroup\LWR@LT@captionlistentry}%
10881   }%
10882   \def\LWR@LT@captionlistentry#1{%
10883     \caption@listentry@\firstoftwo[\LTcaptype]{#1}%
10884   }%
10885 }% caption loaded
10886 {%
10887   \newcommand{\captionlistentry}[2][]{%
10888     \newcommand{\LWR@LT@captionlistentry}[2][]{%
10889   }%
10890 }% 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

```

10891 \let\LWR@origaddcontentsline\addcontentsline
10892
10893 \renewcommand*\addcontentsline[3]{%
10894   \ifstreq{\#1}{toc}{}{%
10895     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
10896       {}%
10897       {\LWR@newautoidanchor}%
10898
10899       \addtocontents{\@nameuse{\ext@#2}}{%
10900         \protect\LWRsetnextfloat{%
10901           \arabic{\LWR@currentautosecfloatpage}%
10902           \arabic{\LWR@thisautoid}}%
10903       }%
10904     }%
10905     \LWR@origaddcontentsline{\#1}{\#2}{\#3}%
10906   }%

```

Pkg capt-of Either package provides \captionof, which is later patched at the beginning of

Pkg caption

the document.

\captionof Patched to handle paragraph tags.

```

10907 \RequirePackage{capt-of}
10908
10909 \AtBeginDocument{
10910     \let\LWR@origcaptionof\captionof
10911
10912     \renewcommand*\captionof}{%
10913         \LWR@stopars%
10914         \LWR@origcaptionof%
10915     }
10916 }% AtBeginDocument

10917 \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:** 10918 \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.

```

10919 \newcommand*\LWR@myshorttoc[1]{%
10920     \LWR@traceinfo{\LWR@myshorttoc: #1}%
```

Only if the file exists:

```

10921     \IfFileExists{\jobname.#1}{%
10922         \LWR@traceinfo{\LWR@myshorttoc: loading}}%
```

 Many of the commands in the file will have @ characters in them, so @ must be

made a regular letter.

```
10923      \begingroup%
10924      \makeatletter%
```

Disable CJK xpinyin while generating the sidetoc.

```
10925      \LWR@disablepinyin%
```

Read in the TOC file:

```
10926      \@input{\jobname.\#1}%
10927      \endgroup%
10928      }%
10929      {}%
10930      \LWR@traceinfo{\LWR@myshorttoc: done}%
10931 }
```

\LWR@subtableofcontents {<toc/lof/lot>} {<sectionstarname>}

Places a TOC/LOF/LOT at the current position.

```
10932 \NewDocumentCommand{\LWR@subtableofcontents}{m m}{%
```

Closes previous levels:

```
10933      \@ifundefined{chapter}%
10934      {\LWR@closeprevious{section}}%
10935      {\LWR@closeprevious{chapter}}%
```

Prints any pending footnotes so that they appear above the potentially large TOC:

```
10936      \LWR@printpendingfootnotes%
```

Place the list into its own chapter (if defined) or section:

```
10937      \@ifundefined{chapter}{\section*{\#2}}{\chapter*{\#2}}%
```

Create a new HTML nav containing the TOC/LOF/LOT:

```
10938      \LWR@htmlelementclass{nav}{\#1}%
```

Create the actual list:

```
10939      \LWR@myshorttoc{\#1}%
```

Close the nav:

```
10940      \LWR@htmlelementclassend{nav}{\#1}%
10941 }
```

\@starttoc {<ext>}

Patch \@starttoc to encapsulate the TOC inside HTML tags:

```
10942 \let\LWR@orig@\starttoc\@starttoc
```

```

10943
10944 \renewcommand{\@starttoc}[1]{
10945     \LWR@htmlelementclass{nav}{#1}%
10946     \LWR@orig@starttoc{#1}%
10947     \LWR@htmlelementclassend{nav}{#1}%
10948 }

```

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.)

```

10949 \newbool{LWR@copiedsidetoc}
10950 \boolfalse{LWR@copiedsidetoc}

```

\tableofcontents Patch \tableofcontents, etc. to print footnotes first. newfloat uses \listoffigures for all future float types.

```

10951 \AtBeginDocument{
10952
10953 \let\LWR@origtableofcontents\tableofcontents
10954
10955 \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:

```

10956     \ifboolexpr{bool{FormatWP} and bool{WPMarkTOC}}{
10957
10958     === table of contents ===
10959
10960     }
10961     {

```

Copy the .toc file to .sidetoc for printing the sidetoc. The original .toc file is renewed when \tableofcontents is finished.

```

10962         \ifbool{LWR@copiedsidetoc}{}{%
10963             \LWR@copyfile{\jobname.toc}{\jobname.sidetoc}%
10964             \booltrue{LWR@copiedsidetoc}%
10965             }%
10966             \LWR@printpendingfootnotes
10967             \LWR@origtableofcontents
10968         }
10969 }% \tableofcontents
10970
10971 }% AtBeginDocument

```

\listoffigures

```

10972 \let\LWR@origlistoffigures\listoffigures
10973
10974 \renewcommand*\listoffigures{
10975     \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
10976
10977     === list of figures ===

```

```

10978
10979      }
10980      {
10981          \LWR@printpendingfootnotes
10982          \LWR@origlistoffigures
10983      }
10984 }

\listoftables

10985 \let\LWR@origlistoftables\listoftables
10986
10987 \renewcommand*{\listoftables}{%
10988     \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{%
10989
10990     === list of tables ===
10991
10992     }
10993     {
10994         \LWR@printpendingfootnotes
10995         \LWR@origlistoftables
10996     }
10997 }

```

## 78.2 TOC commands

```
\LWR@listof {<type>} {<title>}
```

Emulate the `\listof` command from the `float` package (section 276). Used to create lists of custom float types. Also used to redefine the standard L<sup>A</sup>T<sub>E</sub>X `\listoffigures` and `\listoftables` commands, and in `tocloft` and `memoir`.

```

10998 \NewDocumentCommand{\LWR@listof}{m +m}{%
10999     @ifundefined{l@#1}{%
11000         \csdef{l@#1}##1##2{\hypertocfloat{1}{#1}{\nameuse{ext@#1}}{##1}{##2}}%
11001     }{%
11002         \LWR@subtableofcontents{\nameuse{ext@#1}}{#2}%
11003         \expandafter\newwrite\csname tf@\csname ext@#1\endcsname\endcsname%
11004         \immediate\openout \csname tf@\csname ext@#1\endcsname\endcsname%
11005             \jobname.\nameuse{ext@#1}\relax%
11006     }

```

## 78.3 Side TOC

The “side toc” is a table-of-contents positioned to the side.

It may be renamed by redefining `\sidetocname`, and may contain paragraphs.

Per table 18, css may be used to format the `sitetoc`.

```
11007 \end{warpHTML}
```

**for HTML & PRINT:** 11008 `\begin{warpall}`

Table 18: CSS related to the sidetoc

**div.sidetoccontainer:** The entire sidetoc.

**div.sidetotitle:** The title.

**div.sidetoccocontents:** The table of contents.

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.

```
11009 \newcounter{SideTOCDepth}
11010 \setcounter{SideTOCDepth}{1}
11011
11012 \AtEndDocument{%
11013     \ifnumcomp{\value{SideTOCDepth}}{<}{\value{FileDepth}}{%
11014         \PackageWarningNoLine{lwarp}%
11015         {%
11016             SideTOCDepth is less than FileDepth, \MessageBreak%
11017             so some website pages may be inaccessible%
11018         }%
11019     }{}%
11020 }
```

\sidetocname Holds the default name for the sidetoc.

```
11021 \newcommand{\sidetocname}{Contents}
11022 \end{warpall}
```

**for HTML output:** 11023 \begin{warpHTML}

\LWR@sidetoc Creates the actual side-TOC.

```
11024 \newcommand*{\LWR@sidetoc}{%
11025     \LWR@forcenewpage%
11026     \LWR@stoppars%
11027 }
```

The entire sidetoc is placed into a nav of class sidetoc.

```
11028     \LWR@htmlelementclass{div}{sidetoccontainer}%
11029     \LWR@htmlelementclass{nav}{sidetoc}%
11030
11031     \setcounter{tocdepth}{\value{SideTOCDepth}}%
11032 
```

The title is placed into a <div> of class sidetotitle, and may contain paragraphs.

```
11033     \begin{BlockClass}{sidetotitle}%
11034     \ifcsvvoid{thetitle}{}{\InlineClass{sidetocthetitle}{\thetitle}\par}%
11035     \sidetocname%
11036     \end{BlockClass}
```

The table of contents is placed into a <div> of class sidetoccocontents.

```
11037     \begin{BlockClass}{sidetoccocontents}
```

---

```

11038     \LinkHome
11039
11040     \LWR@myshorttoc{sidetoc}
11041     \end{BlockClass}
11042     \LWR@htmlelementclassend{nav}{sidetoc}
11043     \LWR@htmlelementclassend{div}{sidetoccontainer}
11044 }

```

## 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:

```

11045 \newcommand*{\LWR@numberline}[1]{%
11046     \LWR@sectionnumber{#1}\quad%
11047 }
11048
11049 \LetLtxMacro\numberline\LWR@numberline

```

\LWR@maybetocdata Replaced by tocdata. Adds author name.

```
11050 \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

```

11051 \NewDocumentCommand{\hypertoc}{m m +m m}{%
11052     \LWR@traceinfo{hypertoc !#1!#2!#3!#4!}%

```

Respond to tocdepth:

```

11053     \ifnumcomp{#1}{>}{\value{tocdepth}}{%
11054         {}%
11055         {}%
11056         \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.

```

11057          \LWR@subhyperrefclass{%
11058              \LWR@htmlrefsectionfilename{\BaseJobname-autopage-\#4}%
11059                  \LWR@origpound\LWR@print@mbox{autosec-\#4}%
11060          }{\#3}{toc\#2}%

11061          \LWR@maybetocdata%

11062          \LWR@stoppars%
11063      }%
11064      \LWR@traceinfo{hypertoc done}%
11065 }

```

Ctr lofdepth

TOC depth for figures.

```

11066 \IfClassLoadedTF{memoir}{}{%
11067     \newcounter{lofdepth}%
11068     \setcounter{lofdepth}{1}%
11069 }

```

Ctr lotdepth

TOC depth for tables.

```

11070 \IfClassLoadedTF{memoir}{}{%
11071     \newcounter{lotdepth}%
11072     \setcounter{lotdepth}{1}%
11073 }

```

\hypertocfloat {<1: depth>} {<2: type>} {<3: ext of parent>} {<4: caption>} {<5: page>}

**#1** is depth

**#2** is figure, table, etc.

**#3** is lof, lot, of the parent.

**#4** the text of the caption

**#5** page number

```
11074 \newcommand{\hypertocfloat}[5]{%
```

If some float-creation package has not yet defined the float type's `lofdepth` counter, etc, define it here:

```

11075     \@ifundefined{c@\#3depth}{%
11076         \newcounter{\#3depth}%
11077         \setcounter{\#3depth}{1}%
11078     }{}%

```

Respond to `lofdepth`, etc.:

```

11079     \LWR@traceinfo{hypertocfloat depth is #1 #3depth is \arabic{\#3depth}}%
11080     \ifthenelse{\cnttest{\#1}{<=}{\arabic{\#3depth}}}{%
11081     }%
11082     \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.

```

11083          \LWR@subhyperrefclass{%
11084          \LWR@htmlrefsectionfilename{%
11085              \BaseJobname-autopage-\arabic{\LWR@nextautoid}%
11086          }%
11087          \LWR@origpound\LWR@print@mbox{autoid-\arabic{\LWR@nextautoid}}}}%
11088          {#4}{toc#2}%

11089          \LWR@maybetocdata%

11090          \LWR@stopars%
11091      }%
11092      {}%
11093 }

```

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.

```
11094 \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.

```
11095 \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.

```

11096 \@ifundefined{chapter}%
11097 {}%
11098 {%
11099 \DeclareDocumentCommand{\l@chapter}{m m}%
11100     {\hypertoc{0}{chapter}{#1}{#2}}%
11101 }

```

\l@section {\langle name\rangle} {\langle page\rangle}

```
11102 \renewcommand{\l@section}[2]{\hypertoc{1}{section}{#1}{#2}}
```

\l@subsection {\langle name\rangle} {\langle page\rangle}

```
11103 \renewcommand{\l@subsection}[2]{\hypertoc{2}{subsection}{#1}{#2}}
```

```
\l@subsubsection {\langle name\rangle } {\langle page\rangle }

11104 \renewcommand{\l@subsubsection}[2]{\hypertoc{3}{subsubsection}{#1}{#2}}


\l@paragraph {\langle name\rangle } {\langle page\rangle }

11105 \renewcommand{\l@paragraph}[2]{\hypertoc{4}{paragraph}{#1}{#2}}


\l@ subparagraph {\langle name\rangle } {\langle page\rangle }

11106 \renewcommand{\l@ subparagraph}[2]{\hypertoc{5}{subparagraph}{#1}{#2}}


\l@figure {\langle name\rangle } {\langle page\rangle }

11107 \renewcommand{\l@figure}[2]{\hypertocfloat{1}{figure}{lof}{#1}{#2}}


\l@table {\langle name\rangle } {\langle page\rangle }

11108 \renewcommand{\l@table}[2]{\hypertocfloat{1}{table}{lot}{#1}{#2}}


11109 \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:** 11110 \begin{warpHTML}

```
11111 \newcounter{LWR@autoindex}
11112 \setcounter{LWR@autoindex}{0}
11113
11114 \newcounter{LWR@autoglossary}
11115 \setcounter{LWR@autoglossary}{0}
```

\IndexPageSeparator User-adjustable delimiters for page and range separators in the \*.ind files.  
\IndexRangeSeparator

```
11116 \newcommand*{\IndexPageSeparator}{, }
11117 \newcommand*{\IndexRangeSeparator}{--}
```

Env theindex

```
11118 \@ifundefined{chapter}
11119     {\newcommand*{\LWR@indexsection}[1]{\section*{#1}}}
11120     {\newcommand*{\LWR@indexsection}[1]{\chapter*{#1}}}
11121
```

```

11122
11123 \AtBeginDocument{
11124
11125 \renewenvironment*{\theindex}{%
11126     \LWR@indexsection{\indexname}%
11127     \LetLtxMacro\item\LWR@indexitem%
11128     \LetLtxMacro\subitem\LWR@indexsubitem%
11129     \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
11130 }{%
11131
11132 }% AtBeginDocument

```

\LWR@indexitem [*index key*] The optional argument is added to support `repeatindex`.

```

11133 \newcommand{\LWR@indexitem}[1][\emptyset]{%
11134     \InLineClass{indexitem}{\LWR@htmlcomment{}}
11135     \LWR@htmlcomment{}%
11136 }

```

\LWR@indexsubitem

```

11137 \newcommand{\LWR@indexsubitem}{%
11138     \InLineClass{indexsubitem}{\LWR@htmlcomment{}}
11139     \LWR@htmlcomment{}%
11140 }

```

\LWR@indexsubsubitem

```

11141 \newcommand{\LWR@indexsubsubitem}{%
11142     \InLineClass{indexsubsubitem}{\LWR@htmlcomment{}}
11143     \LWR@htmlcomment{}%
11144 }

```

\LWR@xindex@modifyentry {*indexing term*}

If using *xindex*, modifies the pipe character to become `\hyperindexformat`. The indexing term is split into two argument at the pipe, then fed to `\LWR@xindex@modifyentrysub`.

```

11145 \NewDocumentCommand{\LWR@xindex@modifyentry}{>{\SplitArgument{1}{|}}m}
11146     {\LWR@xindex@modifyentrysub#1}

```

Handle left and right parenthesis range argument, or add a `hyperindexformat` clause.

```

11147 \newcommand*{\LWR@xindex@modifyentrysub}[2]{%
11148     \edef\LWR@tempone{\#1}%
11149     \edef\LWR@temptwo{\#2}%
11150     \IfValueTF{\#2}{%
11151         \ifx\#2(%
11152             \appto{\LWR@tempone{|}}{)}%
11153         \else%
11154             \ifx\#2)%
11155                 \appto{\LWR@tempone{|}}{)}%
11156         \else%
11157             \appto{\LWR@tempone{%
11158                 |hyperindexformat\WRleftbrace%

```

```

11159          \LWRbackslash#2%
11160          \LWRrightbrace%
11161          }%
11162          \fi%
11163          \fi%
11164          }%
11165          {}%
11166 }

```

\@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.

```

11167 \newbool{\LWR@xindex@tricked}
11168 \boolfalse{\LWR@xindex@tricked}
11169
11170 \def\LWR@wrindex#1{%
11171   \ifbool{\LWR@xindex}{%
11172     \ifbool{\LWR@xindex@tricked}{%
11173       \protected@write\@indexfile{}{%
11174         {%
11175           \LWRpercent\space hyperpage\LWRrightbrace%
11176           \LWRpercent\space trick xindex to assume hyperref%
11177         }%
11178         \global\booltrue{\LWR@xindex@tricked}%
11179       }%
11180       \LWR@xindex@modifyentry{#1}%
11181     }{%
11182       \def\LWR@tempone{#1}%
11183     }%
11184     \addtocounter{\LWR@autoindex}{1}%
11185     \label{\LWRindex-\arabic{\LWR@autoindex}}%
11186     \protected@write\@indexfile{}{%
11187       {\string\indexentry{\LWR@tempone}{\arabic{\LWR@autoindex}}}}%
11188     \endgroup%
11189     \@esphack%
11190   }%
11191
11192 \AtBeginDocument{%
11193   \let\@wrindex\LWR@wrindex
11194 }

```

\@wrglossary {*<term>*} Redefined to write the LWR@autoglossary counter instead of page.

```

11195 \def\@wrglossary#1{%
11196   \addtocounter{\LWR@autoglossary}{1}%
11197   \LWR@new@label{\LWRglossary-\theLWR@autoglossary}%
11198   \protected@write\@glossaryfile{}{%
11199     {\string\glossaryentry{#1}{\theLWR@autoglossary}}%
11200   \endgroup%
11201   \@esphack%
11202 }

```

\LWR@indexnameref@anonref {*LWR@autoindex*}

Displays a reference link where there no \ref available.

```
11203 \newcommand*{\LWR@indexnameref@anonref}[1]{%
11204     \LWR@startref{\LWRindex-\#1}%
11205     (*)%
11206     \LWR@htmltag{/a}%
11207 }
```

\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.

```
11208 \newcommand*{\LWR@indexnameref@ref}[1]{%
11209     \edef\LWR@thisref{\csuse{r@\LWRindex-\#1}}%
11210     \ifdefvoid{\LWR@thisref}{}{%
11211         \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11212         \ifdefvoid{\LWR@thisref}{%
11213             {\LWR@indexnameref@anonref{\#1}}%
11214             {\ref{\LWRindex-\#1}}%
11215         }%
11216 }
```

\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.

```
11217 \newcommand*{\LWR@indexnameref@refnameref}[1]{%
11218     \edef\LWR@thisref{\csuse{r@\LWRindex-\#1}}%
11219     \ifdefvoid{\LWR@thisref}{}{%
11220         \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11221         \ifdefvoid{\LWR@thisref}{}{%
11222             \ifdefstring{\LWR@thisref}{(*)}{%
11223                 {}%
11224                 {\ref{\LWRindex-\#1}}% space
11225             }%
11226         }%
11227         \nameref{\LWRindex-\#1}%
11228 }
```

\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 (\*).

```
11229 \newcommand*{\LWR@indexnameref@cref}[1]{%
11230     \edef\LWR@thisref{\csuse{r@\LWRindex-\#1}}%
11231     \ifdefvoid{\LWR@thisref}{}{%
11232         \nameref{\LWRindex-\#1}%
11233     }{%
11234         \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11235         \ifdefvoid{\LWR@thisref}{}{%
11236             \nameref{\LWRindex-\#1}%
11237         }{%
11238             \ifdefstring{\LWR@thisref}{(*)}{%
```

```

11239          \LWR@indexnameref@anonref{#1}%
11240      }%
11241          \cref{\LWRindex-#1}%
11242      }%
11243      }%
11244      }%
11245 }

```

\LWR@indexnameref {*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.

```

11246 \newcommand*{\LWR@indexnameref@crefnameref}[1]{%
11247     \edef\LWR@thisref{\csuse{r@\LWRindex-#1}}%
11248     \ifdefvoid{\LWR@thisref}%
11249         {}%
11250     {}%
11251         \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11252         \ifdefvoid{\LWR@thisref}%
11253             {}%
11254         {}%
11255             \ifdefstring{\LWR@thisref}{(*)}%
11256                 {}%
11257                 {\cref{\LWRindex-#1}} % space
11258             }%
11259         }%
11260     \nameref{\LWRindex-#1}%
11261 }

```

\LWR@indexnameref {*LWR@autoindex*}

Creates a hyperlink based on the given entry's autoindex.

```

11262 \newcommand*{\LWR@indexnameref}[1]{%
11263     {}% group

```

Temporarily redefine caption's \caption@xref because it was printing ?? in the indexes, and also causing error on expansion:

```

11264     \ifdef{\caption@xref}{%
11265         \renewcommand*{\caption@xref}[2]{(*)}%
11266     }{}%
11267     \ifdefstring{\LWR@IndexRef}{ref}{%
11268         \LWR@indexnameref@ref{#1}%
11269     }{}%
11270     \ifdefstring{\LWR@IndexRef}{nameref}{%
11271         \nameref{\LWRindex-#1}%
11272     }{}%
11273     \ifdefstring{\LWR@IndexRef}{refnameref}{%
11274         \LWR@indexnameref@refnameref{#1}%
11275     }{}%
11276     \ifdefstring{\LWR@IndexRef}{cref}{%
11277         \LWR@indexnameref@cref{#1}%
11278     }{}%

```

```

11279      \ifdefstring{\LWR@IndexRef}{\crefnameref}{%
11280          \LWR@indexnameref{\crefnameref{\#1}}%
11281      }{%
11282          \ifdefstring{\LWR@IndexRef}{\autoref}{%
11283              \LWR@indexnameref{\cref{\#1}}%
11284          }{%
11285              \text{ string}%
11286              \LWR@startref{\LWRindex-\#1}%
11287              \LWR@IndexRef%
11288              \LWR@htmlltag{/a}%
11289          }{%
11290      }{%
11290 }

```

\LWR@doindexentrysubsub {*(range start: LWR@autoindex, or macros.)*} {*(range end or blank)*}

Creates a hyperlink, or handles \see, \textbf{, etc.

```

11291 \newrobustcmd{\LWR@doindexentrysubsub}[2]{%
11292     \IfInteger{\#1}{%
11293         {\LWR@indexnameref{\#1}}%
11294         {\#1}%
11295     \IfValueT{\#2}{%
11296         \IndexRangeSeparator%
11297         \IfInteger{\#2}{%
11298             {\LWR@indexnameref{\#2}}%
11299             {\#2}%
11300         }{%
11301     }%
11301 }

```

\LWR@doindexentrysub {*(range delimiter)*} {*(LWR@autoindex or macros, possible a range)*}

```

11302 \NewDocumentCommand{\LWR@doindexentrysub}{m >{\SplitArgument{1}{\#1}}m}
11303     {\LWR@doindexentrysub#2}

```

\LWR@doindexentry {*(LWR@autoindex or macros, possible a range)*}

```

11304 \newcommand*{\LWR@doindexentry}[1]{%
11305     \relax% required
11306     \expandafter\LWR@doindexentry\expandafter{\IndexRangeSeparator{\#1}}%
11307 }

```

\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}{...}
```

```

11308 \newcommand{\LWR@hyperindexrefnullified}{%
11309     \renewrobustcmd{\emph}[1]{\LWR@HTML@emph{\LWR@doindexentry{\#\#1}}}%
11310     \renewrobustcmd{\textbf}[1]{\LWR@HTML@textbf{\LWR@doindexentry{\#\#1}}}%
11311     \renewrobustcmd{\texteb}[1]{\LWR@HTML@texteb{\LWR@doindexentry{\#\#1}}}%
11312     \renewrobustcmd{\textlg}[1]{\LWR@HTML@textlg{\LWR@doindexentry{\#\#1}}}%
11313     \renewrobustcmd{\textrm}[1]{\LWR@HTML@textrm{\LWR@doindexentry{\#\#1}}}%
11314     \renewrobustcmd{\textsf}[1]{\LWR@HTML@textsf{\LWR@doindexentry{\#\#1}}}%
11315     \renewrobustcmd{\texttt}[1]{\LWR@HTML@texttt{\LWR@doindexentry{\#\#1}}}%
11316     \renewrobustcmd{\textup}[1]{\LWR@HTML@textup{\LWR@doindexentry{\#\#1}}}%

```

```

11317      \renewrobustcmd{\textsc}[1]{\LWR@HTML@textsc{\LWR@doindexentry{##1}}}%
11318      \renewrobustcmd{\textulc}[1]{\LWR@HTML@textulc{\LWR@doindexentry{##1}}}%
11319      \renewrobustcmd{\textsi}[1]{\LWR@HTML@textsi{\LWR@doindexentry{##1}}}%
11320      \renewrobustcmd{\textit}[1]{\LWR@HTML@textit{\LWR@doindexentry{##1}}}%
11321      \renewrobustcmd{\textsl}[1]{\LWR@HTML@textsl{\LWR@doindexentry{##1}}}%
11322 }

```

\hyperindexref {*list of LWR@autoindex, commas, and ranges*}

\hyperindexref{LWR@autoindex} is inserted into \*.ind by the *makeindex* style file lwarf.ist or the *xindy* style file lwarf.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.

```

11323 \newcommand*{\hyperindexref}[1]{%
11324     \relax% required
11325     \expandafter\LWR@hyperindexref@comma\expandafter{\IndexPageSeparator}{#1}%
11326 }

```

\LWR@hyperindexref@comma {*separator*} {*list of args*}

The list is split at commas, and passed to \LWR@hyperindexref@@comma.

```

11327 \NewDocumentCommand{\hyperindexref@comma}{%
11328     m >{\SplitList{#1}} m%
11329     {%

```

Used to place the separator between each entry, but not before the first.

```

11330     \def\LWR@hyperindexref@thiscomma{}%
11331     \def\LWR@hyperindexref@nextcomma{#1}%

```

Each comma-delimited entry is now passed individually to \LWR@hyperindexref@@comma.

```

11332         \ProcessList{#2}\LWR@hyperindexref@@comma%
11333     }

```

\LWR@hyperindexref@@comma {*arg, perhaps with a range*}

A comma separator is placed if not the first item, then the range is parsed.

```

11334 \newcommand*{\LWR@hyperindexref@@comma}[1]{%
11335     \LWR@hyperindexref@thiscomma%
11336     \renewcommand{\LWR@hyperindexref@thiscomma}{\LWR@hyperindexref@nextcomma}%
11337     \expandafter\LWR@hyperindexref@range\expandafter{\IndexRangeSeparator}{#1}%
11338 }

```

\LWR@hyperindexref@range {*range delimiter*} {*arg*}

```

11339 \NewDocumentCommand{\hyperindexref@range}{%
11340     m >{\SplitArgument{1}{#1}} m%
11341     {\LWR@hyperindexrefsub{#2}}

```

\LWR@hyperindexrefsub {*range start: LWR@autoindex*} {*range end, or -NoValue-*}

Handles the start and end of a range, if applicable.

```

11342 \newcommand*{\LWR@hyperindexrefsub}[2]{%
11343     \LWR@hyperindexrefsubtwo{\#1}%
11344     \IfValueT{\#2}{%
11345         \IndexRangeSeparator%
11346         \LWR@hyperindexrefsubtwo{\#2}%
11347     }%
11348 }

```

\LWR@hyperindexrefsubtwo {⟨LWR@autoindex⟩}

```

11349 \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.

```

11350     \edef\tempone{\#1}%
11351     \IfBeginWith{\tempone}{ }{%
11352         \StrGobbleLeft{\tempone}{1}[\tempone]%
11353     }{%

```

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.

```

11354     \IfInteger{\tempone}{%
11355         {\LWR@indexnameref{\tempone}}%
11356     }{%
11357         \begingroup%
11358         \LWR@hyperindexrefnullified%
11359         \#1%
11360         \endgroup%
11361     }%
11362 }

```

\hyperpage Emulate *hyperref*.

```
11363 \LetLtxMacro\hyperpage\hyperindexref
```

\nohyperpage Emulate *hyperref*.

```
11364 \def\nohyperpage#1{}
```

\hyperindexformat Emulate *hyperref*.

```

11365 \def\hyperindexformat#1#2{%
11366     #1{\hyperpage{\#2}}%
11367 }

```

```
11368 \end{warpHTML}
```

**for PRINT output:** A null command for print mode, in case *hyperref* was not used:

```

11369 \begin{warpprint}
11370 \newcommand{\hyperindexref}[1]{#1}
11371 \end{warpprint}

```

**for HTML & PRINT:** For the glossaries package, try to prevent an error where \glo@name was not found:

```
11372 \begin{warpall}
11373 \providecommand{\glo@name}{}%
11374 \end{warpall}
```

## 80 Bibliography presentation

**for HTML output:** 11375 \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⟩}

```
11376 \renewcommand{\@biblabel}[1]{[#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>

```
11377 \AtBeginDocument{%
11378 %
11379 \AtBeginEnvironment{thebibliography}{%
11380 %
11381 \providecommand*\LWR@newem[1]{\textit{#1}}%
11382 %
11383 \renewrobustcmd{\em}{%
11384 \begingroup%
11385 \gdef\LWR@em@after{\LWR@em@finish\LWR@newem}%
11386 \afterassignment\LWR@em@after%
11387 \toks@\bgroup%
11388 }%
11389 %
11390 \def\LWR@em@finish#1{%
11391 \xdef\LWR@em@after{\noexpand#1{\the\toks@}}%
11392 \endgroup%
11393 \LWR@em@after\egroup%
11394 }%
11395 }%
11396 }% \AtBeginEnvironment{thebibliography}%
11397 %
11398 }% \AtBeginDocument%
```

```
11399 \end{warpHTML}
```

## 81 Restoring original formatting

**for HTML output:** 11400 \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.

11401 \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`.

11402 \newcommand\*\{\LWR@restoreorigFormatting\}{%  
11403 \LWR@traceinfo{\LWR@restoreorigFormatting}%

Numerous macros change their print/`HTML` meaning depending on `\LWR@formatting`:

11404 \renewcommand\*\{\LWR@formatting\}{print}%  
11405 \linespread{1}%  
  
11406 \setbool{\LWR@doingparhooks}{false}%  
  
11407 \LWR@select@print@hspace%  
  
11408 \def\color@endgroup{\endgraf\endgroup}%  
  
11409 \LetLtxMacro\hfil\LWR@orighfil%  
11410 \let\hss\LWR@orighss%  
11411 \let\llap\LWR@origllap%  
11412 \let\rlap\LWR@origrlap%  
11413 \let\hfilneg\LWR@orighfilneg%  
  
11414 \let\,\LWR@origcomma% disable HTML short unbreakable space  
11415 \let\thinspace\LWR@origthinspace% disable HTML short unbreakable space  
11416 \let\negthinspace\LWR@orignegthinspace% disable HTML negative short unbreakable space  
11417 \let\textellipsis\LWR@origtextellipsis%  
  
11418 \let\vdots\LWR@origvdots%  
  
11419 \let\textless\LWR@origtextless%  
11420 \let\textgreater\LWR@origtextgreater%  
  
11421 \let\&\LWR@origampersand%

---

```

11422  \LetLtxMacro{\em}{\LWR@origem}
11423  \LetLtxMacro{\normalfont}{\LWR@orignormalfont}
11424  \let\sp{\LWR@origsp}
11425  \let\sb{\LWR@origsb}
11426  \LetLtxMacro{\underline}{\LWR@origunderline}
11427  \let\~{\LWR@origtilde}
11428  \let\enskip{\LWR@origenskip}
11429  \let\quad{\LWR@origquad}
11430  \let\quad{\LWR@origquad}

```

\endtabular must be restored to its original, instead of relying on lwarp's \LWR@formatted mechanism:

```

11431  \LetLtxMacro{\endtabular}{\LWR@origendtabular}
11432  \csletcs{\endtabular*}{\LWR@origendtabular*}%

11433  \LetLtxMacro{\noalign}{\LWR@orignoalign}
11434  \LetLtxMacro{\hline}{\LWR@orighline}

11435  \let\newline{\LWR@orignewline}
11436  \LetLtxMacro{\includegraphics}{\LWR@origincludegraphics}

11437  \LetLtxMacro{\@ensuredmath}{\LWR@origensuredmath}

11438  \let\math{\LWR@origmath}
11439  \let\endmath{\LWR@origendmath}
11440  \let\displaymath{\LWR@origdisplaymath}
11441  \let\enddisplaymath{\LWR@origenddisplaymath}
11442 %
11443  \LWR@restoreorigaccents%
11444  \LWR@restoreoriglists%

11445  \let\@mpfootnotetext{\LWR@orig@mpfootnotetext}
11446  \LWR@hook@processingtags%

```

To enable MATHJAX-specific nullification, used for tcolorbox:

```

11447  \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{
11448      {\LWR@restoreMathJaxformatting}%
11449  {}%
11450 }

11451 \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:** 11452 \begin{warpHTML}

Also commonly used are `\@empty`, `\@gobble`, and `\@firstofone`.

```
11453 \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.

```
11454 \catcode`\$=\active% redefining $ below
11455 \catcode`\_=12% redefining \_ below
11456 \newcommand*{\LWR@nullfonts}{%
```

Various built-in symbols.

```
11457     \renewcommand*{\$}{-}%
11458     \renewcommand*{\%}{-}%
11459     \renewcommand*{\_}{-}%
11460     \renewcommand*{\}{-}%
11461     \renewcommand*{\{}{-}%
11462     \renewcommand*{\&}{-}%
11463     \renewcommand*{\#}{-}%
11464     \renewcommand*{\,}{-}%
11465     \renewcommand*{\~}{-}%
11466 %
11467 % accents:
11468     \renewcommand*{\`}[1]{##1}%
11469     \renewcommand*{\'}[1]{##1}%
11470     \renewcommand*{\^}[1]{##1}%
11471     \renewcommand*{\~}[1]{##1}%
11472     \renewcommand*{\=}[1]{##1}%
11473     \renewcommand*{\u}[1]{##1}%
11474     \renewcommand*{\.}[1]{##1}%
11475     \renewcommand*{\\"}[1]{##1}%
11476     \renewcommand*{\H}[1]{##1}%
11477     \renewcommand*{\v}[1]{##1}%
11478     \renewcommand*{\d}[1]{##1}%
11479     \renewcommand*{\c}[1]{##1}%
11480     \renewcommand*{\b}[1]{##1}%
11481     \renewcommand*{\t}[1]{##1}%
11482 %
11483     \let\newline\LWR@dash%
11484     \let\textasciicircum\LWR@dash%
11485     \let\textasciitilde\LWR@dash%
11486     \let\textasteriskcentered\LWR@dash%
11487     \let\textbackslash\LWR@dash%
11488     \let\textbar\LWR@dash%
11489     \let\textbardbl\LWR@dash%
11490     \let\textbigcircle\LWR@dash%
11491     \let\textbraceleft\LWR@dash%
11492     \let\textbraceright\LWR@dash%
11493     \let\textbullet\LWR@dash%
11494     \let\textcopyright\LWR@dash%
11495     \let\textdagger\LWR@dash%
11496     \let\textdaggerdbl\LWR@dash%
11497     \let\textdollar\LWR@dash%
```

```
11498 \let\textellipsis\LWR@dash%
11499 \let\textemdash\LWR@dash%
11500 \let\textendash\LWR@dash%
11501 \let\textexclamdown\LWR@dash%
11502 \let\textgreater\LWR@dash%
11503 \let\textless\LWR@dash%
11504 \let\textordfeminine\LWR@dash%
11505 \let\textordmasculine\LWR@dash%
11506 \let\textparagraph\LWR@dash%
11507 \let\textperiodcentered\LWR@dash%
11508 \let\textpertenthousand\LWR@dash%
11509 \let\textperthousand\LWR@dash%
11510 \let\textquestiondown\LWR@dash%
11511 \let\textquotedblleft\LWR@dash%
11512 \let\textquotedblright\LWR@dash%
11513 \let\textquotefontleft\LWR@dash%
11514 \let\textquotefontright\LWR@dash%
11515 \let\textregistered\LWR@dash%
11516 \let\textsection\LWR@dash%
11517 \let\textsterling\LWR@dash%
11518 \let\texttrademark\LWR@dash%
11519 \let\textunderscore\LWR@dash%
11520 \let\textvisiblespace\LWR@dash%
11521 \let\copyright\LWR@dash%
11522 \let\dag\LWR@dash%
11523 \let\ddag\LWR@dash%
11524 \let\dotsoverline\LWR@dash%
11525 \let\P\LWR@dash%
11526 \let\pounds\LWR@dash%
11527 \let\S\LWR@dash%
11528 %
11529 \renewcommand*\{\aa}{a}%
11530 \renewcommand*\{\AA}{A}%
11531 \renewcommand*\{\AE}{AE}%
11532 \renewcommand*\{\ae}{ae}%
11533 \renewcommand*\{\dh}{d}%
11534 \renewcommand*\{\DH}{D}%
11535 \renewcommand*\{\DJ}{D}%
11536 \renewcommand*\{\dj}{d}%
11537 \renewcommand*\{\IJ}{IJ}%
11538 \renewcommand*\{\ij}{ij}%
11539 \renewcommand*\{\L}{L}%
11540 \renewcommand*\{\l}{l}%
11541 \renewcommand*\{\NG}{NG}%
11542 \renewcommand*\{\ng}{ng}%
11543 \renewcommand*\{\O}{O}%
11544 \renewcommand*\{\o}{o}%
11545 \renewcommand*\{\oe}{oe}%
11546 \renewcommand*\{\OE}{OE}%
11547 \renewcommand*\{\ss}{ss}%
11548 \renewcommand*\{\SS}{SS}%
11549 \renewcommand*\{\th}{th}%
11550 \renewcommand*\{\TH}{TH}%
11551 %
11552 \let\guillemotleft@\empty%
11553 \let\guilsinglleft@\empty%
11554 \let\quotedblbase@\empty%
11555 \let\textquotedbl@\empty%
11556 \let\guillemotright@\empty%
11557 \let\guilsinglright@\empty%
```

---

```

11558 \let\quotesinglbase\empty%
11559 \renewcommand*\{\\HTMLUnicode}[1]{\%}
11560 \renewcommand*\{\\HTMLentity}[1]{\%}

11561 \renewcommand{\textsuperscript}[1]{\#1}%
11562 \renewcommand{\textsubscript}[1]{\#1}%

11563 \renewcommand{\underline}[1]{\#1}%

11564 \RenewDocumentCommand{\hspace}{s m}{\%}

11565 \RenewDocumentCommand{\LWR@htmlspanclass}{o D(){} m +m}{\#4}%
11566 \DeclareExpandableDocumentCommand{\InlineClass}{D{}{}{} o m +m}{\#4}%

```

Nullify math macros.

```

11567 \def\(\#1){\%}
11568 \def\[\\#1]{\%}
11569 \RenewDocumentCommand{\LWR@subsingle$}{s m m m}{\%}

```

Nullify logos:

```

11570 \renewcommand*\{\\TeX}{\\TeX}%
11571 \renewcommand*\{\\LaTeX}{\\LaTeX}%
11572 \renewcommand*\{\\LaTeXe}{\\LaTeXe}%
11573 \renewcommand*\{\\LuaTeX}{\\LuaTeX}%
11574 \renewcommand*\{\\LuaLaTeX}{\\LuaLaTeX}%
11575 \renewcommand*\{\\XeTeX}{\\XeTeX}%
11576 \renewcommand*\{\\XeLaTeX}{\\XeLaTeX}%
11577 \renewcommand*\{\\ConTeXt}{\\ConTeXt}%
11578 \renewcommand*\{\\BibTeX}{\\BibTeX}%
11579 \renewcommand*\{\\MakeIndex}{\\MakeIndex}%
11580 \renewcommand*\{\\AmS}{\\AmS}%
11581 \renewcommand*\{\\MiKTeX}{\\MiKTeX}%
11582 \renewcommand*\{\\LyX}{\\LyX}%

```

Use the simpler form with \texorpdfstring:

```

11583 \def\texorpdfstring{\expandafter\secondoftwo}%
11584 }
11585 \catcode`\$=3%
11586 \catcode`\_=8%

```

\FilenameNullify {*redefinitions*}

Adds more nullifying definitions for filename generation.

```

11587 \newcommand*\{\\FilenameNullify}[1]{%
11588   \appto{\LWR@nullfonts}{#1}%
11589 }

11590 \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:** 11591 \begin{warpall}

\AltTextOpen The opening part of HTML alt tag for an image. The default is a left parenthesis.

Default: (

11592 \newcommand\*\{\AltTextOpen\}{()}

\AltTextClose The closing part of HTML alt tag for an image. The default is a right parenthesis.

Default: (

11593 \newcommand\*\{\AltTextClose\}{})

\ImageAltText The HTML alt tag for an image.

Default: image

11594 \newcommand\*\{\ImageAltText\}{image}

\MathImageAltText The HTML alt tag for an SVG math image.

Default: "math image"

11595 \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.

11596 \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.

11597 \newcommand\*\{\ThisAltText\}[1]{%  
11598 \renewcommand\*\{\LWR@ThisAltText\}{#1}%  
11599 }

\PackageDiagramAltText Appended to the `\textrimage` HTML alt tag for the images generated by many packages.

Default: "diagram"  
11600 \newcommand\*\{\PackageDiagramAltText\}{diagram}

---

```
11601 \end{warpall}
```

### 83.3 Inline and display math

**for HTML output:** 11602 \begin{warpHTML}

Ctr LWR@externalfilecnt Counter for the external files which are generated and then referenced from the HTML:

```
11603 \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.

```
11604 \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`.

```
11605 \newbool{LWR@insidemathcomment}
```

```
11606 \boolfalse{LWR@insidemathcomment}
```

Bool LWR@xfakebold True if `xfakebold` `\setBold` is in use.

```
11607 \newbool{LWR@xfakebold}
```

```
11608 \boolfalse{LWR@xfakebold}
```

\LWR@orig@setBold Redefined by `l warp-xfakebold`.

```
11609 \newcommand*{\LWR@orig@setBold}{}{}
```

\LWR@orig@unsetBold Redefined by `l warp-xfakebold`.

```
11610 \newcommand*{\LWR@orig@unsetBold}{}{}
```

\LWR@applyxfakebold Redefined by `l warp-xfakebold`.

```
11611 \newcommand*{\LWR@applyxfakebold}{}{}
```

\LWR@setcurrentfont Sets the actual `LATEX` 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`.

```
11612 \newcommand*{\LWR@setcurrentfont}{}{%
  \LWR@traceinfo{Using font family \LWR@f@family}%
  \nameuse{LWR@print@\LWR@f@family family}%
  \LWR@traceinfo{Using font series \LWR@f@series}%
  \nameuse{LWR@print@\LWR@f@series series}%
  \LWR@traceinfo{Using font shape \LWR@f@shape}%
  \nameuse{LWR@print@\LWR@f@shape shape}%
  \LWR@traceinfo{Using font caps shape \LWR@f@shapecaps}%
  \nameuse{LWR@print@\LWR@f@shapecaps shape}%
}%
11621 }
```

\\$

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 `teximage`, in which case it will not be seen by MATHJAX.

```

11622 \let\LWR@origtextdollar\$
11623
11624 \renewcommand*\{$}{%
11625   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
11626     {\LWR@origtextdollar}{%
11627     {\HTMLunicode{00024}}{%
11628 }}}
```

File  
`l warp_baseline_marker.png`  
 File  
`l warp_baseline_marker.eps`

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.

```

11629 \AtBeginDocument{%
11630
11631 \ifpdf
11632   \newcommand*{\LWR@baselinename}{l warp_baseline_marker.png}
11633 \else
11634   \ifXeTeX
11635     \newcommand*{\LWR@baselinename}{l warp_baseline_marker.png}
11636   \else
11637     \newcommand*{\LWR@baselinename}{l warp_baseline_marker.eps}
11638   \fi
11639 \fi
11640
11641 \IfFileExists{\LWR@baselinename}{%
11642 {
11643   \IfPackageLoadedTF{graphicx}{%
11644     \newcommand*{\LWR@addbaselinemarker}{%
11645       \LWR@originincludegraphics{\LWR@baselinename}%
11646     }%
11647   }%
11648   \IfPackageLoadedTF{graphics}{%
11649     \newcommand*{\LWR@addbaselinemarker}{%
11650       \LWR@originincludegraphics{\LWR@baselinename}%
11651     }%
11652   }%
11653   \newcommand*{\LWR@addbaselinemarker}{%
```

```

11654           \global\booltrue{LWR@warnbaselinemarker}%
11655       }
11656   \AtEndDocument{
11657     \ifbool{LWR@warnbaselinemarker}%
11658       \PackageNoteNoLine{l warp}{%
11659         Load graphicx or graphics for improved\MessageBreak
11660         SVG math sizing and baselines%
11661       }%
11662     }{}%
11663   }%
11664 }
11665 }%
11666 }% l warp_baseline_marker.png or .eps is not present
11667 \newcommand*\LWR@addbaselinemarker{%
11668   \global\booltrue{LWR@warnbaselinemarker}%
11669 }%
11670 \AtEndDocument{
11671   \ifbool{LWR@warnbaselinemarker}%
11672     \PackageWarningNoLine{l warp}{%
11673       File \LWR@baselinename\space is not installed\MessageBreak
11674       alongside the l warp-*.sty files, so\MessageBreak
11675       SVG math sizing and baselines may not be accurate}%
11676   }{}%
11677 }%
11678 }%
11679 }% AtBeginDocument

```

Bool LWR@warnbaselinemarker True if the math baseline marker was ever called for, but `graphics` or `graphicx` were not loaded.

```

11681 \newbool{LWR@warnbaselinemarker}
11682 \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.

```
11683 \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.

```
11684 \newcommand*{\LWR@singledollarmeasure}[1]{%
11685     \begingroup%
```

Temporarily disable formatting while measuring the image parameters:

```
11686     \LWR@restoreorigformatting%
11687     \RenewDocumentEnvironment{lateximage}{s o s o o d()}{ }{}% inside group
11688     \LWR@print@normalsize%
```

Temporarily set font for the HTML PDF output:

```
11689     \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.

```
11690     \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.

```
11691     \boolfalse{LWR@unknownmathsize}%
11692     \ifmmode%
11693         \global\sbox{\LWR@singledollarbox}{#1}%
11694     \else%
11695         \ifbool{LWR@dynamicmath}{%
11696             \ifbool{mathjax}{%
11697                 \global\sbox{\LWR@singledollarbox}{%
11698                     {\LWR@origensuredmath{#1}}%
11699                 }%
11700                 \global\sbox{\LWR@singledollarbox}{#1}%
11701             }%
11702         }{%
11703             \global\sbox{\LWR@singledollarbox}{#1}%
11704         }%
11705     \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.

```
11706     \global\sbox{\LWR@singledollarbox}{%
11707         \usebox{\LWR@singledollarbox}%
11708         \raisebox{-\dp\LWR@singledollarbox}{%
11709             \LWR@addbaselinemarker}%
11710         }%
11711     }%
```

More low-level code to undo the counter change.

```
11712 \global\advance\c@LWR@lateximagedepth -1\relax% Due to AmS \text macro.
```

Measure the depth:

```
11713 \setlength{\LWR@singledollardepth}{%
11714     \LateximageFontSize\dp\LWR@singledollarbox%
11715 }%
```

Make the length a global change:

```
11716 \global\LWR@singledollardepth=\LWR@singledollardepth%
```

Likewise for width:

```
11717 \setlength{\LWR@singledollarwidth}{%
11718     \LateximageFontSize\wd\LWR@singledollarbox%
11719 }%
11720 \global\LWR@singledollarwidth=\LWR@singledollarwidth%
```

Likewise for total height:

```
11721 \setlength{\LWR@singledollarheight}{%
11722     \LateximageFontSize\ht\LWR@singledollarbox%
11723 }%
11724 \addtolength{\LWR@singledollarheight}{%
11725     \LateximageFontSize\dp\LWR@singledollarbox%
11726 }%
11727 \global\LWR@singledollarheight=\LWR@singledollarheight%

11728 \endgroup%
11729 }
```

\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 `\Lateximage`.

(In some circumstances SVG math is used even if MATHJAX is preferred.)

Factored from \LWR@subsingledollar.

```
11730 \newcommand*{\LWR@subsingledollarsvg}[4]{%
11731     \LWR@traceinfo{\LWR@subsingledollartsvg}%
```

Measure the depth, width, and height of the math image:

```
11732 \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:

```
11733 \ifdimgreater{\LWR@singledollarwidth}{.7\LWR@singledollarheight}{%
11734     \def\LWR@singledollarstyle{%
```

```

11735           width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
11736           }%
11737     }{%
11738       \def\LWR@singledollarstyle{%
11739         height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
11740       }%
11741     }%

```

If a very narrow width, use the height.

```

11742   \ifdimless{\LWR@singledollarwidth}{.2em}%
11743   {%
11744     \def\LWR@singledollarstyle{%
11745       height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
11746     }%
11747   }%
11748   {}%

```

If very wide and short, use the width:

```

11749   \ifdimless{\LWR@singledollarheight}{.2em}%
11750   {%
11751     \def\LWR@singledollarstyle{%
11752       width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
11753     }%
11754   }%
11755   {}%

```

If there is significant text depth, add the depth to the style.

```

11756   \ifdimgreater{\LWR@singledollardepth}{0.05ex}{%
11757     \def\LWR@singledollardepthstyle{%
11758       \ ; % extra space
11759       \LWR@print@mbox{%
11760         vertical-align:-\LWR@convertto{em}{\the\LWR@singledollardepth} em%
11761       } % extra space
11762     }%
11763   }{%
11764     \def\LWR@singledollardepthstyle{}%
11765   }%

```

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.

```

11766   \ifbool{\LWR@unknownmathsize}{%
11767     \def\LWR@singledollarstyle{}%
11768     \def\LWR@singledollardepthstyle{}%
11769   }{}%

```

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.

```

11770   \ifbool{\LWR@dynamictmath}{%
11771     \LWR@traceinfo{subsingledollarsvg: dynamic}%
11772     \begin{latentimage}{% no hashing
11773       [\MathImageAltText]{% alt tag
11774       []% no add'l hashing
11775       [\LWR@singledollarstyle \LWR@singledollardepthstyle]%% CSS

```

---

```

11776      (math)% ARIA
11777  }{%
11778      \LWR@traceinfo{subsingledollarsvg: static}%
11779      \IfValueTF{#1}{% #1 True
11780          \LWR@findcurrenttextcolor% sets \LWR@tempcolor

```

Support for `xfakebold`:

```

11781      \ifbool{\LWR@xfakebold}{%
11782          {\def\LWR@tempone{Y}}%
11783          {\def\LWR@tempone{N}}%
11784          \LWR@traceinfo{subsingledollarsvg about to lateximage}%
11785          \begin{latentimage}*% use hashing
11786              [#2]%
11787                  *% do not add open/closing braces
11788                  [% add'l' hashing
11789                      #3%
11790                      F\MLWR@f@family%
11791                      SR\MLWR@f@series%
11792                      SH\MLWR@f@shape%
11793                      SHC\MLWR@f@shapecaps%
11794                      CL\MLWR@tempcolor%
11795                      FB\MLWR@tempone% xfakebold
11796                  ]%
11797                  [\LWR@singledollarstyle \LWR@singledollardepthstyle]%
11798                  CSS
11799                  (math)% ARIA
11800                  \LWR@traceinfo{subsingledollar did lateximage}%
11801          }{%
11802              \begin{latentimage}% no hashing
11803                  [#2]%
11804                  [% no add'l hashing
11805                  [\LWR@singledollarstyle \LWR@singledollardepthstyle]%
11806                  CSS
11807          }%
11808      }% 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.)

```
11808 \LWR@addbaselinemarker%
```

Support for `xfakebold`:

```
11809 \LWR@applyxfakebold%
```

Typeset the contents:

```
11810 \usebox{\LWR@singledollarbox}%
```

The closing baseline marker:

```
11811 \LWR@addbaselinemarker%
```

```

11812     \end{lateximage}%
11813 %
11814 }
```

\LWR@subsingle dollar \* {\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 used in the additional hashing argument to ensure a unique image.

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.

```

11815 \newlength{\LWR@singledollarwidth}
11816 \newlength{\LWR@singledollarheight}
11817 \newlength{\LWR@singledollardepth}
11818
11819 \newsavebox{\LWR@singledollarbox}
11820
11821 \NewDocumentCommand{\LWR@subsingle dollar}{s m m m}{%
11822     \LWR@traceinfo{\LWR@subsingle dollar !#2!}%
11823     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
11824     {%
11825         \LWR@traceinfo{\LWR@subsingle dollar: already in a lateximage}%
11826         #4% contents
11827     }%
11828     {%
11829         \begingroup%
```

Support for `xfakebold`:

```
11830     \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:

```
11831      \ifboolexpr{%
11832          (
11833              bool{mathjax} or
11834                  ( bool{FormatWP} and bool{WPMarkMath} )
11835          ) and
11836          ( not test {
11837              \ifstreq{#2}{ from \ensuredmath
11838                  {\AltTextOpen\MathImageAltText\AltTextClose}
11839              }
11840          ) and
11841          ( not bool{LWR@dynamicmath} )
11842      }%
```

For MATHJAX, print the math between \(\) and \(\):

```
11843      {%
11844          \LWR@traceinfo{LWR@subsingle$ Mathjax}%
11845      {%
11846          \textbackslash{%
11847              \ifmmode to avoid error about \ttfamily inside math mode in the case of nested
11848                  \ifmmode\else\LWR@print@ttfamily\fi%
11849                  \LWR@HTMLsanitizedetokenized{\detokenize{#4}}%
11850              }%
11851                  \textbackslash{%
11852                      }%
11853                  }% mathjax
```

For SVG, print the math inside a lateximage, with an <alt> tag of the LATEX code, and a css style to control the baseline adjustment.

```
11854      {%
11855          \LWR@traceinfo{%
11856              LWR@subsingle$ NOT mathjax, or is ensuremath, or is dynamic%
11857          }%
11858              \LWR@subsingle$svg{#1}{#2}{#3}{#4}%
11859          }% not mathjax
11860          \endgroup%
11861      }% not in a lateximage
```

Clear the single-use alt text:

```
11862      \gdef\LWR@ThisAltText{}%
11863      \LWR@traceinfo{LWR@subsingle$ done}%
11864  }%
11865 \LetLtxMacro\LWR@orig$%
11866 \LetLtxMacro\LWR@secondorig$% balance for editor syntax highlighting
```

```

11867 \LetLtxMacro{\LWR@origopenparen}(
11868 \LetLtxMacro{\LWR@origcloseparen})
11869 \LetLtxMacro{\LWR@origopenbracket}[
11870 \LetLtxMacro{\LWR@origclosebracket}]

```

\$ Redefine the dollar sign to place math inside a `lateximage`, or use MATHJAX:  
\$\$

```

11871 \begingroup
11872 \catcode`\$=\active%
11873 \protected\gdef{\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

Used by `chemformula` to escape single-dollar math:

```
11874 \protected\gdef{\LWR@newsingledollar{\@ifnextchar$\LWR@doubledollar\LWR@singledollar}}%
```

`\LWR@doubledollar` Redefine the double dollar sign to place math inside a `lateximage`, or use MATHJAX:

```
11875 \protected\gdef{\LWR@doubledollar$#1$}{%
```

If MATHJAX or formatting for a word processor, print the L<sup>A</sup>T<sub>E</sub>X expression:

```
11876 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
```

For MATHJAX, print the math between `\[` and `\]`. If there is a footnote, endnote, or other kind of note ('note' is present), sync the note numbers.

```

11877 {%
11878   intentional blank line:
11879   \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`.

```

11880 \LWR@hidelatexequation{math}{#1}{}

11881   \InLineClass{hidden}{\LWR@syncnotenumbers}{%
11882     \textbackslash%}
11883   {%
11884     \LWR@print@ttfamily%
11885     \LWR@HTMLsanitizeddetokenized{\detokenize{\#1}}{%
11886   }{%
11887     \textbackslash%
11888     \InLineClass{hidden}{\LWR@syncnotenames}{%
11889   }{%
11890     \textbackslash%
11891   {%
11892     \LWR@print@ttfamily%
11893     \LWR@HTMLsanitizeddetokenized{\detokenize{\#1}}{%
11894   }{%
11895     \textbackslash%
11896   }{%
11897 }{%
11898 }% 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:

```

11899      {%
11900          not mathjax
11901              \begin{BlockClass}{displaymath}%
11902                  \LWR@newautoidanchor%
11903                      \booltrue{\LWR@indisplaymathimage}%
11904                          \begin{lateximage}%
11905                              [%textbackslash{}[] % extra space
11906                                  \LWR@HTMLsanitizedetokenized{\detokenize{\#1}} % extra space
11907                                      \textbackslash{}[]]%
11908                          ]%
11909                      *% do not add open/closing braces
11910                  (math)% ARIA

```

Support for `xfakebold`:

```

11911      \LWR@applyxfakebold%
11912          \LWR@origdollar\LWR@origdollar#\#1\LWR@origdollar\LWR@origdollar%
11913              \end{lateximage}%
11914                  \end{BlockClass}%
11915  }%

```

Clear the single-use alt text:

```

11916      \gdef\LWR@ThisAltText{}%
11917  }%

```

`\LWR@singledollar {<math expression>}`

```

11918 \protected\gdef\LWR@singledollar#1${%
11919     \LWR@traceinfo{\LWR@singledollar}%
11920     \ifbool{mathjax}{%
11921         \LWR@subsingledollar*%
11922         {%
11923             alt tag
11924                 \textbackslash{}( %
11925                     \LWR@HTMLsanitizedetokenized{\detokenize{\#1}} % extra space
11926                         \textbackslash{}%
11927                     singledollar)% add'l hashing
11928                     {\#1}% contents
11929             }%
11930             not mathjax
11931                 \LWR@subsingledollar*%
11932                 {%
11933                     alt tag
11934                         \textbackslash{}( %
11935                             \LWR@HTMLsanitizedetokenized{\detokenize{\#1}} % extra space
11936                             \textbackslash{}%
11937                         singledollar)% add'l hashing
11938                         {\LWR@origensuredmath{\#1}}% contents
11939             }%
11940         }%

```

Clear the single-use alt text:

```

11939      \gdef\LWR@ThisAltText{}%
11940  }%

```

---

```
\(\ Redefine to the above dollar macros.
\[
11941 \AtBeginDocument{
11942     \protected\gdef\(#1\){$#1\$}
11943     \protected\gdef\[#1\]{$$#1$$}
11944 }
11945
11946 \endgroup% active $

11947 \AtBeginDocument{
11948 \LetLtxMacro{\LWR@openbracketnormal\[}
11949 \LetLtxMacro{\LWR@closebracketnormal\]}
11950 }
```

\@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.

```
11951 \LetLtxMacro{\LWR@origensuredmath}{\@ensuredmath}
11952
11953 \renewcommand{\@ensuredmath}[1]{%
11954     \ifbool{mathjax}{%
11955         \LWR@subsingledollar*\{\AltTextOpen\MathImageAltText\AltTextClose\}%
11956         {%
11957             \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
11958         }%
11959         {%
11960             \relax%
11961             \LWR@origensuredmath{#1}%
11962         }%
11963     }% SVG math
```

If already inside a `lateximage` in math mode, continue as-is.

```
11964     \ifmmode%
11965         \LWR@origensuredmath{#1}%
11966     \else%
```

Create an inline math `lateximage` with a simple alt tag and additional hashing according to the contents.

```
11967     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
11968         \LWR@origensuredmath{#1}%
11969         {%
11970             \LWR@subsingledollar*%
11971                 {\AltTextOpen\MathImageAltText\AltTextClose\}%
11972                 {%
11973                     \protect\LWR@HTMLsanitizedetokenized{%
11974                         \detokenize\expandafter{#1}}%
11975                     }%
11976                 }%
11977                 \LWR@origensuredmath{#1}%
11978             }%
11979         \fi%
11980     }%
```

Clear the single-use alt text:

```
11981     \gdef\LWR@ThisAltText{}%
11982 }
```

Remember then remove the old `math` and `displaymath` environments:

```
11983 \let\LWR@orig@math\math
11984 \let\LWR@orig@endmath\endmath
11985
11986 \let\LWR@orig@displaymath\displaymath
11987 \let\LWR@orig@enddisplaymath\enddisplaymath
11988
11989 \let\math\relax
11990 \let\endmath\relax
11991
11992 \let\displaymath\relax
11993 \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`.

```
11994 \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`.

```
11995 \NewEnviron{LWR@displaymathnormal}{\expandafter\[\BODY\]\@ignoretrue}
```

Set the default `displaymath` to the normal version:

```
11996 \LetLtxMacro\displaymath\LWR@displaymathnormal%
11997 \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.

```
11998 \newenvironment{LWR@displaymathother}
11999 {%
12000   \begin{BlockClass}{displaymath}%
12001   \LWR@newautoanchor%
12002   \booltrue{\LWR@indisplaymathimage}%
12003   \begin{lateximage}[\MathImageAltText](math)% [alt](ARIA)%
12004   \LWR@origdollar\LWR@origdollar%
12005 }%
12006 {%
12007   \LWR@origdollar\LWR@origdollar%
12008   \end{lateximage}%
12009   \end{BlockClass}%
12010 }
```

**Env** `LWR@equationother` A version of `displaymath` which can handle complicated objects, but does not supply MATHJAX or HTML alt tags.

```

12011 \newenvironment{LWR@equationother}
12012 {%
12013   \begin{BlockClass}{displaymathnumbered}%
12014   \LWR@newautoanchor%
12015   \booltrue{LWR@indisplaymathimage}%
12016   \begin{lateximage}[\MathImageAltText](math)% [alt](ARIA)
12017   \LWR@orig@equation%
12018 }
12019 {%
12020   \LWR@orig@endequation%
12021   \end{lateximage}%
12022   \end{BlockClass}%
12023 }
```

### 83.4 MATHJAX support

Ctr LWR@nextequation

Used to add one to compute the next equation number.

```
12024 \newcounter{LWR@nextequation}
```

Determining how to set MATHJAX section and equation numbers. Adjusts for various kinds of \theequation to determine \theMathJaxsection and \theMathJaxequation.

```

12025 \newcommand{\LWR@article@theequation}{\@arabic\c@equation}
12026
12027 \newcommand{\LWR@book@theequation}
12028 {\ifnum \c@chapter>\z@ \thechapter.\fi \@arabic\c@equation}
12029
12030
12031 \newcommand{\LWR@chapter@theequation}{\thechapter.\@arabic{equation}}
12032 \newcommand{\LWR@section@theequation}{\thesection.\@arabic{equation}}
12033 \newcommand{\LWR@subsection@theequation}{\thesubsection.\@arabic{equation}}
12034
12035 \AtBeginDocument{
12036   % default per article class:
12037   \newcommand*\theMathJaxsubequations[]{0}
12038   \newcommand*\theMathJaxsection{}%
12039   \newcommand*\theMathJaxequation{\@arabic{equation}}
12040
12041   \ifdstequal{\theequation}{\LWR@article@theequation}
12042   {}%
12043   \ifdstequal{\theequation}{\LWR@book@theequation}%
12044   {\renewcommand*\theMathJaxsection{\ifnum \c@chapter>\z@ \thechapter.\fi}%
12045   {}%
12046   \ifdstequal{\theequation}{\LWR@subsection@theequation}%
12047   {\renewcommand*\theMathJaxsection{\thesubsection}.}%
12048   {}%
12049   \ifdstequal{\theequation}{\LWR@section@theequation}%
12050   {\renewcommand*\theMathJaxsection{\thesection}.}%
12051   {}%
12052   \ifdstequal{\theequation}{\LWR@chapter@theequation}%
12053   {\renewcommand*\theMathJaxsection{\thechapter{}}.}%
12054 }% unknown format
12055   \PackageWarningNoLine{l warp}
12056   {%
12057     Unknown equation tag format for \protect\theequation.\MessageBreak
12058     Article-style equation numbering will be used%
12059   }
```

```
12060     }}}}}
12061 }
```

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

```
12062 \newcommand*\{\LWR@syncmathjax}{%
```

Tell MATHJAX that the next equation number is the current L<sup>A</sup>T<sub>E</sub>X 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 L<sup>A</sup>T<sub>E</sub>X.

```
12063     \LWR@stoppars%
12064     \InlineClass{hidden}%
12065         \textbackslash(%
12066         \textbackslash{}seteqnumber%
12067         \{\theMathJaxsubequations\}%
12068         \{\theMathJaxsection\}%
12069         \{\theMathJaxequation\}%
12070         \textbackslash)%
12071     }
12072     \LWR@startpars%
12073 }
```

\LWR@hidelatexequation {*<environment>*} {*<contents>*}

Creates the L<sup>A</sup>T<sub>E</sub>X version of the equation inside an HTML comment.

```
12074 \NewDocumentCommand{\LWR@hidelatexequation}{m +m}{%
```

Stop HTML paragraph handling and open an HTML comment:

```
12075     \LWR@stoppars
12076     \LWR@htmlopencomment
12077
```

Start the L<sup>A</sup>T<sub>E</sub>X math environment inside the HTML comment:

```
12078     \begingroup
12079     \nameuse{\LWR@orig@#1}
```

While in the math environment, restore various commands to their L<sup>A</sup>T<sub>E</sub>X meanings.

---

```
12080     \LWR@restoreorigformatting
12081     \booltrue{\LWR@insidemathcomment}
```

Temporarily prevent underfull \hbox warnings.

```
12082     \hbadness=10000\relax%
```

See \LWR@htmlmathlabel in section [83.7.1](#).

Print the contents of the equation:

```
12083     #2
```

End the L<sup>A</sup>T<sub>E</sub>X math environment inside the HTML comment:

```
12084     \@nameuse{\LWR@orig@end#1}
12085     \endgroup
12086
```

Close the HTML comment and resume HTML paragraph handling:

```
12087     \LWR@htmclosecomment
12088     \boolfalse{\LWR@insidemathcomment}
12089     \LWR@startpars
12090 }
```

\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.

```
12091 \NewDocumentCommand{\LWR@addmathjax}{m +m}{%
```

```
12092     \LWR@origtilde\LWR@orignewline
```

Enclose the MATHJAX environment inside printed “\(`” and “\)`” characters. Print the environment name and contents, sanitizing for HTML special characters.

```
12093     {%
12094         \LWR@print@ttfamily%
12095         \textbackslash{}begin\{\#1\}}
```

The alignat environment takes a mandatory argument, which must be replicated here.

```
12096     \ifboolexpr{
12097         test {\ifstreq{\#1}{alignat}} or
12098         test {\ifstreq{\#1}{alignat*}} or
12099         test {\ifstreq{\#1}{alignat+}}
12100     }%
12101     {\{\arabic{\LWR@maxfields}\}}%
12102     {}%
```

The environment contents and \end:

```
12103     \LWR@orignewline%
12104     \LWR@HTMLsanitizeexpanded{\detokenize\expandafter{\#2}}%
```

```

12105      \LWR@orignewline%
12106      \textbackslash{}end\{\#1\}
12107  }%
12108  \LWR@orignewline
12109 }

```

### 83.5 Equation environment

Remember existing equation environment, after redefined by `amsmath`, if loaded.

```

12110 \AtBeginDocument{
12111   \let\LWR@orig@equation\equation
12112   \let\LWR@orig@endequation\endequation
12113   \csletcs{\LWR@orig@equation*}{equation*}
12114   \csletcs{\LWR@orig@endequation*}{endequation*}
12115 }

\LWR@doequation {\langle env contents \rangle} {\langle env name \rangle}

```

For SVG math output, the contents are typeset using the original equation inside a `lateximage`, along with an `<alt>` tag containing a detokenized copy of the L<sup>A</sup>T<sub>E</sub>X source for the math.

For MATHJAX output, the contents are typeset in an original equation environment placed inside a HTML comment, with special processing for `\labels`. The contents are also printed to the HTML output for processing by the MATHJAX script.

```

12116 \newcommand*{\LWR@doequation}[2]{%
12117

```

If `mathjax` or `FormatWP`, print the L<sup>A</sup>T<sub>E</sub>X expression:

```

12118   \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%

```

MATHJAX output:

```

12119   {

```

Print commands to synchronize MATHJAX's equation number and format to the current L<sup>A</sup>T<sub>E</sub>X chapter/section and equation number:

```

12120   \LWR@syncmathjax%

```

Print the L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment:

```

12121   \LWR@hidelatexequation{\#2}{\#1}
12122   }

```

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`.

```

12123   {%
  not mathjax

```

Begin the `lateximage` with an `<alt>` tag containing the math source:

```

12124      \ifstreq{\#2}{equation*}{%
12125          \begin{BlockClass}{displaymath}%
12126      }{%
12127          \begin{BlockClass}{displaymathnumbered}%
12128      }%
12129      \LWR@newautoidanchor%
12130      \booltrue{\LWR@indisplaymathimage}%
12131      \begin{lateximage}[%
12132          \ifstreq{\#2}{equation*}{%
12133              \ifdefequal{\LWR@equationtag}{\theequation}{%
12134                  % no tag was given
12135              }{%
12136                  (\LWR@equationtag) % tag was given
12137              }%
12138          }{%
12139              (\LWR@equationtag) % automatic numbering
12140          }%
12141          \textbackslash\begin{\#2} % extra space
12142          \LWR@HTMLsanitizeexpanded{\detokenize\expandafter{\#1}} % extra space
12143          \textbackslash\end{\#2}%
12144      ]*(math)% alt tag, ARIA

```

Support for `xfakebold`:

```
12145      \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.

```

12146      %@nameuse{\LWR@orig@#2}%
12147      #1% contents collected by \collect@body
12148      %@nameuse{\LWR@orig@end#2}%
12149      \end{lateximage}%
12150      \end{BlockClass}%
12151  }% not mathjax

```

Clear the single-use alt text:

```

12152      \gdef\LWR@ThisAltText{}%
12153 }
```

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.

```

12154 \newcommand*\LWR@doendequation[1]{%
12155     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
12156     }{%
12157         \IfSubStr{\detokenize\expandafter{\BODY}}{\detokenize{note}}{%
12158             \InlineClass{hidden}{\LWR@syncnotenumbers}%
12159             \LWR@addmathjax{\#1}{\BODY}%
12160             \InlineClass{hidden}{\LWR@syncnotenames}%
12161         }{%
12162             \LWR@addmathjax{\#1}{\BODY}%
12163         }%
12164     }{%
12165 }
```

Clear the single-use alt text:

```
12166     \gdef\LWR@ThisAltText{}%
12167 }
```

The following are used to syncronize footnote marks and related to MATHJAX if `*note*` is used inside the MATHJAX expression. The counter is read from L<sup>E</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>}`

```
12168 \newcommand*{\LWR@synconenotenumber}[2]{%
12169     \textbackslash{%
12170     \textbackslash{def}\textbackslash{#1}\{\#2\}%
12171     \textbackslash{%
12172 }}
```

`\LWR@syncnotenumbers` Assignments to make.

```
12173 \newcommand*{\LWR@syncnotenumbers}{\LWR@synconenotenumber{\LWRfootnote}{\thefootnote}}
```

`\LWR@synconenotename {<MathJax variable>} {<text>}`

```
12174 \newcommand*{\LWR@synconenotename}[2]{%
12175     \textbackslash{%
12176     \textbackslash{def}\textbackslash{#1name}\{\#2\}%
12177     \textbackslash{%
12178 }}
```

`\LWR@syncnotenames` Assignments to make.

```
12179 \newcommand*{\LWR@syncnotenames}{\LWR@synconenotename{\LWRfootnote}{\footnotename}}
```

Remove existing equation environment:

```
12180 \AtBeginDocument{%
12181     \let\equation\relax
12182     \let\endequation\relax
12183     \csletcs{equation*}{\relax}
12184     \csletcs{endequation*}{\relax}
12185 }
```

`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`.

```
12186 \AtBeginDocument{%
12187     \NewEnviron{equation}{%
12188         {\LWR@doequation{\BODY}{equation}}%
12189         [\LWR@doendequation{equation}]%
12190
12191         \LetLtxMacro{\LWR@equationnormal}{equation}
12192         \LetLtxMacro{\endLWR@equationnormal}{endequation}
12193 }% AtBeginDocument
```

Env equation\*

```

12194 \AtBeginDocument{
12195     \NewEnviron{equation*}%
12196         {\LWR@doequation{\BODY}{equation*}}%
12197         [\LWR@doendequation{equation*}]
12198
12199     \csletcs{\LWR@equationnormalstar}{equation*}
12200     \csletcs{\LWR@endequationnormalstar}{endequation*}
12201 }% AtBeginDocument

```

Remember the “less” version of equation, which uses MATHJAX and alt tags, but does not support complicated contents such as some Tikz expressions.

```

12202 \AtBeginDocument{
12203     \LetLtxMacro{\LWR@equationless}{\equation}
12204     \LetLtxMacro{\endLWR@equationless}{\endequation}
12205     \csletcs{\LWR@equationlessstar}{equation*}
12206     \csletcs{\LWR@endequationlessstar}{endequation*}
12207 }

```

### 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

**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.

\displaymathnormal **simple math objects** Use when display math environments have simple math which is sent to MATHJAX or included in HTML alt tags.

```

12208 \newcommand*{\displaymathnormal}{%
12209     \ifbool{\LWR@origmathjax}{\booltrue{mathjax}}{\boolfalse{mathjax}}%
12210     \LetLtxMacro{[\LWR@openbracketnormal}%
12211     \LetLtxMacro{]\LWR@closebracketnormal}%
12212     \LetLtxMacro{\displaymath}{\LWR@displaymathnormal}%
12213     \LetLtxMacro{\enddisplaymath}{\endLWR@displaymathnormal}%
12214     \LetLtxMacro{\equation}{\LWR@equationnormal}%
12215     \LetLtxMacro{\endequation}{\endLWR@equationnormal}%
12216     \csletcs{equation*}{\LWR@equationnormalstar}%
12217     \csletcs{endequation*}{\LWR@endequationnormalstar}%
12218 }

```

\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.

```

12219 \newcommand*{\displaymathother}{%
12220     \boolfalse{mathjax}%
12221     \LetLtxMacro\displaymath\LWR@displaymathother%
12222     \LetLtxMacro\enddisplaymath\endLWR@displaymathother%
12223     \LetLtxMacro\[ \LWR@displaymathother%
12224     \LetLtxMacro\] \endLWR@displaymathother%
12225     \LetLtxMacro\equation\LWR@equationother%
12226     \LetLtxMacro\endequation\endLWR@equationother%
12227     \csletcs{equation*}{displaymath}%
12228     \csletcs{endequation*}{enddisplaymath}%
12229 }

12230 \end{warpHTML}

```

**for PRINT output:** 12231 \begin{warpprint}

Print-mode versions:

```

12232 \newcommand*{\displaymathnormal}{}%
12233 \newcommand*{\displaymathother}{}%

12234 \end{warpprint}

```

**for HTML output:** 12235 \begin{warpHTML}

## 83.7 AMS Math environments

### 83.7.1 Support macros

Bool LWR@amsmultiline

True if processing a multiline environment.

To compensate for multiline-specific code, LWR@amsmultiline is used to add extra horizontal space in \LWR@htmlmathlabel if is used in an amsmath environment which is not a multiline environment and not an equation.

```

12236 \newbool{LWR@amsmultiline}
12237 \boolfalse{LWR@amsmultiline}

```

\LWR@beginhideamsmath Starts hiding L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment.

```

12238 \newcommand*{\LWR@beginhideamsmath}{%
12239     \LWR@stoppars
12240     \LWR@origtilde\LWR@orignewline
12241     \LWR@htmlopencomment
12242
12243     \begingroup
12244     \LWR@restoreorigformatting

```

Temporarily prevent underfull \hbox warnings.

```

12245     \hbadness=10000\relax%

```

---

```
12246     \booltrue{LWR@insidemathcomment}
12247 }
```

\LWR@endhideamsmath Ends hiding L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment.

```
12248 \newcommand*{\LWR@endhideamsmath}{
12249     \endgroup
12250
12251     \LWR@htmclosecomment
12252     \boolfalse{LWR@insidemathcomment}
12253     \LWR@newline
12254     \LWR@startpars
12255 }
```

### 83.7.2 Environment patches

The **amsmath** environments already collect their contents in \envbody for further processing. **eqnarray** is not an  **$\mathcal{AM}$ S** 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  **$\mathcal{AM}$ S** environment.

For **MATHJAX**: Each environment is synched with L<sup>A</sup>T<sub>E</sub>X's equation numbers, typeset with L<sup>A</sup>T<sub>E</sub>X inside an HTML comment, then printed to HTML output for **MATHJAX** to process.

**Env eqnarray** This environment is not an  **$\mathcal{AM}$ S** environment and thus its body is not automatically captured, so the **environ** package is used to capture the environment into \BODY.

```
12256 \let\LWR@origeqnarray\eqnarray
12257 \let\LWR@origendeqnarray\endeqnarray
```

To remember whether the starred environment was used, and thus whether to number the equations:

```
12258 \newbool{LWR@numbereqnarray}
12259 \booltrue{LWR@numbereqnarray}
```

Common code used by **eqnarray** and **Beqnarray** (from **fancybox**):

```
12260 \newcommand{\LWR@eqnarrayfactor}{%
```

If **mathjax** or **FormatWP**, print the L<sup>A</sup>T<sub>E</sub>X expression:

```
12261     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
12262     {%
```

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:

```
12263     \LWR@syncmathjax%
```

```

12264      \boolfalse{LWR@amsmultiline}%
12265      \ifbool{LWR@numbereqnarray}%
12266      {%

```

If numbering the equations, execute a copy inside an HTML comment block:

```

12267      \LWR@beginhideamsmath%
12268      \LWR@origeqnarray%
12269      \BODY%
12270      \LWR@origendeqnarray%
12271      \LWR@endhideamsmath%

```

Then print the (sanitized) contents to the output for MATHJAX to interpret:

```

12272      \LWR@addmathjax{eqnarray}{\BODY}%
12273      }%
12274      {%

```

If not numbering equations, just create the contents for MATHJAX:

```

12275      \LWR@addmathjax{eqnarray*}{\BODY}%
12276      }% LWR@numbereqnarray
12277      }% mathjax
12278      {%

```

For numbered SVG equations, first create a `lateximage` with an `alt` attribute containing sanitized copy of the source code:

```

12281      \begin{BlockClass}{displaymathnumbered}%
12282      \LWR@newautoidanchor%
12283      \booltrue{LWR@indisplaymathimage}%
12284      \begin{lateximage}[(\LWR@startingequationtag\textendash\LWR@equationtag)%
12285          \LWR@addmathjax{eqnarray}{\BODY}]*(\math)%

```

Support for `xfakebold`:

```
12286      \LWR@applyxfakebold%
```

Create the image contents using an actual `eqnarray`:

```

12287      \LWR@origeqnarray%
12288      \BODY%
12289      \LWR@origendeqnarray%
12290      \end{lateximage}%
12291      \end{BlockClass}%
12292      }%
12293      {%

```

If not numbered, do the same, but an extra `\nonumber` seems to be required:

```

12294      \begin{BlockClass}{displaymath}%
12295      \LWR@newautoidanchor%
12296      \booltrue{LWR@indisplaymathimage}%
12297      \begin{lateximage}[\LWR@addmathjax{eqnarray*}{\BODY}]*(\math)%

```

Support for `xfakebold`:

```

12298          \LWR@applyxfakebold%
12299
12300      \def\@eqncr{\nonumber\@seqncr}%
12301      \csuse{\LWR@origeqnarray}%
12302      \BODY%
12303      \nonumber\csuse{\LWR@origendeqnarray}%
12304      \end{lateximage}%
12305      \end{BlockClass}%
12306  }% \LWR@numbereqnarray
12306  }% not mathjax

```

Default to number equations in the future:

```
12307  \booltrue{\LWR@numbereqnarray}%
```

Clear the single-use alt text:

```

12308  \gdef\LWR@ThisAltText{}%
12309 }
```

eqnarray itself is made with a blank line before and after to force it to be on its own line:

```

12310 \RenewEnviron{eqnarray}{%
12311 {%
12312 \LWR@eqnarrayfactor
12314
12315 }
```

The starred version is patched to turn off the numbering:

```

12316 \csgpreto{eqnarray*}{\boolfalse{\LWR@numbereqnarray}}
12317 \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 *lwarpmk* 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 `\teximage` 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 `\teximage` 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}
```

## 84.2 Support counters and macros

**for HTML output:** 12318 `\begin{warpHTML}`

Ctr LWR@Lateximagenumber

Sequence the images.

```
12319 \newcounter{LWR@Lateximagenumber}
12320 \setcounter{LWR@Lateximagenumber}{0}
```

Ctr LWR@Lateximagedepth

Do not create `\teximage` inside of `\teximage`.

---

```
12321 \newcounter{LWR@lateximagedepth}
12322 \setcounter{LWR@lateximagedepth}{0}
```

A few utility macros to write special characters:

```
12323 \edef\LWR@hashmark{\string#} % for use in \write
12324 \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.

```
12325 \newcounter{LWR@LIpage}
12326 \end{warpHTML}
```

### 84.3 Font size

**for HTML & PRINT:** 12327 \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.*

```
12328 \newcommand*\{\LateximageFontSizeName\}{normalsize}
```

\LateximageFontScale 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.

```
12329 \newcommand*\{\LateximageFontScale\}{1}
12330 \end{warpall}
```

### 84.4 Equation numbers

**for HTML output:** 12331 \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.

```
12332 \newcounter{LWR@startingequation}
12333
12334 \@ifundefined{chapter}
12335 {
12336 \renewcommand{\theLWR@startingequation}{%
12337 \arabic{LWR@startingequation}%
12338 }
12339 }
12340 {% chapter defined
12341 \renewcommand{\theLWR@startingequation}{%
12342 \ifnumcomp{\value{chapter}}{>}{0}{\arabic{chapter}.}{}}%
```

```
12343     \arabic{LWR@startingequation}%
12344 }
12345 }
```

`Bool LWR@isstartingequation` True for the first equation tag, false for later tags in the same environment.

```
12346 \newbool{LWR@isstartingequation}
```

`\LWR@startingequationtag` Prints the starting equation number or tag.

```
12347 \let\LWR@startingequationtag\theLWR@startingequation
```

`\LWR@equationtag` Prints the ending equation number or tag.

This is reset by `lateximage`, may be temporarily overwritten by `\tag` calling `\LWR@remembertag`.

```
12348 \newcommand*{\LWR@equationtag}{}{}
```

Only if SVG math, patch `\tag` after packages have loaded, in case someone else modified `\tag`.

```
12349 \AtBeginDocument{
12350
12351 \ifbool{mathjax}{}{%
  \notmathjax
```

`\LWR@remembertag {<tag>}`

For use inside the math environments while using SVG math. Sets `\theLWR@startingequation` and `\theequation` to the given tag.

```
12352 \NewDocumentCommand{\LWR@remembertag}{m}{%
12353   \ifbool{LWR@isstartingequation}{%
12354     {%
12355       \global\boolearn{LWR@isstartingequation}%
12356       \xdef\LWR@startingequationtag{\#1}%
12357     }%
12358   \xdef\LWR@equationtag{\#1}%
12359 }%
12360 }%
12361 }% AtBeginDocument
```

## 84.5 HTML alt tags

`\LWR@amsmathbody {<envname>}` For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the `<alt>` tag.

```
12362 \newcommand*{\LWR@amsmathbody}[1]{%
12363 {%
12364   \textbackslash\begin\{}\#1\% extra space
12365   \LWR@HTMLsanitizeexpanded{\detokenize\expandafter{\the\envbody}}%
12366   \textbackslash\end\{}\#1\%
12367 }
```

\LWR@amsmathbodynumbered {*envname*} For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the alt tag, prefixed by the equation numbers.

```
12368 \newcommand*{\LWR@amsmathbodynumbered}[1]
12369 {%
12370     \ifnumcomp{\value{\LWR@startingequation}}{=}{\value{equation}}%
12371         {(\LWR@equationontag)}%
12372         {(\LWR@startingequationtag\textendash\LWR@equationtag)} % extra space
12373     \LWR@amsmathbody{#1} % extra space
12374 }
```

## 84.6 `lateximage` environment

\LWR@lateximage@oneimageb {*1: alt text*} {*2: filename*} {*3: css style*} {*4: aria role*} Creates the image for the `lateximage`.

```
12375 \newcommand{\LWR@lateximage@oneimageb}[4]{%
12376     \LWR@subinlineimage{#1}{\textrm{lateximage}}%
12377     {%
12378         \LWR@print@mbox{%
12379             \LWR@IMagesDirectory\OSPathSymbol%
12380             #2%
12381         }%
12382     }{svg}{#3}{#4}%
12383 }
```

\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.

```
12384 \newcommand{\LWR@lateximage@oneimage}[5]{%
12385     \LWR@traceinfo{\LWR@lateximage@oneimage !#1#!#2#!#3#!#4#!#5!}%
12386     \ifdefvoid{\LWR@ThisAltText}{%
12387         \IfBooleanTF{#4}{%
12388             \LWR@lateximage@oneimageb{#1}{#2}{#3}{#5}%
12389         }{%
12390             \LWR@lateximage@oneimageb%
12391                 {\AltTextOpen\AltTextClose}%
12392                 {#2}{#3}{#5}%
12393         }%
12394     }{%
12395         \LWR@lateximage@oneimageb%
12396             {\AltTextOpen\LWR@ThisAltText\AltTextClose}%
12397             {#2}{#3}{#5}%
12398     }%
12399 }
```

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 used in the additional hashing argument to ensure a unique image.

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>_html.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.

```
12400 \catcode`\$=\active%
12401
12402 \NewDocumentEnvironment{lateximage}{s O{\ImageAltText} s O{} O{} D(){}}
12403 {%
12404 \LWR@traceinfo{lateximage !#1#!#3#!#4#!#5#!#6!}%
12405 \LWR@traceinfo{lateximage: starting on \jobname.pdf page \arabic{page}}%
12406 \LWR@traceinfo{lateximage: entering depth is \arabic{LWR@lateximagedepth}}%
```

Nested `lateximages` remain one large `lateximage`:

```
12407 \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`.

```
12408 {%
12409 %     \addtocounter{LWR@lateximagedepth}{1}%
12410     \global\advance\c@LWR@lateximagedepth 1\relax% Due to AmS \text macro.
12411 }%
```

Otherwise, this is the outer-most `lateximage`:

```
12412 { start of outer-most lateximage
```

Remember the next equation number to be allocated, in case it must be printed in a multi-equation environment:

```
12413     \LWR@traceinfo{lateximage: starting outer-most lateximage}%
12414     \setcounter{LWR@startingequation}{\value{equation}}%
```

---

```

12415 \addtocounter{LWR@startingequation}{1}%
12416 \booltrue{LWR@isstartingequation}%
12417 \let\LWR@startingequationtag\theLWR@startingequation%

```

The default equation tag, unless overwritten by \tag:

```

12418 \let\LWR@equationtag\theequation%

```

Starting a new lateximage:

```

12419 \addtocounter{LWR@lateximagenumber}{1}%
12420 \LWR@traceinfo{lateximage: LWR@lateximagenumber is \arabic{LWR@lateximagenumber}}%

```

While inside a lateximage, locally do not use mathjax:

```

12421 \boolefalse{mathjax}%

```

Be sure that are doing a paragraph:

```

12422 \LWR@ensuredoingapar%

```

Inside the lateximage, temporarily prevent underfull \hbox warnings.

```

12423 \hbadness=10000\relax%

```

Next file:

```

12424 \addtocounter{LWR@externalfilecnt}{1}%
12425 \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:

```

12426 \setcounterpageref{LWR@LIpage}{%
12427     LWR@lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}%
12428 }%
12429 \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:

```

12430 \LWR@htmlltag{span}\LWR@indentHTML%
12431     id=\textquotedbl{}%
12432         lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}%
12433         \textquotedbl\LWR@indentHTML%
12434     class=\textquotedbl{}lateximagesource\textquotedbl\LWR@newline
12435 }%

```

Write instructions to the <ImagesDirectory>.txt file:

```

12436 \LWR@traceinfo{lateximage: about to write to \BaseJobname-images.txt}%
12437 \IfBooleanTF{#1}{} starred
12438 {}% hash

```

Compute and save the hashed file name for later use:

```

12439 \ifdefvoid{\LWR@ThisAltText}{%

```

```

12440      \IfBooleanTF{#3}{%
12441          \edef\LWR@hashedname{%
12442              \LWR@mdfive{\detokenize\expandafter{#2}-!-#4}%
12443          }%
12444      }{%
12445          \edef\LWR@hashedname{%
12446              \LWR@mdfive{\detokenize\expandafter{\AltTextOpen#2\AltTextClose}-!-#4}%
12447          }%
12448      }%
12449  }{%
12450      \edef\LWR@hashedname{%
12451          \LWR@mdfive{\detokenize\expandafter{\AltTextOpen\LWR@ThisAltText\AltTextClose}-!-#4}%
12452      }%
12453  }%
12454  \LWR@traceinfo{lateximage: hash is \LWR@hashedname}%

```

Write the page, hashing, and hashed name:

```

12455      \immediate\write\LWR@lateximagesfile{%
12456          |\arabic{\LWR@LIPage}|true|\LWR@hashedname|%
12457          }%
12458      }% hash
12459  {%- no hash

```

No hash, so write the page, no hashing, and the image number:

```

12460      \LWR@traceinfo{lateximage: hash false}%
12461      \immediate\write\LWR@lateximagesfile{%
12462          |\arabic{\LWR@LIPage}|false|\LWR@ImagesName\arabic{\LWR@externalfilecnt}|%
12463          }%
12464  }% no hash

```

Place an open comment tag. This will hide any traces of the lateximage PDF page which were picked up by *pdftotext*.

```

12465  \LWR@traceinfo{lateximage: about to create open comment}%
12466  \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.

```

12467  \addtocounter{\LWR@lateximagedepth}{1}%

```

Start the new PDF page:

```

12468  \LWR@traceinfo{lateximage: about to create a new page}%
12469  \LWR@maybe@orignewpage%

```

If the current page is larger, typeset the image in a “standard” width page and font size:

```

12470  \LWR@traceinfo{lateximage: about to create minipage}%
12471  \setcounter{\LWR@mpfootnote@store}{\value{mpfootnote}}
12472  \ifdimless{\ linewidth}{6in}{%
12473      \LWR@print@minipage{\ linewidth}%
12474  }{%
12475      \LWR@print@minipage{6in}%
12476  }%

```

```

12477   \ifnumgreater{\value{LWR@minipage@depth}}{0}%
12478     {\setcounter{mpfootnote}{\value{LWR@mpfootnote@store}}}%
12479   {}%
12480   \nameuse{LWR@print@\LateximageFontSizeName}%

```

Temporarily restore formatting to its PDF definitions: Do not produce HTML tags for \hspace, etc. inside a lateximage.

```

12481   \LWR@traceinfo{lateximage: about to temporarily restore formatting}%
12482   \LWR@restoreorigformatting%

```

If not inside a minipage, use full-page footnotes instead of minipage footnotes. These become HTML footnotes.

```

12483   \ifnumgreater{\value{LWR@minipage@depth}}{0}%
12484     {}%
12485   {}%
12486     \def\@mpfn{footnote}%
12487     \def\thempfn{\thefootnote}%
12488     \LetLtxMacro\@footnotetext\LWR@footnotetext%
12489   }%

```

Create the LWRlateximage<number> label:

```

12490   \LWR@traceinfo{lateximage: about to create label}%
12491   \LWR@orig@label{LWRlateximage-\BaseJobname-\arabic{LWR@lateximagenumber}}%
12492   \LWR@traceinfo{lateximage: finished creating the label}%

```

Adjust the rule color to match HTML:

```

12493   \ifdefvoid{\LWR@ruleHTMLcolor}{}{%
12494     \LWR@print@arrayrulecolor[HTML]{\LWR@ruleHTMLcolor}%
12495   }%

```

Enable print-mode math functions:

```

12496   \LetLtxMacro$\LWR@origdollar%
12497   \catcode`\$=3% math shift
12498   \LetLtxMacro\(\LWR@origopenparen%
12499   \LetLtxMacro\)\LWR@origcloseparen%

```

Only enable print-mode display math if are not already inside display math:

```

12500   \ifbool{LWR@indisplaymathimage}{}{%
12501     \LetLtxMacro[\LWR@origopenbracket]%
12502     \LetLtxMacro[\LWR@origclosebracket]%
12503     \let\equation\LWR@orig@equation%
12504     \let\endequation\LWR@orig@endequation%
12505     \csletcs{equation*}{\LWR@orig@equation*}%
12506     \csletcs{endequation*}{\LWR@orig@endequation*}%
12507   }%

```

For chemformula:

```

12508   \LetLtxMacro\LWR@newsingledollar$%
12509   \LetLtxMacro\LWR@newsingledollar$% syntax highlighting
12510 }% end of outer-most lateximage

```

```
12511 \LWR@traceinfo{lateximage: finished start of environment}%
12512 }% end of \begin{lateximage}
```

\end{lateximage} When the `lateximage` environment closes:

```
12513 {%
12514 \LWR@traceinfo{lateximage: starting end of lateximage}%

```

Nested more than one deep?

```
12515 \LWR@traceinfo{lateximage: internal depth was \arabic{LWR@lateximagedepth}}%
12516 \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  $\mathcal{AM}\mathcal{S}$  \text change of `\addtocounter`.

```
12517 {%
12518     \LWR@traceinfo{lateximage: unnesting}%
12519     \global\advance\c@LWR@lateximagedepth -1\relax%
12520 }%
```

If this is the outer-most `lateximage`:

```
12521 {%
12522     \end{outer-most lateximage}
```

Finish the `lateximage` minipage and start a new PDF page:

```
12522 \LWR@traceinfo{lateximage: ending outer-most lateximage}%
12523     \endLWR@print@minipage%
12524     \LWR@maybe@orignewpage%
```

Close the HTML comment which encapsulated any traces of the `lateximage` picked up by `pdftotext`:

```
12525     \LWR@print@vspace*{.5\baselineskip}%
12526     \LWR@htmlclosecomment%
12527     \LWR@traceinfo{lateximage: The page after the image is \arabic{page}}%
```

Create a link to the `lateximage`, allowing its natural height:

```
12528     \LWR@traceinfo{about to LWR@lateximage@oneimage !#2!}%
12529     \IfBooleanTF{#1}{ starred
12530     {%
12531         \LWR@lateximage@oneimage{#2}{\LWR@hashedname}{#5}{#3}{#6}%
12532     }%
12533     {%
12534         \LWR@lateximage@oneimage{#2}{\LWR@ImagesName\theLWR@externalfilecnt}{#5}{#3}{#6}%
12535     }%
12536 }
```

Be sure that are doing a paragraph:

```
12536     \LWR@ensuredoingapar%
```

Close the HTML span which has the `pdftotext` comment and also the link to the `.svg` image:

```
12537     \LWR@htmlltag{/span}%
```

---

```

12538     \ifbool{HTMLDebugComments}{%
12539         \LWR@htmlcomment{End of lateximage}%
12540     }{}%

```

Undo one lateximage level. This is not inside an  $\mathcal{AM}$ S  $\text{\texttt{text}}$ , so regular  $\text{\texttt{addtocounter}}$  may be used here.

```

12541     \addtocounter{LWR@lateximagedepth}{-1}%

```

Clear the single-use alt text:

```

12542     \gdef\LWR@ThisAltText{}%
12543 }% end of outer-most lateximage
12544 \LWR@traceinfo{lateximage: exiting depth is \arabic{LWR@lateximagedepth}}%
12545 \LWR@traceinfo{lateximage: done}%
12546 }%
12547 \catcode`\$=3% math shift
12548 \end{warpHTML}

```

**for PRINT output:** 12549  $\begin{warpprint}$

Env  $\text{lateximage}^* [\langle alt \rangle tag]^* [\langle add'l hashing \rangle] [\langle css style \rangle]$

Ignored in print mode.

```

12550 \NewDocumentEnvironment{lateximage}{s o s o o d()}
12551     {}{}%
12552 \end{warpprint}

```

## 85 center, flushleft, flushright

**for HTML output:** 12553  $\begin{warpHTML}$

Env  $\text{center}$  Replace center functionality with css tags. In a  $\text{<span>}$ , these macros are nullified, but extra % are used to remove spurious spaces here as well.

```

12554 \newenvironment*{\LWR@HTML@center}%
12555 {%
12556     \LWR@forcenewpage%
12557     \ifbool{FormatWP}{%
12558         {\BlockClass[\LWR@print@mbox{text-align:center}]{center}}%%
12559         {\BlockClass{center}}%%
12560     }%
12561     \endBlockClass%
12562 %
12563 \LWR@formattedenv{center}}

```

Env  $\text{flushright}$

```

12564 \newenvironment*{\LWR@HTML@flushright}%
12565 {%
12566     \LWR@forcenewpage%

```

```

12567     \ifbool{FormatWP}{%
12568         {\BlockClass[\LWR@print@mbox{text-align:right}]{flushright}}{%
12569             {\BlockClass{flushright}}{%
12570 }%
12571 {\endBlockClass}%
12572 }%
12573 \LWR@formattedenv{flushright}
```

## Env flushleft

```

12574 \newenvironment*{\LWR@HTML@flushleft}{%
12575 {%
12576     \LWR@forcenewpage{%
12577     \ifbool{FormatWP}{%
12578         {\BlockClass[\LWR@print@mbox{text-align:left}]{flushleft}}{%
12579             {\BlockClass{flushleft}}{%
12580 }%
12581 {\endBlockClass}%
12582 }%
12583 \LWR@formattedenv{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

```

12584 \newcommand*{\LWR@HTML@centering}{%
12585     \ifbool{HTMLDebugComments}{%
12586         \LWR@htmlcomment{centering}}{%
12587     }{}}{%
12588 }%
12589 \LWR@formatted{centering}
```

## \raggedleft

```

12590 \newcommand*{\LWR@HTML@raggedleft}{%
12591     \ifbool{HTMLDebugComments}{%
12592         \LWR@htmlcomment{raggedleft}}{%
12593     }{}}{%
12594 }%
12595 \LWR@formatted{raggedleft}
```

## \raggedright

```

12596 \newcommand*{\LWR@HTML@raggedright}{%
12597     \ifbool{HTMLDebugComments}{%
12598         \LWR@htmlcomment{raggedright}}{%
12599     }{}}{%
12600 }%
12601 \LWR@formatted{raggedright}
```

## \leftline {\langle text\rangle}

```
12602 \renewcommand{\leftline}[1]{\begin{flushleft}#1\end{flushleft}}
```

```
\centerline {\langle text\rangle}

12603 \renewcommand{\centerline}[1]{\begin{center}\#1\end{center}>

\rightline {\langle text\rangle}

12604 \renewcommand{\rightline}[1]{\begin{flushright}\#1\end{flushright}>

12605 \end{warpHTML}
```

## 86 Preloaded packages

**for HTML output:** 12606 \begin{warpHTML}

If the given package was loaded before or by l warp, load the l warp version as well.

```
\LWR@PreloadedPackage {\langle packagename\rangle}
```

```
12607 \newcommand*{\LWR@PreloadedPackage}[1]{%
12608     \IfPackageLoadedTF{\#1}{%
12609         {%
12610             \AtBeginDocument{%
12611                 \LWR@origRequirePackage{l warp-\#1}{%
12612             }%
12613         }%
12614     }%
12615 }
```

If inputrc was loaded before l warp, as is usually done, explicitly load the l warp patches now:

```
12616 \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:

```
12617 \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:

```
12618 \LWR@PreloadedPackage{xunicode}
```

If graphics or graphicx were loaded before l warp, perhaps by xunicode, explicitly load the l warp patches now:

```
12619 \LWR@PreloadedPackage{graphics}
12620 \LWR@PreloadedPackage{graphicx}
```

scalefnt may have been preloaded by babel

```
12621 \LWR@PreloadedPackage{scalefnt}
```

`fontaxes` must be preloaded so that `l warp` may patch it for `HTML`.

12622 \LWR@PreloadedPackage{fontaxes}

Various font packages which may be loaded before `l warp`:

12623 \LWR@PreloadedPackage{cmbright}  
12624 \LWR@PreloadedPackage{fourier}  
12625 \LWR@PreloadedPackage{kpfonts}  
12626 \LWR@PreloadedPackage{kpfonts-otf}  
12627 \LWR@PreloadedPackage{libertinust1math}  
12628 \LWR@PreloadedPackage{pxfonts}  
12629 \LWR@PreloadedPackage{txfonts}  
12630 \LWR@PreloadedPackage{txgreeks}  
12631 \LWR@PreloadedPackage{newpxmath}  
12632 \LWR@PreloadedPackage{newtxmath}  
12633 \LWR@PreloadedPackage{newtxsf}  
12634 \LWR@PreloadedPackage{mathalpha}  
12635 \LWR@PreloadedPackage{unicode-math}

`nfssext-cfr` may be preloaded by `cfm-lm` or related font packages.

12636 \LWR@PreloadedPackage{nfssext-cfr}

`ulem` may be preloaded by `ctex`, `ctexart`, and related classes.

12637 \LWR@PreloadedPackage{ulem}

12638 \LWR@PreloadedPackage{xetexko}

`geometry` is preloaded by `l warp`, and perhaps by various classes.

12639 \LWR@PreloadedPackage{geometry}

`plex` is preloaded by some CJK classes.

12640 \LWR@PreloadedPackage{plex}

`stfloats` is preloaded by `ltj*` classes.

12641 \LWR@PreloadedPackage{stfloats}

`lltjext` is preloaded by `ltj*` classes.

12642 \LWR@PreloadedPackage{lltjext}

`luatexko` must be loaded before `l warp`.

12643 \LWR@PreloadedPackage{luatexko}

12644 \end{warpHTML}

## 87 siunitx

A few `HTML` unit equivalents are defined here.

`siunitx` is well supported by `l warp`.

**Limitations** Some general limitations:

**fractions** Due to `pdftotext` limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

`\cancel` is not currently supported for `siunitx` v3.

Negative values are not automatically colored.

**⚠ tabular** Tabular S and s columns are rendered as simple c columns, although key settings will be set. If using scientific notation, table-format, table-align-uncertainty, drop-exponent, etc.. use `\tablenum` for each cell. This is especially required for drop-exponent, without which the value will be shown incorrectly.

**⚠ table-auto-round** `table-auto-round` is ignored.

**Math rendering** Math may be rendered in several ways in the same document:

**For math mode with SVG display:** The original `siunitx` code is used while generating the SVG image.

**For HTML text mode:** `l warp` uses `siunitx` code patched for `HTML`, and simplified units.

**For math expressions while using MATHJAX:** A limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. The result usually looks fine, and otherwise is enough to get the meaning across.

**Custom units** `siunitx` allows customized units:

`\DeclareSIUnit` {*name*} {*definition*}

`\DeclareSIUnit` declares a version of the unit for the print version. This is also used when the unit is printed in SVG math or a `lateximage`. It is also used for `HTML` if an `HTML`-specific version is not defined with `\HTMLDeclareSIUnit`.

`\DeclareSIUnit\myunit{\ensuremath{\text{m}}_y}`

`\HTMLDeclareSIUnit` {*name*} {*definition*}

**⚠ v3 only!** Use this after the print unit has been defined. For `siunitx` v3, `\HTMLDeclareSIUnit` declares a simplified version of the unit for `HTML`, for example if the print-mode unit uses `TEX` boxes or `\ensuremath`:

`\HTMLDeclareSIUnit\myunit{\text{m}\text{y}}`

It is also possible to provide a custom unit for `MATHJAX`:

`\CustomizeMathJax{\newcommand{\myunit}{\text{m}_y}}`

**Predefined units** Most units work as-is with `HTML`. For the following units, `lwarf` has already set `\HTMLDeclareSIUnit`: `\celsius`, `\arcminute`, `\arcsecond`, `\elementarycharge`, `\clight`, `\bohr`, `\electronmass`, `\hartree`, `\planckbar`.

### ⚠ MathJax

#### Document modifications required for MATHJAX

##### ⚠ `\sisetup`

- Place `\sisetup` in the preamble before `\begin{document}`. Changes made later may be ignored, especially with MATHJAX. The MATHJAX emulation also ignores most macro options.

##### ⚠ complex numbers

###### custom units

- Complex numbers are displayed as entered, ignoring `output-complex-root`.

- Custom units may be added with `\CustomizeMathJax`. For example, from `lwarf-common-mathjax-siunitx`:

```
\CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_{\mathrm{h}}}}
\CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\AA}}}
```

- Units work better using `~` between units instead of using periods.

- To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centi\meter}
```

Single units do not require braces.

- For `\numlist`, the argument is printed as text as-is, so use space between semicolons for improved readability.

- If using `parse-numbers = false`, also use `\num` or `\qty`. `siunitx>Missing $ inserted`.

Also see [MATHJAX option](#), section 8.7.4.

**for HTML output:** 12645 `\begin{warpHTML}`

Options for `siunitx`:

```
12646 \newrobustcmd{\LWR@siunitx@textcelsius}{\HTMLentity{deg}C}
12647 \newrobustcmd{\LWR@siunitx@textdegree}{\HTMLentity{deg}}
12648 \newrobustcmd{\LWR@siunitx@textprime}{\HTMLunicode{2032}}
12649 \newrobustcmd{\LWR@siunitx@textdblprime}{\HTMLunicode{2033}}
12650 \newrobustcmd{\LWR@siunitx@textplanckbar}{\text{\textit{\HTMLunicode{210F}}}}
12651
12652 \appto{\LWR@restoreorigformatting}{%
12653 \renewrobustcmd{\LWR@siunitx@textcelsius}{\text{\ensuremath{^\circ}\text{C}}}%
12654 \renewrobustcmd{\LWR@siunitx@textdegree}{\text{\ensuremath{^\circ}\text{}}}}%
12655 \renewrobustcmd{\LWR@siunitx@textprime}{\text{\ensuremath{^{\prime}}}}%
12656 \renewrobustcmd{\LWR@siunitx@textdblprime}{\text{\ensuremath{^{\prime\prime}}}}%
12657 \renewrobustcmd{\LWR@siunitx@textplanckbar}{\text{\ensuremath{\hbar}}}}%
12658 }
```

12659 `\end{warpHTML}`

**for PRINT output:** The print version of `\HTMLDeclareSIUnit`.

```
12660 \begin{warpprint}
12661 \NewDocumentCommand{\HTMLDeclareSIUnit}{o +m m}{}%
12662 \end{warpprint}
```

## 88 Graphics print-mode modifications

### 88.1 General limitations

Per table 9, image filenames may be specified either with or without an extension. If an extension is given it will be used as-is, for either print or HTML output. If no extension is given, a list of possible extensions is tried, which depends on whether print or HTML is being generated. This allows a PDF file for print and a SVG file for HTML, for example. If no extension is given, the automatic search will

**file extensions**

 **case sensitive**

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.PNG, 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, lwarf 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
```

To convert a PDF image to SVG, use the utility *pdftocairo*:

**PDF to SVG**

Enter ⇒ **pdftocairo -svg filename.pdf**

Prog pdftocairo

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

Prog epstopdf

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 ⇒ **lwarpmk pdftosvg \*.pdf (or a list of filenames)**

**PNG and JPG**

For PNG or JPG while using *pdflatex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

**GIF** GIF files may be used for HTML, but another format must also be provided for print output.

**file extension priorities** If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

**duplicate files** A complication occurs if a file of the same name exists elsewhere in the TeX tree, such as a test image from some L<sup>A</sup>T<sub>E</sub>X package. TeX looks in the local document directory before considering the directories specified by \graphicspath, but the TeX tree is found as “local”, so any file in the tree is found before the directories in \graphicspath. To use such an image, it must be copied to the document’s directory to be used for HTML, and furthermore must be in the document’s base directory instead of an images subdirectory.

**⚠️ image not displayed** **graphics vs. graphicx** If using the older `graphics` syntax, use both optional arguments for `\includegraphics`. A single optional parameter is interpreted as the newer `graphicx` syntax. Note that viewports are not supported by `lwarp`—the entire image will be shown.

**units** For `\includegraphics`, avoid px and % units for width and height, or enclose them inside `warpHTML` environments. For font-proportional image sizes, use ex or em. For fixed-sized images, use cm, mm, in, pt, or pc. Use the keys `width=.5\linewidth`, or similar for `\textwidth` or `\textheight` to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the `scale` option, since it is not well supported by HTML browsers.

**options** `\includegraphics` accepts `width` and `height`, `origin`, `rotate` and `scale`, plus new `class` and `alt` keys. (`alt` has recently been incorporated into `graphicx` itself.)

**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:

```
12663 \begin{warpprint}
12664 \define@key{Gin}{class}{}{}
```

Print-mode additions for the `overpic` package. See section 460 for the HTML version.

```
12665 \AtBeginDocument{
12666 \IfPackageLoadedTF{overpic}{
12667 \newcommand*\{\overpicfontsize}{12}
12668 \newcommand*\{\overpicfontskip}{14}
12669 }){}
12670 }
12671 \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:** 12672 `\begin{warpall}`

After `xparse` may have been loaded ...

```
12673 \AtBeginDocument{
... and only if xcolor was loaded:
12674 \IfPackageLoadedTF{xcolor}{

12675 \LWR@traceinfo{patching xcolor}
```

The print version:

`\colorboxBlock` `\colorboxBlock` is the same as `\colorbox`:

```
12676 \LetLtxMacro\colorboxBlock\colorbox
```

The original definition is reused by the new versions:

```
12677 \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`.)

```
12678 \newsavebox{\LWR@colorminipagebox}
12679
12680 \NewDocumentCommand{\LWR@print@fcolorbox}{o m o m +m}{%
12681     \LWR@traceinfo{\LWR@print@fcolorbox #2 #4}}%
```

Pre-load the contents into an LR box so that they can be used inside a \fcolorbox:

```
12682     \begin{lrbox}{\LWR@colorminipagebox}%
12683     #5%
12684     \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.

```
12685     \ifstreq{\#4}{none}%
12686     {%
12687         \LWR@traceinfo{background is none}%
12688         {%
12689             \colorlet{\LWR@currentcolor}{.}%
12690             \color{\#2}%
12691             \fbox{%
12692                 \color{\LWR@currentcolor}%
12693                 \usebox{\LWR@colorminipagebox}%
12694             }%
12695             }%
12696         }%
12697         \#4 none
12698     \LWR@traceinfo{background not none}%
12699     \IfValueTF{\#1}%
12700     {%
12701         \IfValueTF{\#3}%
12702             {\LWR@orig@print@fcolorbox[\#1][\#2][\#3][\#4]{\usebox{\LWR@colorminipagebox}}}%
12703             {\LWR@orig@print@fcolorbox[\#1][\#2][\#4]{\usebox{\LWR@colorminipagebox}}}%
12704         }%
12705         \no value #1
12706         \IfValueTF{\#3}%
12707             {\LWR@orig@print@fcolorbox[\#2][\#3][\#4]{\usebox{\LWR@colorminipagebox}}}%
12708             {\LWR@orig@print@fcolorbox[\#2][\#4]{\usebox{\LWR@colorminipagebox}}}%
12709         }%
12710         \no value #1
12711         \#4 not none
12712         \LWR@traceinfo{\LWR@print@fcolorbox done}%
12713 }
```

```
12713 \renewrobustcmd*{\fcolorbox}{\LWR@print@fcolorbox}%
```

\fcolorboxBlock [⟨framemodel⟩] {⟨framecolor⟩} [⟨boxmodel⟩] {⟨boxcolor⟩} {⟨text⟩}

In print mode, \fcolorboxBlock is the same as \fcolorbox.

```
12714 \newcommand*{\LWR@print@fcolorboxBlock}{\LWR@print@fcolorbox}
```

```
12715 \newrobustcmd*{\fcolorboxBlock}{\LWR@print@fcolorboxBlock}
```

Env fcolorminipage [⟨1:framemodel⟩] {⟨2:framecolor⟩} [⟨3:boxmodel⟩] {⟨4:boxcolor⟩} [⟨5:align⟩] [⟨6:height⟩] [⟨7:inner-align⟩] {⟨8:width⟩}

In print mode, becomes a \fcolorbox containing a minipage:

```
12716 \NewDocumentEnvironment{fcolorminipage}{o m o m O{c} O{} o m}
```

```
12717 {%
12718     \LWR@traceinfo{*** fcolorminipage: #2 #4 #8}%
```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```
12719     \begin{lrbox}{\LWR@colorminipagebox}%
```

If inner alignment is not given, use the outer alignment instead:

```
12720     \IfValueTF{#7}%
12721     {\begin{minipage}[#5][#6][#7]{#8}}%
12722     {\begin{minipage}[#5][#6][#5]{#8}}%
12723 }%
12724 {%
12725     \end{minipage}%
12726     \end{lrbox}%
12727     \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.

```
12728     \ifstrequal{#4}{none}%
12729     {%
12730         % scope the \colorlet
12731         \colorlet{\LWR@currentcolor}{.}%
12732         \color{#2}%
12733         \fbox{%
12734             \color{\LWR@currentcolor}%
12735             \usebox{\LWR@colorminipagebox}%
12736         }% fbox
12737         }% \colorlet
12738     }% #4 none
12739     {%
12740         % #4 not none
12741         \IfValueTF{#1}%
12742         {%
12743             \LWR@orig@print@fcolorbox[#1]{#2}{#3}{#4}{\usebox{\LWR@colorminipagebox}}%
12744             \LWR@orig@print@fcolorbox[#1]{#2}{#4}{\usebox{\LWR@colorminipagebox}}%
12745         }%
12746         {%
12747             % no value #1
12748             \IfValueTF{#3}%
12749                 \LWR@orig@print@fcolorbox[#2]{#3}{#4}{\usebox{\LWR@colorminipagebox}}%
12750                 \LWR@orig@print@fcolorbox[#2]{#4}{\usebox{\LWR@colorminipagebox}}%
12751         }%
12752         {%
12753             % #4 not none
12754             \LWR@traceinfo{*** finished end fcolorminipage}%
12755 }
```

`xcolor` is known to have been loaded, and provided `HTML` versions of the following, and the `print` versions are provide above, so now they may be `\LW@formatted`.

```
12754 \LWR@formatted{colorbox}
12755 \LWR@formatted{colorboxBlock}
12756 \LWR@formatted{fcolorbox}
12757 \LWR@formatted{fcolorboxBlock}
12758 \LWR@formattedenv{fcolorminipage}
```

---

```

12759 \LWR@traceinfo{xcolor patches done}
12760 }% xcolor loaded
12761 }% AtBeginDocument

12762 \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:** 12763 `\begin{warpprint}`

```

12764 \AtBeginDocument{
12765 \IfPackageLoadedTF{chemmacros}{
```

Env `polymerdelims`

```

12766 \DeclareDocumentEnvironment{polymerdelims}{}{%
12767 {}{}}
```

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 [193.5](#).

```

12768 \DeclareDocumentEnvironment{redoxreaction}{m m}{%
12769   \rule{0pt}{#1}\rule[-#2]{0pt}{#2}}
```

```

12770 }% chemmacros
12771 }% AtBeginDocument
```

```
12772 \end{warpprint}
```

## 91 cleveref

**loading order** cleveref and l warp-cleveref with its associated macro patches are automatically preloaded at the end of the preamble via `\AtEndPreamble` and `\AfterEndPreamble`. This is done because the HTML conversion requires cleveref. The user's document may not require cleveref, thus the user may never explicitly load it, so during HTML output l warp loads it last. If the user's document preamble uses cleveref options, or functions such as `\crefname`, then cleveref may be loaded in the user's preamble near the end, and l warp's additional loading of cleveref will have no effect.

`\AtEndPreable` forces cleveref to be loaded last, if it has not yet been loaded by the user.

**for HTML output:** 12773 `\begin{warpHTML}`

```

12774
12775 \AtEndPreamble{
12776     \RequirePackage{cleveref}
12777 }
12778
12779 \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:**

```

12780 \begin{warpHTML}
12781
12782 \LetLtxMacro{\LWR@orig@label}{\label}% includes memoir, before cleveref
12783 \LetLtxMacro{\label}{\LWR@new@label}
12784
12785 \LetLtxMacro{\LWR@orig@pageref}{\pageref}
12786 \LetLtxMacro{\pageref}{\LWR@new@pageref}
12787
12788 \end{warpHTML}
```

## 93 picture environment

Env picture

The picture environment is enclosed inside a \latextimage.

**for HTML output:**

```
12789 \begin{warpHTML}
```

Env picture

```

12790 \BeforeBeginEnvironment{picture}{\begin{latextimage}[picture]}
12791
12792 \AfterEndEnvironment{picture}{\end{latextimage}}
12793 \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  $6 \times 9$  inch text area is used for `\ linewidth`, `\textwidth`, and `\textheight`, both for sizing the minipage, and also for its contents.

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

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

⚠ **tabular, multicols** Inside a `tabular` or `multicols` environment, where the width depends on the browser window, `\minipagefullwidth` is effectively used by default for every `minipage` or `\parbox` inside the environment. `\UseMinipageWidths` may be used to tell 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 `multicols`, `\ linewidth` is divided by the specified number of columns.

⚠ **text alignment** Nested `minipages` adopt their parent’s text alignment in HTML, whereas in regular L<sup>A</sup>T<sub>E</sub>X PDF output they do not. Use a `flushleft` or similar environment in the child `minipage` to force a text alignment.

**for HTML output:** 12794 `\begin{warpHTML}`

## 94.1 Computed lengths

Len `\LWR@minipagewidth` Used to convert the width into printable units.

12795 `\newlength{\LWR@minipagewidth}`

Len `\LWR@minipageheight` Used to convert the height into printable units.

12796 `\newlength{\LWR@minipageheight}`

## 94.2 Virtual page size

Ctr `\LWR@virtualpagedepth` Used to only reset the line width at the outermost minipage.

12797 `\newcounter{\LWR@virtualpagedepth}`  
12798 `\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.

```

12799 \NewDocumentEnvironment{LWR@setvirtualpage}{s 0{1}}{%
12800     \ifnumequal{\value{LWR@virtualpagedepth}}{0}{%
12801         \IfBooleanT{#1}{\LWR@maybe@orignewpage}%
12802         \setlength{\linewidth}{6in/#2}%
12803         \setlength{\textwidth}{6in}%
12804         \setlength{\textheight}{9in}%
12805     }{}%
12806     \addtocounter{LWR@virtualpagedepth}{1}%
12807 }
12808 {\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?

```

12809 \newbool{LWR@minipagefullwidth}
12810 \boolfalse{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`.

```

12811 \newbool{LWR@forceminipagefullwidth}
12812 \boolfalse{LWR@forceminipagefullwidth}

```

`\minipagefullwidth` Requests that the next minipage have no width tag in HTML:

**for HTML output:** 12813 `\newcommand*{\minipagefullwidth}{\global\booltrue{LWR@minipagefullwidth}}`

`\UseMinipageWidths` Locally requests that minipage widths be honored.

```

12814 \newcommand*{\UseMinipageWidths}{\boolfalse{LWR@forceminipagefullwidth}}

```

`\IgnoreMinipageWidths` Locally requests that minipage widths be ignored.

```

12815 \newcommand*{\IgnoreMinipageWidths}{\booltrue{LWR@forceminipagefullwidth}}
12816 \end{warpHTML}

```

---

**for PRINT output:** 12817 \begin{warpprint}  
 12818 \newcommand\*\minipagefullwidth{}  
 12819 \newcommand\*\UseMinipageWidths{}  
 12820 \newcommand\*\IgnoreMinipageWidths{}  
 12821 \end{warpprint}

**for HTML output:** 12822 \begin{warpHTML}

Bool LWR@minipagethispar Has a minipage been seen this paragraph? If true, prevents paragraph tags around horizontal space between minipages.

12823 \newbool{LWR@minipagethispar}  
 12824 \boolfalse{LWR@minipagethispar}

Ctr LWR@minipage@depth Used to track whether to change footnote styles in a `\textrimage` inside an `HTML` minipage.

12825 \newcounter{LWR@minipage@depth}  
 12826 \setcounter{LWR@minipage@depth}{0}

Ctr LWR@mpfootnote@store Used to maintain minipage footnote number while nesting inside a `\textrimage`.

12827 \newcounter{LWR@mpfootnote@store}

Env `minipage` [*vert position*] [*height*] [*inner vert position*] {*width*}

The vertical positions may be 'c', 't', or 'b'. The inner position may also be 's'.

When using `\ linewidth`, `\ textwidth`, or `\ textheight`, these are scaled proportionally to a 6×9 inch text area.

12828 \NewDocumentEnvironment{LWR@HTML@sub@minipage}{m m m}  
 12829 {  
 12830 \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.

12831 \begin{LWR@setvirtualpage}\*

Save the requested width now that `\ linewidth`, etc. are adjusted to virtual size.

12832 \setlength{\LWR@minipagewidth}{#4}%  
 12833 \ifnumequal{\value{\LWR@virtualpagedepth}}{1}{%  
 12834 \addtolength{\LWR@minipagewidth}{3em}% room for frames  
 12835 }{}%  
 12836 \LWR@traceinfo{computed width is \LWR@printlength{\LWR@minipagewidth}}%

Compute height:

12837 \setlength{\LWR@minipageheight}{\textheight}% default unless specified  
 12838 \ifblank{#2}{\setlength{\LWR@minipageheight}{#2}}%

LATEX 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.

```
12839 \ifbool{FormatWP}{\newline}{()%}
12840 \LWR@stopars%
```

If FormatWP, add a text frame:

```
12841 \ifbool{FormatWP}{%
12842
12843 \addtocounter{LWR@thisautoidWP}{1}%
12844 \LWR@htmltag{%
12845   div id=\textquotedbl%
12846     \LWR@print@mbox{autoidWP-\arabic{LWR@thisautoidWP}}%
12847   \textquotedbl\ % space
12848   class=\textquotedbl{}wpminipage\textquotedbl%
12849 }%
12850
12851 }{}}
```

Create the <div> tag with optional alignment style:

```
12852 \LWR@traceinfo{minipage: creating div class}%
12853 \LWR@htmltag{div class=\textquotedbl{}minipage\textquotedbl\ style=\textquotedbl{%
12854 \ifthenelse{\equal{#1}{t}}{\LWR@print@mbox{vertical-align:bottom} ; }{()}%
12855 \ifthenelse{\equal{#1}{c}}{\LWR@print@mbox{vertical-align:middle} ; }{()}%
12856 \ifthenelse{\equal{#1}{b}}{\LWR@print@mbox{vertical-align:top} ; }{()}%
12857 \ifthenelse{\equal{#3}{t}}{\LWR@print@mbox{justify-content:flex-start} ; }{()}%
12858 \ifthenelse{\equal{#3}{c}}{\LWR@print@mbox{justify-content:center} ; }{()}%
12859 \ifthenelse{\equal{#3}{b}}{\LWR@print@mbox{justify-content:flex-end} ; }{()}%
12860 \ifthenelse{\equal{#3}{s}}{\LWR@print@mbox{justify-content:space-between} ; }{()}%}
```

Print the width and optional height styles:

```
12861 \LWR@traceinfo{minipage: about to print the width of \LWR@printlength{\LWR@minipagewidth}}%
12862 \ifbool{\LWR@minipagefullwidth}{%
12863 {\global\boolearnfalse{\LWR@minipagefullwidth}}%
12864 {%
12865   \ifbool{\LWR@forceminipagefullwidth}{%
12866     {}%
12867     {%
12868       \ifdim\width=\LWR@minipagewidth{%
12869         {}%
12870         \width=\LWR@printlength{\LWR@minipagewidth} ; }%
12871       }%
12872 }%
12873 \LWR@traceinfo{minipage: about to print the height}%
12874 \ifblank{#2}{}{height:\LWR@printlength{\LWR@minipageheight} ; }%
12875 \textquotedbl%
12876 }%
```

Finish with an empty line to start the contents on a new line.

```
12877
12878 % 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.

```
12879 \ifnumequal{\value{LWR@virtualpagedepth}}{1}{%
12880     \addtolength{\LWR@minipagewidth}{-3em}%
12881 }{}%
12882 \setlength{\linewidth}{\LWR@minipagewidth}%
```

`\raggedright` cancels hyphenation, which will be done by HTML instead.

```
12883 \LWR@print@raggedright%
```

```
12884     \LWR@newautopagelabel{page}%

```

Set minipage footnotes:

```
12885 \def\@mpfn{mpfootnote}%
12886 \def\thempfn{\thempfootnote}\c@mpfootnote\z@%
12887 \let\@footnotetext\@mpfootnotetext%
```

Track depth for `\textrimage` footnote type:

```
12888 \addtocounter{LWR@minipage@depth}{1}%

```

Resume paragraph tag handling for the contents of the minipage:

```
12889 \LWR@startpars%
12890 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12891
12892 === begin minipage ===
12893
12894 }{}%
12895 \LWR@traceinfo{minipage: finished starting the minipage}%
12896 }% finished \minipage
12897 { \% \endminipage
```

Print pending minipage footnotes:

```
12898 \LWR@printpendingmpfootnotes%
```

End the environment with closing tag:

```
12899 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12900
12901 === end minipage ===
12902
12903 }{}%
12904 \LWR@stoppars%
12905
12906 \ifbool{FormatWP}{%
12907
12908 \LWR@htmlelementend{div}%
12909
12910 }{}%
```

Wrapup:

```
12911 \addtocounter{LWR@minipage@depth}{-1}%

```

```

12912 \LWR@htmldivclassend{minipage}%
12913
12914 \end{\LWR@setvirtualpage}%
12915 \LWR@startpars%
12916 \ifbool{FormatWP}{\newline}{}

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

12917 \global\booltrue{\LWR@minipagethispar}%
12918 \LWR@traceinfo{\LWR@minipage: done}%
12919 }
12920
12921 \NewDocumentEnvironment{\LWR@HTML@minipage}{O{t} O{} O{t} m}
12922   {\LWR@HTML@sub@minipage{#1}{#2}{#3}{#4}}
12923   {\end{\LWR@HTML@sub@minipage}}
12924
12925 \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:

```

12926 \NewDocumentCommand{\LWR@HTML@parbox}{O{t} O{} O{t} m +m}
12927 {
12928 \LWR@traceinfo{parbox of width #4}%
12929 \begin{minipage}[#1][#2][#3]{#4}%
12930 #5
12931 \end{minipage}%
12932 }
12933
12934 \LWR@formatted{parbox}

```

\mbox {⟨text⟩} Nullified for HTML.

```

12935 \newcommand*{\LWR@HTML@mbox}[1]{#1}
12936
12937 \LWR@formatted{mbox}

```

\LWR@@makebox@paren {⟨width⟩}, {⟨height⟩}

Adds to the style in \LWR@temptwo.

```

12938 \NewDocumentCommand{\LWR@makebox@paren}{m m}{%
12939 \IfValueTF{#2}{%
12940   \setlength{\LWR@tempwidth}{#1\unitlength}%
12941   \setlength{\LWR@tempheight}{#2\unitlength}%
12942   \appto{\LWR@temptwo}{%
12943     \LWR@print@mbox{width:\LWR@printlength{\LWR@tempwidth}} ; % space
12944     \LWR@print@mbox{height:\LWR@printlength{\LWR@tempheight}} ; % space
12945   }%
12946 }%

```

```

12947      \PackageError{lwarf}%
12948          { (width,height) is missing a comma ',' character}%
12949          {\protect\makebox\space and \protect\framebox\space accept
12950              a size in the format (width,height).}%
12951 }%
12952 }

```

\LWR@makebox@align {*(alignment character)*}

Adds to the style in \LWR@temptwo.

```

12953 \newcommand*{\LWR@makebox@align}[1]{%
12954     \def\LWR@align{center}%
12955     \ifstrequal{#1}{l}{\def\LWR@align{left}}{}%
12956     \ifstrequal{#1}{r}{\def\LWR@align{right}}{}%
12957     \ifstrequal{#1}{s}{\def\LWR@align{justify}}{}%
12958     \appto{\LWR@temptwo}{%
12959         \LWR@print@mbox{text-align:\LWR@align} ; %
12960     }%
12961 }

```

\makebox {*(width,height)*} [*width*] [*pos*] {*text*}

```
12962 \NewDocumentCommand{\LWR@HTML@makebox}{>{\SplitArgument{1}{,}}d() o o +m}{%
```

Build the style depending on arguments:

```

12963 \begin{\LWR@setvirtualpage}%
12964     \def\LWR@temptwo{}%
12965     \IfValueTF{#1}%
12966         { (width,height) .. %
12967             \LWR@makebox@paren #1%
12968             \IfValueT{#2}%
12969                 { (width,height) [posn] %
12970                     \LWR@makebox@align{#2}%
12971                 }%
12972             }%
12973             { [width] %
12974                 \IfValueT{#2}{ [width] %
12975                     { %
12976                         \setlength{\LWR@tempwidth}{#2}%
12977                         \ifdimgreater{\LWR@tempwidth}{0pt}{%
12978                             \appto{\LWR@temptwo}{%
12979                                 width:\LWR@printlength{\LWR@tempwidth} ; % space
12980                             }%
12981                         }{%
12982                         }%
12983                     }%
12984                     \IfValueT{#3}{ %
12985                         { [width] [posn] %
12986                             \LWR@makebox@align{#3}%
12987                         }%
12988                         \InlineClass[%
12989                             \LWR@print@mbox{display:inline-block} ; %
12990                             \LWR@temptwo%
12991                         ]%
12992                         {makebox}%
12993                         {#4}%

```

```

12994     \end{\LWR@setvirtualpage}%
12995 }
12996 \LWR@formatted{makebox}

\framebox ((width,height)) [<width>] [<pos>] {<text>}

12997 \NewDocumentCommand{\LWR@HTML@framebox}{d() o o +m}{%
12998   \fbox{\makebox[#1][#2][#3]{#4}}%
12999 }
13000
13001 \LWR@formatted{framebox}

```

\LWR@forceminwidth {<length>}

Sets \LWR@atleastonept to be at least 1pt.

```

13002 \newlength{\LWR@atleastonept}
13003
13004 \newcommand*{\LWR@forceminwidth}[1]{%
13005 \setlength{\LWR@atleastonept}{#1}%
13006 \ifthenelse{%
13007   \lengthtest{\LWR@atleastonept>0pt}\AND%
13008   \lengthtest{\LWR@atleastonept<1pt}%
13009 }%
13010   {\setlength{\LWR@atleastonept}{1pt}}%
13011   {}%
13012 }

```

\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.

```

13013 \newcommand*{\LWR@fboxstyle}{%
13014 \LWR@findcurrenttextcolor%
13015 \LWR@traceinfo{\LWR@fboxstyle B}%
13016 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@origpound\LWR@tempcolor ; %
13017 padding:\LWR@printlength{\fboxsep} ; %
13018 color:\LWR@origpound\LWR@tempcolor%
13019 }

```

\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:

```

13020 \newcommand{\LWR@HTML@fbox}[1]{%
13021   \LWR@traceinfo{HTML fbox}%
13022   \LWR@forceminwidth{\fboxrule}%
13023   \LWR@traceinfo{HTML fbox B}%
13024   \InlineClass[%
13025     \LWR@print@mbox{display:inline-block} ; %
13026     \LWR@fboxstyle%
13027   ]{\fbox}{#1}%
13028   \LWR@traceinfo{HTML fbox: done}%
13029 }

```

xcolor \lets things to \fbox when it is loaded, and this must remain even for HTML output while in a `lateximage`, so \fbox is not modified until \AtBeginDocument:

```
13030 \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:** 13031 \end{warpHTML}

```
13032
13033 \begin{warpall}
13034 \let\fboxBlock\fbox
13035 \end{warpall}
13036
13037 \begin{warpHTML}
```

**for HTML output:** Next, an HTML version:

```
13038 \newcommand{\LWR@HTML\fboxBlock}[1]{%
13039 \LWR@forceminwidth{\fboxrule}%
13040 \LWR@stoppars%
13041 \begin{BlockClass}[\LWR@fboxstyle]{\fboxBlock}
13042 #1
13043 \end{BlockClass}
13044 \LWR@startpars%
13045 }
13046
13047 \LWR@formatted{\fboxBlock}
13048
13049 \end{warpHTML}
```

Env fminipage [*align*] [*height*] [*align*] {*width*}

Creates a framed HTML <div> around its contents.

**for HTML & PRINT:** Print version:

```
13050 \begin{warpall}
13051
13052 \newsavebox{\LWR@fminipagebox}
13053
13054 \NewDocumentEnvironment{fminipage}{O{t} o O{t} m}
13055 {%
```

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:

```
13056 \IfValueTF{#3}%
13057 {\def\LWR@thisalign{#3}}
13058 {\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.

```
13059 \IfValueTF{#2}%
```

---

```
13060 {\minipage[#1][#2+2\fboxsep+2\fboxrule][\LWR@thisalign]{#4+2\fboxsep+2\fboxrule}}%
13061 {\minipage[#1]{#4+2\fboxsep+2\fboxrule}}%
```

Capture the contents of the environment:

```
13062 \begin{lrbox}{\LWR@fminipagebox}%
```

Nest the contents inside an inner minipage of the desired size:

```
13063 \IfValueTF{#2}%
13064 {\minipage[#1][#2][\LWR@thisalign]{#4}}%
13065 {\minipage[#1]{#4}}%
13066 }%
13067 {%
```

Close the inner minipage and the LR box with the contents:

```
13068 \endminipage%
13069 \end{lrbox}%
```

Create a frame around the contents of the environment:

```
13070 \fbox{\usebox{\LWR@fminipagebox}}%
```

The entire thing is placed inside the outer minipage:

```
13071 \endminipage%
13072 }%
13073 \end{warpall}
```

HTML version:

**for HTML output:**

```
13074 \begin{warpHTML}%
13075 %
13076 \NewDocumentEnvironment{\LWR@HTML@fminipage}{O{t} o O{t} m}%
13077 {%
13078 \LWR@traceinfo{fminipage #1 #2 #3 #4}}%
```

Locally change to the virtual page size before processing the requested sizes:

```
13079 \begin{LWR@setvirtualpage}%
13080 \setlength{\LWR@tempwidth}{#4}%
13081 \IfValueT{#2}{\setlength{\LWR@tempheight}{#2}}%
```

Use a rule of at least one pixel in width:

```
13082 \LWR@forceminwidth{\fboxrule}%
```

```
13083 \LWR@stopars%
```

```
13084 \begin{BlockClass}[%%
13085 \LWR@fboxstyle ; %
13086 \IfValueT{#2}{height:\LWR@printlength{\LWR@tempheight} ; }%
13087 \ifbool{\LWR@minipagefullwidth}%
13088 {\global\boolfalse{\LWR@minipagefullwidth}}%
13089 {%
13090 \ifbool{\LWR@forceminipagefullwidth}{}%
```

```

13091      {}%
13092      {%
13093          \ifdim\tempwidth=\LWR@tempwidth{\linewidth}%
13094              {}%
13095              {\width:\LWR@printlength{\LWR@tempwidth} ; }%
13096          }%
13097      }%
13098  ]{fminipage}%
13099  }
13100  {}%
13101 \end{BlockClass}%
13102 \end{LWR@setvirtualpage}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

13103 \global\booltrue{LWR@minipagethispar}%
13104 \LWR@traceinfo{fminipage done}%
13105 }
13106
13107 \LWR@formattedenv{fminipage}

```

```

\raisebox  {\raiseboxlen} [\height] [\depth] {\text}

13108 \NewDocumentCommand{\LWR@HTML@raisebox}{m o o m}{%
13109 #4%
13110 }
13111
13112 \LWR@formatted{raisebox}

13113 \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:** 13114 `\begin{warpall}`

**Bool** `FixSmallCaps`

User may set `FixSmallCaps` to true if small caps are being incorrectly rendered as all caps.

```
13115 \newbool{FixSmallCaps}
13116 \boolfalse{FixSmallCaps}

13117 \end{warpall}

for HTML output: 13118 \begin{warpHTML}

\emph {<text>}

13119 \DeclareRobustCommand{\LWR@HTML@emph}[1]{%
13120   {%
13121     \LWR@HTML@itsshape%
13122     \LWR@htmlspan{em}{#1}%
13123   }%
13124 }
13125
13126 \LWR@formatted{emph}

\textmd {<text>}

13127 \DeclareRobustCommand{\LWR@HTML@textmd}[1]{%
13128   {%
13129     \LWR@HTML@mdseries%
13130     \InlineClass{font-weight:normal}{textmd}{#1}%
13131   }%
13132 }
13133
13134 \LWR@formatted{textmd}

\textbf {<text>}

13135 \DeclareRobustCommand{\LWR@HTML@textbf}[1]{%
13136   {%
13137     \LWR@HTML@bfseries%
13138     \LWR@htmlspan{b}{#1}%
13139   }%
13140 }
13141
13142 \LWR@formatted{textbf}

\texteb {<text>}      From nfssext-cfr.

13143 \IfPackageLoadedTF{nfssext-cfr}{%
13144 \DeclareRobustCommand{\LWR@HTML@texteb}[1]{%
13145   {%
13146     \LWR@HTML@ebweight%
13147     \InlineClass{texteb}{#1}%
13148   }%
13149 }
13150
13151 \LWR@formatted{texteb}
13152 }{%
13153   \providerobustcmd{\texteb}[1]{}%
13154 }
```

```
\textlg {<text>} From nfssext-cfr.
```

```
13155 \IfPackageLoadedTF{nfssext-cfr} {  
13156 \DeclareRobustCommand{\LWR@HTML@textlg}[1]{%  
13157 {  
13158 \LWR@HTML@lgweight%  
13159 \InlineClass{textlg}{#1}%  
13160 }%  
13161 }  
13162  
13163 \LWR@formatted{textlg}  
13164 }% if not loaded  
13165 \providerobustcmd{\textlg}[1]{}  
13166 }
```

```
\textrm {<text>}
```

```
13167 \DeclareRobustCommand{\LWR@HTML@textrm}[1]{%  
13168 {  
13169 \LWR@HTML@rmfamily%  
13170 \InlineClass{font-family:serif}{textrm}{#1}%  
13171 }%  
13172 }  
13173  
13174 \LWR@formatted{textrm}
```

```
\textsf {<text>}
```

```
13175 \DeclareRobustCommand{\LWR@HTML@textsf}[1]{%  
13176 {  
13177 \LWR@HTML@sffamily%  
13178 \InlineClass{font-family:sans}{textsf}{#1}%  
13179 }%  
13180 }  
13181  
13182 \LWR@formatted{textsf}
```

```
\texttt {<text>}
```

```
13183 \DeclareRobustCommand{\LWR@HTML@texttt}[1]{%  
13184 {  
13185 \LWR@HTML@ttfamily%  
13186 \LWR@htmlspan{kbd}{#1}%  
13187 }%  
13188 }  
13189  
13190 \LWR@formatted{texttt}
```

```
\textup {<text>}
```

```
13191 \DeclareRobustCommand{\LWR@HTML@textup}[1]{%  
13192 {  
13193 \LWR@HTML@upshape%  
13194 \InlineClass{font-style:normal}{textup}{#1}%  
13195 }%  
13196 }  
13197  
13198 \LWR@formatted{textup}
```

```
\textit {⟨text⟩}
```

```
13199 \DeclareRobustCommand{\LWR@HTML@textit}[1]{%
13200     {%
13201         \LWR@HTML@itshape%
13202         \LWR@htmlspan{i}{#1}%
13203     }%
13204 }
13205
13206 \LWR@formatted{textit}
```

```
\textsc {⟨text⟩}
```

```
13207 \DeclareRobustCommand{\LWR@HTML@textsc}[1]{%
13208     {%
13209         \LWR@HTML@scshape%
13210         \InlineClass{textsc}{#1}%
13211     }%
13212 }
13213
13214 \LWR@formatted{textsc}
```

```
\textulc {⟨text⟩} From fontaxes.
```

```
13215 \DeclareRobustCommand{\LWR@HTML@textulc}[1]{%
13216     {%
13217         \LWR@HTML@ulcsshape%
13218         \InlineClass{textulc}{#1}%
13219     }%
13220 }
13221
13222 \LWR@formatted{textulc}
```

```
\textssi {⟨text⟩}
```

```
13223 @ifundefined{textssi}{
13224     \LetLtxMacro{\LWR@print@textssi}{\LWR@print@textsc
13225 }{}
13226
13227 \DeclareRobustCommand{\LWR@HTML@textssi}[1]{%
13228     {%
13229         \LWR@HTML@sishape%
13230         \textsc{\textit{#1}}%
13231         \InlineClass{
13232             font-style: italic;
13233             font-variant: small-caps ;
13234             font-variant-numeric: oldstyle-nums ;
13235         }{textssi}{#1}%
13236     }%
13237 }
13238
13239 \LWR@formatted{textssi}
```

```
\textsl {⟨text⟩}
```

```
13240 \DeclareRobustCommand{\LWR@HTML@textsl}[1]{%
13241     {%
```

```

13242      \slshape%
13243      \InlineClass{font-style:oblique}{textsl}{#1}%
13244  }%
13245 }
13246
13247 \LWR@formatted{textsl}

\textssc {<text>}

13248 \newrobustcmd{\LWR@HTML@textssc}[1]{\textsc{#1}}
13249 \LWR@formatted{textssc}

\textnormal {<text>}

13250 \DeclareRobustCommand{\LWR@HTML@textnormal}[1]{%
13251      \LWR@HTML@mdseries%
13252      \LWR@HTML@rmfamily%
13253      \LWR@HTML@upshape%
13254      \LWR@HTML@ulcshape%
13255      \InlineClass{%
13256          font-weight: normal;
13257          font-family: serif;
13258          font-style: normal;
13259          font-variant: normal;
13260          font-variant-numeric: normal ;
13261      }{textnormal}{#1}%
13262 }
13263
13264 \LWR@formatted{textnormal}

13265 \FilenameNullify{%
13266      \LetLtxMacro{\emph}{\firstofone}%
13267      \LetLtxMacro{\textmd}{\firstofone}%
13268      \LetLtxMacro{\textbf}{\firstofone}%
13269      \LetLtxMacro{\texteb}{\firstofone}%
13270      \LetLtxMacro{\textlg}{\firstofone}%
13271      \LetLtxMacro{\textrm}{\firstofone}%
13272      \LetLtxMacro{\textsf}{\firstofone}%
13273      \LetLtxMacro{\texttt}{\firstofone}%
13274      \LetLtxMacro{\textup}{\firstofone}%
13275      \LetLtxMacro{\textit}{\firstofone}%
13276      \LetLtxMacro{\textsc}{\firstofone}%
13277      \LetLtxMacro{\textulc}{\firstofone}%
13278      \LetLtxMacro{\textsi}{\firstofone}%
13279      \LetLtxMacro{\textsl}{\firstofone}%
13280      \LetLtxMacro{\textssc}{\firstofone}%
13281      \LetLtxMacro{\textnormal}{\firstofone}%
13282 }

```

Remembers the current font family, series, and shape. `fontaxes` support is integrated here.

```

13283 \newcommand*{\LWR@f@family}{rm}
13284 \newcommand*{\LWR@f@series}{md}
13285 \newcommand*{\LWR@f@shape}{up}
13286 \newcommand*{\LWR@f@shapecaps}{ulc}

```

```
\LWR@textcurrentfont {<text>}
```

Prints the text with the current font choices. Avoids nesting repeated font selections.

```

13287 \newcounter{LWR@textcurrentfontdepth}
13288 \setcounter{LWR@textcurrentfontdepth}{0}
13289
13290 \newcommand*{\LWR@textcurrentfont}[1]{%
13291     \ifnumcomp{\value{LWR@textcurrentfontdepth}}{>}{0}{%
13292         {%
13293             \addtocounter{LWR@textcurrentfontdepth}{1}{%
13294                 #1%
13295                 \addtocounter{LWR@textcurrentfontdepth}{-1}{%
13296             }%
13297             {%
13298                 \addtocounter{LWR@textcurrentfontdepth}{1}{%
13299                     \ifboolexpr{%
13300                         test {\ifdefstring{\LWR@f@family}{rm}} and
13301                         test {\ifdefstring{\LWR@f@series}{md}} and
13302                         test {\ifdefstring{\LWR@f@shape}{up}} and
13303                         test {\ifdefstring{\LWR@f@shapecaps}{ulc}}%
13304                     }%
13305                     {\InLineClass{textnormal}{#1}}%
13306                     {%
13307                         \InLineClass{%
13308                             text\LWR@f@family\LWR@origtilde{}%
13309                             text\LWR@f@series\LWR@origtilde{}%
13310                             text\LWR@f@shape\LWR@origtilde{}%
13311                             text\LWR@f@shapecaps%
13312                         }%
13313                         {#1}}%
13314                     }%
13315                     \addtocounter{LWR@textcurrentfontdepth}{-1}{%
13316                 }%
13317 }

```

Env LWR@blocktextcurrentfont Prints the contents with the current font choices.

```

13318 \newenvironment*{\LWR@blocktextcurrentfont}{%
13319 \LWR@stoppars%
13320 \BlockClass{%
13321     text\LWR@f@family\LWR@origtilde{}%
13322     text\LWR@f@series\LWR@origtilde{}%
13323     text\LWR@f@shape\LWR@origtilde{}%
13324     text\LWR@f@shapecaps%
13325 }%
13326 }{\endBlockClass\LWR@startpars}

```

\mdseries

```

13327 \newrobustcmd*{\LWR@HTML@mdseries}{%
13328     \LWR@print@mdseries%
13329     \renewcommand*{\LWR@f@series}{md}%
13330 }%
13331 \LWR@formatted{mdseries}

```

\bfseries

```

13332 \newrobustcmd*{\LWR@HTML@bfseries}{%
13333   \LWR@print@bfseries%
13334   \renewcommand*{\LWR@f@series}{bf}%
13335 }
13336 \LWR@formatted{bfseries}
```

\ebweight From nfssext-cfr.

```

13337 \IfPackageLoadedTF{nfssext-cfr}%
13338 \newrobustcmd*{\LWR@HTML@ebweight}{%
13339   \LWR@print@ebweight%
13340   \renewcommand*{\LWR@f@series}{eb}%
13341 }
13342 \LWR@formatted{ebweight}
13343 }{}
```

\lgweight From nfssext-cfr.

```

13344 \IfPackageLoadedTF{nfssext-cfr}%
13345 \newrobustcmd*{\LWR@HTML@lgweight}{%
13346   \LWR@print@lgweight%
13347   \renewcommand*{\LWR@f@series}{lg}%
13348 }
13349 \LWR@formatted{lgweight}
13350 }{}
```

\rmfamily

```

13351 \newrobustcmd*{\LWR@HTML@rmfamily}{%
13352   \LWR@print@rmfamily%
13353   \renewcommand*{\LWR@f@family}{rm}%
13354 }
13355 \LWR@formatted{rmfamily}
```

\sffamily

```

13356 \newrobustcmd*{\LWR@HTML@sffamily}{%
13357   \LWR@print@sffamily%
13358   \renewcommand*{\LWR@f@family}{sf}%
13359 }
13360 \LWR@formatted{sffamily}
```

\ttfamily

```

13361 \newrobustcmd*{\LWR@HTML@ttfamily}{%
13362   \LWR@print@ttfamily%
13363   \renewcommand*{\LWR@f@family}{tt}%
13364 }
13365 \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

```

13366 \newrobustcmd*{\LWR@HTML@upshape}{%
13367     \LWR@print@upshape%
13368     \renewcommand*{\LWR@f@shape}{up}%
13369 }
13370 \AtBeginDocument{\LWR@formatted{upshape}}
```

## \itshape

```

13371 \newrobustcmd*{\LWR@HTML@itshape}{%
13372     \LWR@print@itshape%
13373     \renewcommand*{\LWR@f@shape}{it}%
13374 }
13375 \AtBeginDocument{\LWR@formatted{itshape}}
```

\scshape Note: \LWR@print@scshape is not used here since some fonts, such as `erewhon`, copy/paste as all-caps.

```

13376 \newrobustcmd*{\LWR@HTML@scshape}{%
13377     \ifbool{FixSmallCaps}{}{%
13378         \LWR@print@scshape%
13379     }%
13380     \renewcommand*{\LWR@f@shapecaps}{sc}%
13381 }
13382 \AtBeginDocument{\LWR@formatted{scshape}}
```

## \ulcshape From fontaxes.

```

13383 \@ifundefined{ulcshape}{%
13384     \LetLtxMacro\ulcshape\upshape
13385 }{%
13386 \newrobustcmd*{\LWR@HTML@ulcshape}{%
13387     \LWR@print@ulcshape%
13388     \renewcommand*{\LWR@f@shapecaps}{ulc}%
13389 }
13390 \AtBeginDocument{\LWR@formatted{ulcshape}}}
```

## \sishape

```

13391 \@ifundefined{sishape}{%
13392     \LetLtxMacro\sishape\scshape
13393 }{%
13394 \newrobustcmd*{\LWR@HTML@sishape}{%
13395     \ifbool{FixSmallCaps}{}{%
13396         \LWR@print@sishape%
13397     }%
13398     \renewcommand*{\LWR@f@shape}{it}
13399     \renewcommand*{\LWR@f@shapecaps}{sc}%
13400 }
13401 \AtBeginDocument{\LWR@formatted{sishape}}}
```

## \slshape

```

13402 \newrobustcmd*{\LWR@HTML@slshape}{%
13403     \LWR@print@slshape%
13404     \renewcommand*{\LWR@f@shape}{sl}%
13405 }
13406 \AtBeginDocument{\LWR@formatted{slshape}}
```

\sscshape

```
13407 \newrobustcmd{\LWR@HTML@sscshape}{\LWR@HTML@scshape}
13408 \AtBeginDocument{\LWR@formatted{sscshape}}
```

\normalfont

```
13409 \newrobustcmd*\LWR@HTML@normalfont}{\rmfamily\mdseries\upshape\ulcshape}
13410 \LWR@formatted{normalfont}
```

```
13411 \FilenameNullify{%
13412   \LetLtxMacro\rmfamily\@empty%
13413   \LetLtxMacro\sffamily\@empty%
13414   \LetLtxMacro\ttfamily\@empty%
13415   \LetLtxMacro\bfseries\@empty%
13416   \LetLtxMacro\ebweight\@empty%
13417   \LetLtxMacro\lgweight\@empty%
13418   \LetLtxMacro\mdseries\@empty%
13419   \LetLtxMacro\upshape\@empty%
13420   \LetLtxMacro\slshape\@empty%
13421   \LetLtxMacro\sisshape\@empty%
13422   \LetLtxMacro\scshape\@empty%
13423   \LetLtxMacro\itshape\@empty%
13424   \LetLtxMacro\ulcshape\@empty%
13425   \LetLtxMacro\sscshape\@empty%
13426   \LetLtxMacro\normalfont\@empty%
13427 }
```

\sp {*text*}

For **siunitx**. Must work in math mode.

```
13428 \renewcommand{\sp}[1]{\text{\sup#1}}
```

\sb {*text*}

For **siunitx**. Must work in math mode.

```
13429 \renewcommand{\sb}[1]{\text{\sub#1}}
```

\textsuperscript {*text*}

```
13430 \newrobustcmd{\LWR@HTML@textsuperscript}[1]{\LWR@htmlspan{\sup}{#1}}
13431 \LWR@formatted{textsuperscript}
```

\@textsuperscript {*text*}

```
13432 \newcommand{\LWR@HTML@textsuperscript}[1]{\LWR@htmlspan{\sup}{#1}}
13433 \LWR@formatted{@textsuperscript}
```

\textsubscript {*text*}

```
13434 \newrobustcmd{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{\sub}{#1}}
13435 \LWR@formatted{textsubscript}
```

---

```
\@textsubscript {⟨text⟩}

13436 \newcommand{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
13437 \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.

```
13438 \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.

```
13439 \AtBeginDocument{\let\fup\textsuperscript}
```

\underline {⟨text⟩}

```
13440 \renewcommand{\underline}[1]{%
13441   \InLineClass%
13442   (text-decoration:underline; text-decoration-skip: auto)%
13443   {underline}{#1}%
13444 }
```

\LWR@overline {⟨text⟩}

```
13445 \newcommand{\LWR@overline}[1]{%
13446   \InLineClass%
13447   (text-decoration:overline; text-decoration-skip: auto)%
13448   {overline}{#1}%
13449 }
```

\LWR@currenttextcolor The color to use for text and \rule, defaulting to black:

```
13450 \newcommand*{\LWR@currenttextcolor}{black}
```

\LWR@tempcolor The color converted to HTML colorspace.

```
\LWR@tempcolortwo
\LWR@tempcolorthree
13451 \newcommand*{\LWR@tempcolor}{}%
13452 \newcommand*{\LWR@tempcolortwo}{}%
13453 \newcommand*{\LWR@tempcolorthree}{}%
```

\LWR@findcurrenttextcolor Sets \LWR@tempcolor to the current color.

```
13454 \newcommand*{\LWR@findcurrenttextcolor}{}%
13455   \renewcommand{\LWR@tempcolor}{000000}%
13456 }
```

\LWR@textcurrentcolor {⟨text⟩} Like \textcolor but uses the current \color instead.

```
13457 \NewDocumentCommand{\LWR@textcurrentcolor}{m}{%
13458     \renewcommand*{\LWR@currenttextcolor}{black}%
13459     #1%
13460 }%
```

13461 \end{warpHTML}

**for PRINT output:** 13462 \begin{warpprint}

\LWR@textcurrentfont {⟨text⟩}

Prints the text with the current font choices.

```
13463 \newcommand*{\LWR@textcurrentfont}[1]{#1}
```

Env \LWR@blocktextcurrentfont Prints the contents with the current font choices.

```
13464 \newenvironment*{\LWR@blocktextcurrentfont}{}{}
```

\FilenameNullify {⟨macros to nullify⟩}

```
13465 \newcommand*{\FilenameNullify}[1]{}%
```

13466 \end{warpprint}

## 96 Skips, spaces, font sizes

**for HTML output:** 13467 \begin{warpHTML}

\, and \thinspace may be redefined by other packages, so are redefined \AtBeginDocument here.

Direct-formatting space commands become HTML entities:

```
13468 \AtBeginDocument{%
13469 \renewrobustcmd*{\,}{\HTMLUnicode{202f}} % HTML thin non-breakable space
13470 \renewrobustcmd*{\thinspace}{\HTMLUnicode{202f}} % HTML thin non-breakable space
13471 \renewrobustcmd*{\negthinspace}{\HTMLUnicode{202f}} % HTML thin non-breakable space
13472 \renewrobustcmd*{\~}{\HTMLEntity{nbsps}}
13473 \renewrobustcmd*{\textellipsis}{\HTMLUnicode{2026}}
13474 \renewrobustcmd*{\vdots}{\HTMLUnicode{22EE}}
13475 }
```

Direct-formatting font sizes are remembered for future use:

```
13476 \newcommand*{\LWR@font@size}{normalsize}
13477
13478 \newrobustcmd*{\LWR@HTML@normalsize}{\renewcommand*{\LWR@font@size}{normalsize}}
13479 \LWR@formatted{normalsize}
13480
13481 \newrobustcmd*{\LWR@HTML@small}{\renewcommand*{\LWR@font@size}{small}}
```

```
13482 \LWR@formatted{small}
13483
13484 \newrobustcmd*{\LWR@HTML@footnotesize}{\renewcommand*{\LWR@font@size}{footnotesize}}
13485 \LWR@formatted{footnotesize}
13486
13487 \newrobustcmd*{\LWR@HTML@scriptsize}{\renewcommand*{\LWR@font@size}{scriptsize}}
13488 \LWR@formatted{scriptsize}
13489
13490 \newrobustcmd*{\LWR@HTML@tiny}{\renewcommand*{\LWR@font@size}{tiny}}
13491 \LWR@formatted{tiny}
13492
13493 \newrobustcmd*{\LWR@HTML@large}{\renewcommand*{\LWR@font@size}{large}}
13494 \LWR@formatted{large}
13495
13496 \newrobustcmd*{\LWR@HTML@Large}{\renewcommand*{\LWR@font@size}{Large}}
13497 \LWR@formatted{Large}
13498
13499 \newrobustcmd*{\LWR@HTML@LARGE}{\renewcommand*{\LWR@font@size}{LARGE}}
13500 \LWR@formatted{LARGE}
13501
13502 \newrobustcmd*{\LWR@HTML@huge}{\renewcommand*{\LWR@font@size}{huge}}
13503 \LWR@formatted{huge}
13504
13505 \newrobustcmd*{\LWR@HTML@Huge}{\renewcommand*{\LWR@font@size}{Huge}}
13506 \LWR@formatted{Huge}

13507 \DeclareDocumentCommand{\onecolumn}{}{ }
13508
13509 \DeclareDocumentCommand{\twocolumn}{O{}}{
13510 #1
13511 #1
13512
13513 }

13514 \newcommand*{\LWR@HTML@hfill}{\qquad}
13515 \LWR@formatted{hfill}

13516 \newcommand*{\LWR@HTML@hrulefill}{%
13517     \ifbool{\LWR@doingapar}{%
13518         {\rule{1in}{1pt}}%
13519     }{%
13520         \LWR@findcurrenttextcolor%
13521         \ifdefstring{\LWR@tempcolor}{000000}{%
13522             {%
13523                 \begin{BlockClass}{hrule}%
13524                 \end{BlockClass}%
13525             }%
13526         }{%
13527             \begin{BlockClass}[%
13528                 border-top: 1px solid \LWR@origpound\LWR@tempcolor % space
13529             ]{hrule}%
13530             \end{BlockClass}%
13531         }%
13532     }%
13533 }%
```

---

```

13533 }%
13534 \LWR@formatted{hrulefill}

\dotfill
13535 \newcommand*{\LWR@HTML@dotfill}{\dots}
13536 \LWR@formatted{dotfill}

```

\newpage

```

13537 \renewcommand*{\newpage}{
13538
13539 }

```

\newline Uses the HTML <br /> element.

```

13540 \newrobustcmd*{\LWR@newlinebr}{\unskip\LWR@htmltag{br /}\LWR@orignewline}%
13541 \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.

```

13542 \LetLtxMacro{\LWR@origendofline} \\
13543 \NewDocumentCommand{\LWR@endofline}{s O{0pt}}{%
13544 {%
13545 \newline% }

13546 \setlength{\LWR@templengthone}{#2}%
13547 \ifdimgreater{\LWR@templengthone}{0pt}{\newline}{}%
13548 }

```

\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, l warp 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. l warp tries to do this by remembering that a minipage has been seen, in which case paragraph tags are suppressed around \hspace, \enskip, \quad, and \qquad until the end of the paragraph, when the closing p tag is created.

When a minipage is seen, the boolean LWR@minipagethispar is set, telling the following horizontal whitespace commands to try to suppress their surrounding paragraph tags. LWR@minipagethispar is cleared at the next end of paragraph, when the HTML paragraph closing tag is generated.

Placed just before \hspace, \quad, or \qquad's HTML output.

\hspace  
\enskip  
\quad  
\qquad

```

13549 \newcommand*{\LWR@minipagestartpars}{%
13550     \ifbool{\LWR@minipagethispar}{\LWR@startpars}{}}%
13551 }

```

\LWR@minipagestopars Placed just after \hspace, \quad, or \quad's HTML output.

```

13552 \newcommand*{\LWR@minipagestopars}{%
13553     \ifbool{\LWR@minipagethispar}{\LWR@stopars}{}}%
13554 }

```

\quad Handles special minipage & horizontal space interactions. Uses 2003 EM SPACE to pass validation.

```

13555 \renewrobustcmd*{\quad}{%
13556     \LWR@minipagestopars%
13557     \HTMLunicode{2003}%
13558     \LWR@minipagestartpars%
13559 }

```

\quad Handles special minipage & horizontal space interactions.

```
13560 \renewrobustcmd*{\quad}{\quad\quad}
```

\enskip Handles special minipage & horizontal space interactions.

```

13561 \renewrobustcmd*{\enskip}{%
13562     \LWR@minipagestopars%
13563     \HTMLunicode{2002}%
13564     \LWR@minipagestartpars%
13565 }

```

Len \LWR@tempwidth Used to compute span width, height, raise for \hspace and \rule:

```

13566 \newlength{\LWR@tempwidth}
13567 \newlength{\LWR@tempheight}
13568 \newlength{\LWR@tempraise}

```

\LWR@select@html@\hspace \* {\<length>} \* {\<length>}

\hspace Handles special minipage & horizontal space interactions.

Prints a span of a given width. Ignores the optional star.

\hspace{\fill} is converted to \hspace{2em}, equal to \quad.

```

13569 \newcommand{\LWR@select@html@\hspace}{%
13570 \RenewDocumentCommand{\hspace}{s m}{%
13571 \setlength{\LWR@tempwidth}{##2}}

```

If \fill, change to \quad:

```

13572 \ifnum\gluestretchorder\LWR@tempwidth>0%
13573 \setlength{\LWR@tempwidth}{2em}%
13574 \fi%

```

Only if the width is greater than zero:

```
13575 \ifdimcomp{\LWR@tempwidth}{>}{0pt}{%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
13576     \LWR@minipagestoppars%
```

Support the HTML thin wrappable space:

```
13577     \ifdimcomp{\LWR@tempwidth}{=}{.16667em}{%
13578     {%
13579         \HTMLunicode{2009}% thin breakable space
13580     }%
```

Print the span with the converted width. Not rounded.

```
13581     {%
13582         \LWR@htmltagc{%
13583             span style=\textquotedbl{}width:\LWR@printlength{\LWR@tempwidth}; % extra space
13584                 display:inline-block\textquotedbl%
13585     }%
```

If formatting for a word processor, approximate with a number of \quads, in case a span of a given width is not supported:

```
13586     \ifbool{FormatWP}{%
13587         \setlength{\LWR@templengthone}{\LWR@tempwidth}%
13588         \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
13589             \quad%
13590             \addtolength{\LWR@templengthone}{-1em}%
13591         }%
13592     }%
```

If NOT formatting for a word processor, include an empty comment to avoid an empty span:

```
13593     {\LWR@htmlcomment{}}%
```

Close the span:

```
13594         \LWR@htmltagc{/span}%
13595     }%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
13596     \LWR@minipagestartpars%
13597 }{ }% width greater than 0
13598 }%
13599 }
```

```
\LWR@select@html@nohspace * {\langle length\rangle}
\hspace
```

Used to disable \hspace while creating description \items.

```
13600 \newcommand{\LWR@select@html@nohspace}{%
13601     \RenewDocumentCommand{\hspace}{s m}{}%
13602 }
```

\LWR@select@print@hspace

```
13603 \newcommand*{\LWR@select@print@hspace}{%
13604     \renewrobustcmd\hspace{\ifarstar\hspace\else\hspace\fi}%
13605 }
```

\hspace \* {*length*}

Handles special minipage & horizontal space interactions.

```
13606 \LWR@select@html@hspace
```

\LWR@vspace \* {*length*} Nullified vspace.

```
13607 \NewDocumentCommand{\LWR@HTML@vspace}{s m}{}%
13608%
13609 \LWR@formatted{vspace}
```

\linebreak [*num*] Inserts an HTML br tag.

```
13610 \renewcommand*{\linebreak}[1][]{\newline}
```

\nolinebreak [*num*]

```
13611 \renewcommand*{\nolinebreak}[1]{}{}
```

\pagebreak [*num*] Starts a new paragraph.

```
13612 \renewcommand*{\pagebreak}[1]{}%
13613%
13614 }
```

\nopagebreak [*num*]

```
13615 \renewcommand*{\nopagebreak}[1]{}{}
```

\enlargethispage \* {*len*}

```
13616 \RenewDocumentCommand{\enlargethispage}{s m}{}%
```

\clearpage

\cleardoublepage

```
13617 \renewcommand*{\clearpage}{}%
13618 \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.

```
13619 \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:

```
13620 \setlength{\LWR@tempwidth}{#2}%
```

If it's zero-width then skip the entire rule:

```
13621 \ifthenelse{\lengthtest{\LWR@tempwidth=0pt}}%
13622 {}% zero- width
13623 {}% non-zero width
```

If it's non-zero width, set a minimal thickness so that it more reliably shows in the browser:

```
13624 \ifthenelse{%
13625   \lengthtest{\LWR@tempwidth>0pt}\AND%
13626   \lengthtest{\LWR@tempwidth<1pt}%
13627 }%
13628   {\setlength{\LWR@tempwidth}{1pt}}%
13629 }%
```

Likewise with height:

```
13630 \setlength{\LWR@tempheight}{#3}%
13631 \ifthenelse{%
13632   \lengthtest{\LWR@tempheight>0pt}\AND%
13633   \lengthtest{\LWR@tempheight<1pt}%
13634 }%
13635   {\setlength{\LWR@tempheight}{1pt}}%
13636 }%
```

If had a minipage this paragraph, try to inline the rule without generating paragraph tags:

```
13637 \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.

```
13638 \LWR@findcurrenttextcolor%
13639 \LWR@htmltagc{%
13640   span\LWR@indentHTML%
13641   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.

```
13642 \ifbool{FormatWP}{}{background:\LWR@currenttextcolor ; }%
```

The width and height are printed, converted to PT:

```
13643     width:\LWR@printlength{\LWR@tempwidth} ; %
13644     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 **LATEX** length allows a typical **LATEX** expression to be used as an argument for the raise, whereas printing the raise argument directly to **HTML** output without conversion to a **LATEX** length limits the allowable syntax. To do: A superior method would compute a ratio of **LATEX** ex height, then print that to **HTML** with an ex unit.

```
13645     \ifblank{#1}%
13646     {}%
13647     {%
13648         \setlength{\LWR@tempraise}{0pt-#1}%
13649         \setlength{\LWR@tempraise}{\LWR@tempraise*2}%
13650         \LWR@indentHTML%
13651         -ms-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13652         \LWR@indentHTML%
13653         -webkit-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13654         \LWR@indentHTML%
13655         transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13656         \LWR@indentHTML%
13657     }%
```

Display inline-block to place the span inline with the text:

```
13658     display:inline-block;\textquotedbl\LWR@orignewline%
13659     }%
```

If formatting for a word processor, approximate with a number of underscores, in case a span of a given width is not supported:

```
13660     \ifbool{FormatWP}{%
13661         \setlength{\LWR@templengthone}{\LWR@tempwidth}%
13662         \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
13663             \_{}%
13664             \addtolength{\LWR@templengthone}{-1em}%
13665         }%
13666     }%
```

If NOT formatting for a word processor, add a comment to avoid an empty <span>:

```
13667     {\LWR@htmlcomment{}}%
```

Close the span:

```
13668     \LWR@htmllagc{/span}%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
13669     \LWR@minipagestartpars%
13670 }% non-zero width
13671 }
13672
13673 \LWR@formatted{rule}
```

---

```
13674 \end{warpHTML}
```

## 97 \phantomsection

**for HTML output:** 13675 \begin{warpHTML}

\LWR@phantomsection Emulate the hyperref \phantomsection command, often used to insert the bibliography into the table of contents. Ignores \ForceHTMLTOC.

```
13676 \newrobustcmd*\LWR@phantomsection{%
13677     \begingroup%
13678     \boolfalse{\LWR@forcinghtmltoc}%
13679     \section*{}%
13680     \endgroup%
13681 }
```

```
13682 \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:** 13683 \begin{warpall}

```
13684 \newbool{\LWR@warnXe}
13685 \boolfalse{\LWR@warnXe}
13686
13687 \newrobustcmd*\Xe{%
13688     \raisebox{-.5ex}{\X\hspace{-.1667em}\global\booltrue{\LWR@warnXe}}%
13689 }
13690
13691 \AtBeginDocument{
13692     \IfPackageLoadedTF{graphics}%
13693         \IfPackageLoadedTF{metalogo}{}{%
13694             \renewrobustcmd*\Xe{%
13695                 \raisebox{-.5ex}{\X\hspace{-.1667em}\reflectbox{E}}}%
13696             }%
13697         }{}%
13698     }%
13699 }{}%
13700 }
13701 \AtEndDocument{
13702     \ifbool{\LWR@warnXe}{%
13703         \PackageNoteNoLine{l warp}{Load graphicx or graphics}}
```

```

13705           for improved XeTeX logo}
13706       }{}}
13707   }
13708
13709 \providerobustcmd*{\XeTeX}{\mbox{\Xe\hspace{-.125em}\TeX}}
13710 \providerobustcmd*{\XeLaTeX}{\mbox{\Xe\hspace{-.125em}\LaTeX}}
13711 \providerobustcmd*{\AmS}{%
13712   \leavevmode\hbox{$\mathcal A\kern-.2em\lower.376ex%
13713   \hbox{$\mathcal M$}\kern-.2em\mathcal S$}%
13714 }
13715 \newrobustcmd*{\LyX}{\textsf{LyX}}
13716 \providerobustcmd*{\LuaTeX}{\mbox{Lua\TeX}}
13717 \providerobustcmd*{\LuaLaTeX}{\mbox{Lua\LaTeX}}
13718 \providerobustcmd*{\BibTeX}{\mbox{B\textsc{ib}\TeX}}
13719 \providerobustcmd*{\MakeIndex}{\mbox{\textit{MakeIndex}}}
13720 \providerobustcmd*{\ConTeXt}{\mbox{Con\TeX{}t}}
13721 \providerobustcmd*{\MiKTeX}{\mbox{MiK\TeX}}
13722 \end{warpall}
```

**for HTML output:** 13723 \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 `LATEX` and friends.

`latexlogofont` is a css class used to select the font for the rest of the logo in `LATEX`, `LuaTeX`, `ConTeXt`, etc.

```

13724 \newrobustcmd*{\LWR@HTML@TeX}
13725 {%
13726   \InlineClass{latexlogofont}%
13727   {%
13728     \InlineClass{latexlogo}%
13729     {%
13730       T%
13731       \InlineClass{latexlogosub}{e}%
13732       X%
13733     }%
13734   }%
13735 }
13736 \AtBeginDocument{\LWR@formatted{TeX}}% may have been patched by metalogo
```

### \LaTeX \LATEX, \LATEX2 $\epsilon$

#### \LaTeXe

```

13737 \newrobustcmd*{\LWR@HTML@LaTeX}
13738 {%
13739   \InlineClass{latexlogofont}%
13740   {%
13741     \InlineClass{latexlogo}%
13742     {%
13743       L%
13744       \InlineClass{latexlogosup}{a}%
13745       T%
13746       \InlineClass{latexlogosub}{e}%
13747       X%
```

```

13748      }%
13749      }%
13750 }
13751
13752 \AtBeginDocument{\LWR@formatted{LaTeX}}% may have been patched by metalogo
13753
13754
13755 \newrobustcmd*{\LWR@HTML@LaTeXe}
13756 {%
13757     \LaTeX%
13758     \InlineClass{latexlogofont}{%
13759         \InlineClass{latexlogotwoe}{%
13760             2%
13761             \InlineClass{latexlogotwoesub}{\HTMLunicode{03B5}}%
13762         }%
13763     }%
13764 }
13765 \AtBeginDocument{\LWR@formatted{LaTeXe}}% may have been patched by metalogo

\LuaTeX \LuaTeX, \LuaLATEX
\LuaLaTeX
13766 \newrobustcmd*{\LWR@HTML@LuaTeX}{\InlineClass{latexlogofont}{Lua}\TeX}
13767 \AtBeginDocument{\LWR@formatted{LuaTeX}}% may have been patched by metalogo
13768
13769 \newrobustcmd*{\LWR@HTML@LuaLaTeX}{\InlineClass{latexlogofont}{Lua}\LaTeX}
13770 \AtBeginDocument{\LWR@formatted{LuaLaTeX}}% may have been patched by metalogo

\XeTeX \XeTeX, \XeLATEX
\XeLaTeX
xetexlogo is a css class which aligns the backwards E in \XeTeX and spaces \TeX
appropriately.

xelatexlogo is a css class which aligns the backwards E in \XeLATEX and spaces
\LaTeX appropriately.

13771 \newrobustcmd*{\LWR@HTML@Xe}
13772     {%
13773         X%
13774         \InlineClass{xelatexlogosub}{\HTMLunicode{18e}}%
13775     }%
13776 \AtBeginDocument{\LWR@formatted{Xe}}% may have been patched by metalogo
13777
13778 \newrobustcmd*{\LWR@HTML@XeTeX}{\InlineClass{xelatexlogo}{\Xe}\TeX}
13779 \AtBeginDocument{\LWR@formatted{XeTeX}}% may have been patched by metalogo
13780
13781 \newrobustcmd*{\LWR@HTML@XeLaTeX}{\InlineClass{xelatexlogo}{\Xe}\LaTeX}
13782 \AtBeginDocument{\LWR@formatted{XeLaTeX}}% may have been patched by metalogo

\ConTeXt \ConTeXt

13783 \newrobustcmd*{\LWR@HTML@ConTeXt}{%
13784     \InlineClass{latexlogofont}{Con}\TeX{}%
13785     \InlineClass{latexlogofont}{t}%
13786 }
13787 \LWR@formatted{ConTeXt}

\BibTeX \BIBTeX, MakeIndex
\MakeIndex

```

```

13788 \newrobustcmd*{\LWR@HTML@BibTeX}
13789     {\InlineClass{latexlogofont}{\textsc{ib}}}\TeX
13790 \LWR@formatted{BibTeX}
13791
13792 \newrobustcmd*{\LWR@HTML@MakeIndex}
13793     {\InlineClass{latexlogofont}{\textit{MakeIndex}}}
13794 \LWR@formatted{MakeIndex}

```

## \AmS \AMS

`amslogo` is a css class used for the  $\mathcal{AMS}$  logo.

```

13795 \AtBeginDocument{%
13796 \newrobustcmd*{\LWR@HTML@AmS}{%
13797 {%
13798     \InlineClass{amslogo}{%
13799         \textit{%
13800             A%
13801             \InlineClass{latexlogosub}{M}%
13802             S%
13803         }%
13804     }%
13805 }%
13806 \LWR@formatted{AmS}
13807 }

```

## \MiKTeX \MiKTEX

```

13808 \newrobustcmd*{\LWR@HTML@MiKTeX}{\InlineClass{latexlogofont}{MiK}\TeX}
13809 \LWR@formatted{MiKTeX}

```

## \LyX \LyX

`lyxlogo` is a css class used for the  $\mathbf{LyX}$  logo.

```

13810 \newrobustcmd*{\LWR@HTML@LyX}{\InlineClass{lyxlogo}{LyX}}
13811 \LWR@formatted{LyX}
13812 \end{warpHTML}

```

## 99 Starting and stopping lwarp

**for HTML output:** 13813 `\begin{warpHTML}`

\LWR@LwarpStart Automatically sets up the HTML-related actions for the start and end of the document.  
 \LWR@LwarpEnd

```

13814 \AfterEndPreamble{\LWR@LwarpStart}
13815 \AtEndDocument{\LWR@LwarpEnd}
13816 \end{warpHTML}

```

## 100 Loading array

array is required for lwarp's column parsing. It and its patches are now loaded.

**for HTML output:** 13817 \begin{warpHTML}  
13818 \RequirePackage{array}

The following are compared with the tabular preamble > to add css classes to adjust tabular cells. Defined here now that \arraybackslash is defined after array is loaded.

```
13819 \edef\LWR@detect@centeringarraybackslash{\centering\arraybackslash}
13820 \edef\LWR@detect@raggedrightarraybackslash{\raggedright\arraybackslash}
13821 \edef\LWR@detect@raggedleftarraybackslash{\raggedleft\arraybackslash}
13822 \def\LWR@detect@itshape{\itshape}
13823 \def\LWR@detect@bfseries{\bfseries}
13824 \def\LWR@detect@bfit{\bfseries\itshape}
13825 \end{warpHTML}
```

## 101 Loading everyshi patches

everyshi is emulated by the L<sup>A</sup>T<sub>E</sub>X core, so its patches are loaded here. \AtBeginDocument is used in case an older verison of L<sup>A</sup>T<sub>E</sub>X is used.

**for HTML output:** 13826 \begin{warpHTML}  
13827 \AtBeginDocument{  
13828 \IfPackageLoadedTF{everyshi}{  
13829 \RequirePackage{lwarp-everyshi}  
13830 }{}  
13831 }  
13832 \end{warpHTML}

## 102 Loading textcomp patches

textcomp has now been integrated into the L<sup>A</sup>T<sub>E</sub>X core, so its patches are loaded now.

**for HTML output:** 13833 \begin{warpHTML}  
13834 \RequirePackage{lwarp-textcomp}  
13835 \end{warpHTML}

## 103 Loading amsmath, amsthm patches, centernot

amsmath, amsthm, and centernot may have been preloaded, such as by newtx, so their patches are loaded now.

**for HTML output:** 13836 \begin{warpHTML}  
13837 \IfPackageLoadedTF{amsthm}{  
13838 \RequirePackage{lwarp-amsthm}  
13839 }{}

```
13840 \IfPackageLoadedTF{amsmath}{}  
13841     \RequirePackage{l warp-amsmath}  
13842 {}{}
```

amstham may load centernot, so centernot must be checked second.

```
13843 \IfPackageLoadedTF{centernot}{}  
13844     \RequirePackage{l warp-centernot}  
13845 {}{}
```

```
13846 \end{warpHTML}
```

## 104 Loading KOMA-SCRIPT class patches

Load patches to koma-script.

**for HTML output:** 13847 \begin{warpHTML}

```
13848 \IfClassLoadedTF{scrbook}{\RequirePackage{l warp-patch-komascript}}{}  
13849 \IfClassLoadedTF{scrartcl}{\RequirePackage{l warp-patch-komascript}}{}  
13850 \IfClassLoadedTF{scrreprt}{\RequirePackage{l warp-patch-komascript}}{}
```

```
13851 \end{warpHTML}
```

## 105 Loading MEMOIR class patches

Load patches to memoir.

**for PRINT output:** 13852 \begin{warpprint}  
13853 \IfClassLoadedTF{memoir}{\LWR@origRequirePackage{xcolor}}{}  
13854 \end{warpprint}

**for HTML output:** 13855 \begin{warpHTML}  
13856 \IfClassLoadedTF{memoir}{\RequirePackage{l warp-patch-memoir}}{}  
13857 \end{warpHTML}

## 106 ut\* class patches

Load patches to uj\* and ut\* classes, as well as ltj\* classes.

**for HTML output:** 13858 \begin{warpHTML}

```
13859 \newcommand*{\LWR@patchujtclasses}{
```

uj/t does not use \partname

```
13860     \def\@partnameformat{}
```

```
13861     \def\@partcntformat##1{%
```

```
13862         \prepartname%
```

```
13863         \csname the##1\endcsname%
```

```

13864      \postpartname%
13865      \quad%
13866  }
13867  \@ifundefined{chapter}{}{%
13868      \def\@chapcntformat##1{%
13869          \prechaptername%
13870          \csname the##1\endcsname%
13871          \postchaptername%
13872          \quad%
13873      }%
13874  }%
13875  \renewcommand*\LWR@printchaptername{}%

```

Use decimal points instead of centered dots:

```

13876  \renewcommand{\thepart}{\@Roman\c@part}
13877  \@ifundefined{chapter}{%
13878      \renewcommand{\thesection}{\@arabic\c@section}%
13879  }{%
13880      \renewcommand{\thechapter}{\@arabic\c@chapter}%
13881      \renewcommand{\thesubsection}{\thechapter.\@arabic\c@section}%
13882  }%
13883  \renewcommand{\thesubsection}{\thesection.\@arabic\c@subsection}%
13884  \renewcommand{\thesubsubsection}{\thesubsection.\@arabic\c@subsubsection}%
13885  \renewcommand{\theparagraph}{\thesubsubsection.\@arabic\c@paragraph}%
13886  \renewcommand{\thesubparagraph}{\theparagraph.\@arabic\c@subparagraph}%
13887  \renewcommand{\thesubsubparagraph}{\thesubparagraph.\@arabic\c@subsubparagraph}%
13888  \renewcommand{\theparagraph}{\@arabic\c@subsubparagraph}%
13889  \renewcommand{\thetable}{\@arabic\c@table}%
13890  \@ifundefined{chapter}{%
13891      \renewcommand{\thefigure}{\@arabic\c@figure}%
13892      \renewcommand{\thetable}{\@arabic\c@table}%
13893  }{%
13894      \renewcommand{\thefigure}{\@arabic\c@figure}%
13895      \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@figure}%
13896      \renewcommand{\thetable}{\@arabic\c@table}%
13897      \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@table}%
13898  }%
13899 }%
13900
13901 \IfClassLoadedTF{ujarticle}{\LWR@patchujtclasses}{}%
13902 \IfClassLoadedTF{ujbook}{\LWR@patchujtclasses}{}%
13903 \IfClassLoadedTF{ujreport}{\LWR@patchujtclasses}{}%
13904 \IfClassLoadedTF{utarticle}{\LWR@patchujtclasses}{}%
13905 \IfClassLoadedTF{utbook}{\LWR@patchujtclasses}{}%
13906 \IfClassLoadedTF{utreport}{\LWR@patchujtclasses}{}%
13907 \IfClassLoadedTF{ltjarticle}{\LWR@patchujtclasses}{}%
13908 \IfClassLoadedTF{ltjbook}{\LWR@patchujtclasses}{}%
13909 \IfClassLoadedTF{ltjreport}{\LWR@patchujtclasses}{}%
13910 \IfClassLoadedTF{ltjsarticle}{\LWR@patchujtclasses}{}%
13911 \IfClassLoadedTF{ltjsbook}{\LWR@patchujtclasses}{}%
13912 \IfClassLoadedTF{ltjsreport}{\LWR@patchujtclasses}{}%
13913 \IfClassLoadedTF{ltjskiyou}{\LWR@patchujtclasses}{}%
13914 \IfClassLoadedTF{ltjspf}{\LWR@patchujtclasses}{}%
13915 \IfClassLoadedTF{ltjtarticle}{\LWR@patchujtclasses}{}%
13916 \IfClassLoadedTF{ltjtbbook}{\LWR@patchujtclasses}{}%
13917 \IfClassLoadedTF{ltjtreport}{\LWR@patchujtclasses}{}%
13918 \end{warpHTML}

```

## 107 CTeX patches

Patches for ctex and related classes, which are loaded before lwarp.

All CTeX classes and the ctex package seem to load ctexpatch, so its presence is used to decide whether to have lwarp patch CTeX.

**for HTML output:** 13919 \begin{warpHTML}

\AtBeginDocument in case the user set FileSectionNames in the preamble.

```

13920 \AtBeginDocument{
13921     \IfPackageLoadedTF{ctexpatch}{%
13922         \def\@partcntformat#1{%
13923             \LWR@isolate{\CTEX@partname}~%
13924             \CTEX@part@aftername%
13925         }%
13926     \def\@partnameformat{}%
13927     \def\@chapcntformat#1{%
13928         \def\@chapnameformat#1{%
13929             \LWR@isolate{\CTEX@chaptername}~%
13930             \CTEX@chapter@aftername%
13931         }%
13932     }%
13933     \renewcommand*\LWR@printchaptername{}%
13934 }{%
13935 }%
13936 }

13937 \end{warpHTML}

```

## 108 kotexutf patches

Patch for kotexutf, which is loaded before lwarp.

kotexutf's \@setref was conflicting with lwarp's cross references.

**for HTML output:** 13938 \begin{warpHTML}

If kotexutf's version of \@setref is detected, it is reverted to the original.

```

13939 \AtBeginDocument{
13940 \IfPackageLoadedTF{kotexutf}{%
13941     \def\@setref{\dhucs@orig{#1}{#2}{#3}{%
13942         \relax}%
13943         \ifx\@setref\relax\else
13944             \bgroup
13945             \dhucs@make@cjkchar@null
13946             \edef\@temp{\expandafter\global\expandafter\josatoks\expandafter{\@temp}{%
13947                 \egroup
13948             }%
13949         }%
13950     \ifdefequal{\@setref}{\LWR@kotexutf@setref}{%
13951         \let\@setref\@setref\dhucs@orig
13952     }%
13953 }

```

```

13953     }){}
13954 }()
13955 }

13956 \end{warpHTML}

```

## 109 babel and polyglossia warnings

lwarp prints a message instructing the user how to avoid the following error.

(These are not \PackageWarnings because there may not be a problem.)

lwarp uses `cleveref`, which has some limitations when using `polyglossia`, possibly resulting in the error

```
! Undefined control sequence. . . . \__hook begindocument
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by `cleveref`, then select other languages using `\setotherlanguages`.

Once the print version works with `cleveref` and `polyglossia`, the HTML version should work as well using lwarp.

**for HTML output:**

```

13957 \begin{warpHTML}
13958 \AtBeginDocument{
13959
13960 \IfPackageLoadedTF{polyglossia}{
13961   \PackageNoteNoLine{lwarp}
13962   {%
13963     Polyglossia has been loaded. Lwarp also uses cleveref.\MessageBreak
13964     See the cleveref documentation regarding\MessageBreak
13965     polyglossia support. Some languages are not supported.\MessageBreak
13966     --- \MessageBreak
13967     If the error\MessageBreak
13968     \space\space Undefined control sequence ...
13969     \protect\__hook begindocument\MessageBreak
13970     occurs here, use the polyglossia macro:\MessageBreak
13971     \space\space\protect\setmainlanguage\protect{...}\protect}
13972   }
13973 }{
13974   \IfPackageLoadedTF{babel}{

13975     \PackageNoteNoLine{lwarp}
13976     {%
13977       Babel has been loaded. Lwarp also uses cleveref.\MessageBreak
13978       See the cleveref documentation regarding\MessageBreak
13979       babel support. Some languages are not supported%
13980     }
13981   }{%
13982 }

```

```

13983
13984 }
13985 \end{warpHTML}

```

## 110 MATHJAX warnings

\LWR@mathjaxwarn {*packagename*} {*More text.*}

Issue a warning that MATHJAX is emulated. To be done \AtBeginDocument.

```

13986 \newcommand*{\LWR@mathjaxwarn}[2]{%
13987     \IfPackageLoadedTF{l warp-#1}{%
13988         \ifblank{#2}{%
13989             \PackageWarningNoLine{l warp}%
13990             {%
13991                 L warp provides emulation for MathJax when used\MessageBreak
13992                     with the #1 package%
13993             }%
13994         }{%
13995             \PackageWarningNoLine{l warp}%
13996             {%
13997                 L warp provides emulation for MathJax when used\MessageBreak
13998                     with the #1 package.\MessageBreak
13999                     #2%
14000             }%
14001         }%
14002     }{%
14003 }%
14004 %
14005 % \begin{macro}{\LWR@nomathjaxwarn} \marg{packagename} \marg{More text.}%
14006 %
14007 % Issue a warning that \MathJax\ is not supported.
14008 % To be done \cs{AtBeginDocument}.
14009 %
14010 % \changes{v0.894}{2020/12/22}{Warn if using packages not supported by \MathJax.}%
14011 % \changes{v0.895}{2021/01/08}{Improved \MathJax\ warning.}%
14012 % \begin{macrocode}%
14013 \newcommand*{\LWR@nomathjaxwarn}[2]{%
14014     \IfPackageLoadedTF{l warp-#1}{%
14015         \ifblank{#2}{%
14016             \PackageWarningNoLine{l warp}%
14017             {%
14018                 L warp does not provide MathJax support for #1.\MessageBreak
14019                     Use SVG math by removing the L warp mathjax option%
14020             }%
14021         }{%
14022             \PackageWarningNoLine{l warp}%
14023             {%
14024                 L warp does not provide MathJax support for #1.\MessageBreak
14025                     #2%
14026             }%
14027         }%
14028     }{%
14029 }%

```

```
\LWR@forceSVGmessage {⟨packagename⟩}

14030 \newcommand*{\LWR@forceSVGmessage}[1]{%
14031     SVG math output may be enabled for select math\MessageBreak
14032     expressions to preserve #1 visual\MessageBreak
14033     features for those particular expressions.\MessageBreak
14034     Before the chosen inline math, use \protect\inlinemathother\MessageBreak
14035     to begin using SVG math, and \protect\inlinemathnormal\MessageBreak
14036     afterward to resume using MathJax math.\MessageBreak
14037     Before display math, use \protect\displaymathother\MessageBreak
14038     to begin using SVG math, and use \protect\displaymathnormal\MessageBreak
14039     after to resume using MathJax for the following math.\MessageBreak
14040     Or, use SVG math for all expressions by removing\MessageBreak
14041     the mathjax option for the l warp package%
14042 }
```

If MATHJAX is being used, issue a warning for certain packages.

```
14043 \AtBeginDocument{
14044     \ifbool{mathjax}{%
14045         \LWR@nomathjaxwarn{aligned-overset}{}%
14046         \LWR@nomathjaxwarn{amscdx}{\LWR@forceSVGmessage{amscdx}}%
14047         \LWR@mathjaxwarn{arydshln}%
14048             {In a math array, do not use the optional argument\MessageBreak
14049             for \protect\cdashline.\space\space
14050             Furthermore, \protect\cline\space is not\MessageBreak
14051             supported by MathJax}%
14052         \LWR@nomathjaxwarn{autoalign}{}%
14053         \LWR@mathjaxwarn{autonum}%
14054             {MathJax does not support equation+.\MessageBreak
14055             You may use the warpprint and warpHTML\MessageBreak
14056             environments to isolate the package load\MessageBreak
14057             and the equation+ environments}%
14058         \LWR@mathjaxwarn{bigdelim}%
14059             {Delimiters appear only of the first line}%
14060         \LWR@nomathjaxwarn{boldtensors}{}%
14061         \LWR@mathjaxwarn{booktabs}%
14062             {\protect\cmidrule\space is not displayed}%
14063         \LWR@mathjaxwarn{breqn}%
14064             {Each environment becomes an SVG image}%
14065         \LWR@mathjaxwarn{colortbl}%
14066             {Colors are ignored in MathJax.\MessageBreak
14067             (Text mode tabular does support colortbl.)\MessageBreak
14068             \LWR@forceSVGmessage{colortbl}}%
14069         \LWR@mathjaxwarn{delarray}{\LWR@forceSVGmessage{delarray}}%
14070         \LWR@nomathjaxwarn{gauss}{\LWR@forceSVGmessage{gauss}}%
14071         \LWR@mathjaxwarn{hhline}%
14072             {A simple \protect\hline\space is used}%
14073         \LWR@mathjaxwarn{isomath}%
14074             {Some of the symbol font macros such as \protect\mathsf{bf}\MessageBreak
14075                 do not use a sans font because MathJax does not yet\MessageBreak
14076                 have sans Greek. Tensors may look like vectors%}
14077             }%
14078         \LWR@nomathjaxwarn{jkmath}{\LWR@forceSVGmessage{jkmath}}%
14079         \LWR@mathjaxwarn{libertinustmath}%
14080             {Some of the symbol font macros such as \protect\mathsf{bf}\MessageBreak
14081                 do not use a sans font because MathJax does not yet\MessageBreak
14082                 have sans Greek. Tensors may look like vectors%}
14083             }
```

```
14084     \LWR@mathjaxwarn{mathtools}
14085         {See the Lwarp manual regarding the disallowspaces\MessageBreak
14086         and showonlyrefs options, the alignat environment,\MessageBreak
14087         and \protect\DeclarePairedDelimiter\space and related%
14088             }
14089     \LWR@mathjaxwarn{mathspec}
14090         {Double quotes are removed, even inside \protect{text}}
14091     \LWR@mathjaxwarn{multirow}
14092         {Multirow works as expected in text mode, but\MessageBreak
14093         limited emulation is provided for MathJax math.\MessageBreak
14094         \protect\multirow\space ignores all arguments except\MessageBreak
14095             the text}
14096     \LWR@mathjaxwarn{nicematrix}
14097         {Keys/values are ignored in MathJax.\MessageBreak
14098         \protect\Cdots, etc. do not span multiple cells.\MessageBreak
14099         AutoNiceMatrix, etc. are not supported for MathJax.\MessageBreak
14100         \protect\CodeBefore\space cannot be done with MathJax.\MessageBreak
14101             \LWR@forceSVGmessage{nicematrix}%
14102         }
14103     \LWR@nomathjaxwarn{pb-diagram}{\LWR@forceSVGmessage{pb-diagram}}
14104 %
14105 % %
14106 %
14107 %
14108 \LWR@mathjaxwarn{siunitx}
14109 {Place \protect\sisetup\space before \protect\begin{document}. \MessageBreak
14110     Many optional arguments are ignored}
14111 \LWR@nomathjaxwarn{tensind}{}
14112 \LWR@mathjaxwarn{unicode-math}
14113     {Do not use embedded Unicode characters.\MessageBreak
14114     (Not all characters are encoded correctly.)\MessageBreak
14115     Some symbol fonts are not supported by MathJax,\MessageBreak
14116         and are only approximated.\MessageBreak
14117     Greek macros such as \protect\alpha\space respond to the math-style\MessageBreak
14118         option. Latin symbols does not, per MathJax\MessageBreak
14119         limitations, unless placed inside \protect\symbit\space or similar}
14120 \LWR@nomathjaxwarn{unitsdef}{}
14121 \LWR@mathjaxwarn{witharrows}
14122     {Arrows can only point to the next line.\MessageBreak
14123     Text is only placed on a single line}
14124 \LWR@nomathjaxwarn{xy}
14125     {In text, xy works as-is. SVG images will be generated.\MessageBreak
14126         \LWR@forceSVGmessage{xy}}
14127 }()
14128 }
```

---

**File 2 l warp-2in1.sty**

§ 111      Package **2in1**

Pkg 2in1

2in1 is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{2in1}

---

**File 3 l warp-2up.sty**

§ 112      Package **2up**

Pkg 2up

2up is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{2up}[2010/05/15]

```
2 \def\source#1#2#3{}  
3 \def\target#1#2#3{}  
4 \def\targetlayout#1{}  
5 \newdimen\pageseplength  
6 \newdimen\pagesepwidth  
7 \newdimen\pagesepoffset  
8 \def\twoupemptypage{}  
9 \def\twoupclearpage{}  
10 \def\twoupeject{}  
11 \def\twouparticle{}  
12 \def\twoupplain{}  
13 \def\twouplegaltarget{}  
14 \def\twouplandscape{}  
15 \def\TwoupWrites{}
```

---

**File 4 l warp-a4.sty**

§ 113      Package **a4**

Pkg a4

a4 is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a4}[2004/04/15]

```
2 \newcommand*\WideMargins{}
```

---

**File 5 l warp-a4wide.sty**

§ 114      Package **a4wide**

Pkg a4wide

a4wide is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a4wide}[1994/08/30]

---

**File 6 l warp-a5comb.sty****§ 115 Package a5comb**

Pkg a5comb a5comb is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a5comb}

---

**File 7 l warp-abstract.sty****§ 116 Package abstract**

(Emulates or patches code by PETER WILSON.)

Pkg abstract abstract is supported and patched by l warp.

**⚠ missing toc** If using the number option with file splits, be sure to place the table of contents before the abstract. The number option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

**for HTML output:** memoir provides an abstract environment even though it is not an article or report class. Meanwhile, l warp loads book to emulate memoir, but book does not have an abstract environment, so when the abstract package is loaded for emulation there is no pre-existing abstract to redefine, which would cause an error. Thus, a null abstract is provide 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{\bsruntitl}{%
12 \hspace*{\absttitleskip}%
13 {\abstractnamefont}%
14 \InLineClass{\abstractrunintitl}{\abstractname}%
15 \@bslabeldelim}%
16 }
```

```
17 \IfClassLoadedTF{memoir}%
18 {
19 \renewenvironment{abstract}{%
```

```
20 %      \titlepage
21 %      \null\vfil
22 %      \begin{parpenalty}{lowpenalty}
23 \setup@bstract
24   \if@bsrunin
25   \else
26     \if@bsstyle
27       \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
28     \else
29       \ifnumber@bs
30         \num@bs
31       \else
32         \begin{\absnamepos}%
33   \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}%
34   \end{parpenalty}@M
35   \end{\absnamepos}%
36   \vspace{\abstitleskip}%
37   \fi
38 \fi
39 \vspace{\abstitleskip}%
40 \fi
41 \put@bsintoc%
42 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
43 {\par\end{@bstr@ctlist}}\vfil\null%\endtitlepage
44 }
45 }% not memoir
46 \if@titlepage
47   \renewenvironment{abstract}{%
48     \titlepage
49     \null\vfil
50     \begin{parpenalty}{lowpenalty}
51     \if@bsrunin
52     \else
53       \if@bsstyle
54         \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
55       \else
56         \ifnumber@bs
57           \num@bs
58         \else
59           \begin{\absnamepos}%
60   \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}%
61   \end{parpenalty}@M
62   \end{\absnamepos}%
63   \vspace{\abstitleskip}%
64   \fi
65   \fi
66   \vspace{\abstitleskip}%
67   \fi
68   \put@bsintoc%
69   \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
70   {\par\end{@bstr@ctlist}}\vfil\null%\endtitlepage
71 }
72 \else
73   \renewenvironment{abstract}{%
74     \if@bsrunin
75     \else
76       \if@bsstyle
77         \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
78       \else
79         \ifnumber@bs
```

---

```

80           \num@bs
81           \else
82 \begin{\absnamepos}%
83 \abstractnamefont\BlockClassSingle{\abstracttitle}{\abstractname}%
84 \end\absnamepos%
85 %%           \vspace{\abstitleskip}%
86           \fi
87           \fi
88           \vspace{\abstitleskip}%
89           \fi
90           \put@bsintoc%
91           \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
92           {\par\end{@bstr@ctlist}}
93 \fi
94 }% not memoir

```

---

#### File 8 **l warp-academicons.sty**

### § 117 Package **academicons**

*(Emulates or patches code by DIOGO A. B. FERNANDES.)*

Pkg academicons

academicons is patched for use by l warp.

If \aiicon is used, the name of the icon is used in the alt tag. Otherwise, for each of the individual icon macros, a generic alt tag is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{academicons}[2018/06/27]

2 \LetLtxMacro{\LWR@orig@symbol}{\symbol}
3
4 \let\LWR@academicons@orig@AI\AI
5
6 \newcommand*{\LWR@academicons@symbol}[1]{%
7   \begin{latextimage}*[\academicon][\academicons#1]%
8   \begingroup%
9   \LWR@academicons@orig@AI%
10  \LWR@orig@symbol{#1}%
11  \endgroup%
12  \end{latextimage}%
13 }
14
15 \renewcommand*{\AI}{%
16   \LetLtxMacro{\symbol}{\LWR@academicons@symbol}%
17 }
18
19 \renewcommand*{\aiicon}[1]
20 {%
21   \begin{latextimage}*[#1 icon][\academicons#1]%
22   \AI\csname aiicon@#1\endcsname%
23   \end{latextimage}%
24 }

```

---

**File 9 l warp-accents.sty**

§ 118      Package **accents**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg accents

accents is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \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}[1]{\LARGE\grave{#1}}%
22     \renewcommand{\acute}[1]{\LARGE\acute{#1}}%
23     \renewcommand{\check}[1]{\LARGE\check{#1}}%
24     \renewcommand{\breve}[1]{\LARGE\breve{#1}}%
25     \renewcommand{\bar}[1]{\LARGE\bar{#1}}%
26     \renewcommand{\hat}[1]{\LARGE\hat{#1}}%
27     \renewcommand{\dot}[1]{\LARGE\dot{#1}}%
28     \renewcommand{\tilde}[1]{\LARGE\tilde{#1}}%
29     \renewcommand{\ddot}[1]{\LARGE\ddot{#1}}%
30     \renewcommand{\vec}[1]{\LARGE\vec{#1}}%
31     \renewcommand{\widetilde}[1]{\LARGE\widetilde{#1}}%
32     \underset{\raise 2pt {#1}}{\phantom{}^{#2}}%
33     \let\grave\LWRgrave%
34     \let\acute\LWRacute%
35     \let\check\LWRcheck%
36     \let\breve\LWRbreve%
37     \let\bar\LWRbar%
```

---

```

38 \let\hat{\LWRhat}
39 \let\dot{\LWRdot}
40 \let\tilde{\LWRtilde}
41 \let\ddot{\LWRddot}
42 \let\vec{\LWRvec}
43 \let\widetilde{\LWRwidetilde}
44 }%
45 }}
46
47 \CustomizeMathJax{\newcommand{\undertilde}[1]{%
48   \underset{\raise 3pt {\widetilde{\phantom{#1}}}}{\phantom{#1}}%
49 }}}
50 \end{warpMathJax}
```

---

File 10 **l warp-accessibility.sty**

§ 119 Package **accessibility**

Pkg accessibility accessibility is emulated.

**for HTML output:** Discard all options for l warp-accessibility:

```

1 \LWR@ProvidesPackageDrop{accessibility}[2019/10/14]

2 \newcommand{\alt}[1]{\ThisAltText{#1}}
3 \newcommand{\newhref}[3]{\ThisAltText{#2}\LWR@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**

§ 120 Package **accsupp**

Pkg accsupp accsupp is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{accsupp}[2018/03/28]

```

2 \newcommand*{\BeginAccSupp}[1]{}
3 \newcommand*{\EndAccSupp}[1]{}
```

For MATHJAX:

```

4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\BeginAccSupp}[1]{}}
6 \CustomizeMathJax{\newcommand{\EndAccSupp}[1]{}}
7 \end{warpMathJax}
```

---

**File 12 l warp-acro.sty**

§ 121      Package **acro**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

Pkg acro

acro is patched for use by l warp.

△ **formats** Define acronymn formats using \textbf instead of \bfseries etc.

**for HTML output:** 1 \LWR@ProvidesPackagePass{acro}[2019/10/12]

\DeclareAcronym is used in the preamble, where l warp has not yet made the dollar active, so temporarily enable l warp math catcode just for this definition:

```

2 \ExplSyntaxOn
3 \NewDocumentCommand \LWR@DeclareAcronym {mm}
4 {
5     \acro_declare_acronym:nn {#1} {#2}
6     \catcode`\$=3% l warp
7 }
8 \ExplSyntaxOff
9
10 \RenewDocumentCommand{\DeclareAcronym}{}{
11     \catcode`\$=\active% l warp
12     \LWR@DeclareAcronym
13 }
```

Replace dot fill with simple dots:

```

14 \ExplSyntaxOn
15 \cs_new_protected:Npn \LWR@HTML@acro_dot_fill: {\dots\space}
16 \LWR@formatted{acro_dot_fill:}
17 \ExplSyntaxOff
```

Modified to activate the current font:

```

18 \ExplSyntaxOn
19 \IfPackageAtLeastTF{acro}{2020/04/29}%
20 {}% v3 or later
21 {}% before v3
22 \IfPackageAtLeastTF{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}}% l warp
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}}% l warp
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}}% l warp
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}}% l warp
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}% l warp
110  } } }
111  { \exp_not:n {\LWR@textcurrentfont{#2}} }% l warp
112  }
113  }
114  }
115  \group_end:
116  }
117 }% before v2.10
118 }% before v3
119 \ExplSyntaxOff

```

### File 13 **l warp-acronym.sty**

## § 122 Package **acronym**

(Emulates or patches code by TOBIAS OETIKER.)

Pkg acronym

acronym is patched for use by l warp.

⚠ multiply-defined labels \acresetall does not work with cleveref, causing multiply-defined labels. l warp patches acronym for HTML, but not for print mode.

**for HTML output:** 1 \LWR@ProvidesPackagePass{acronym}[2015/03/21]

Uses \textit instead of \itshape:

```

2 \renewcommand{\acfia}{\textit{#1}}%
3 { \textit{\AC@acl{#1}} } (\ifAC@starred\acs*{#1}\else\acs{#1}\fi)

```

Removes the mbox to allow math inside:

```

4 \renewcommand*\AC@acs[1]{%
5 % \mbox{%
6 \expandafter\AC@get\csname fn@\#1\endcsname\@firstoftwo{#1}%
7 % }

```

Fix for acronym labels in the captions of floats.

```

8 \renewcommand{\@starttoc}[1]{%
9   \LWR@htmlelementclass{nav}{#1}
10  \LetLtxMacro{\@verridelabel}{\gobble}
11  \LWR@orig@starttoc{#1}
12  \LWR@htmlelementclassend{nav}{#1}

```

```
13 }
```

Modified for `cleveref` and `l warp`:

```
14 \renewcommand*\AC@und@newl@bel[3]{%
15   \@ifundefined{#1@#3}{%
16     {%
17       \global\expandafter\let\csname#2@#3\endcsname\@nnil
18       \global\expandafter\let\csname#2@#3@l warp\endcsname\@nnil% l warp
19       \global\expandafter\let\csname#2@#3@cref\endcsname\@nnil% l warp
20     }%
21     {%
22       \global\expandafter\let\csname#1@#3\endcsname\relax
23       \global\expandafter\let\csname#1@#3@l warp\endcsname\relax% l warp
24       \global\expandafter\let\csname#1@#3@cref\endcsname\relax% l warp
25     }%
26   }%
```

#### File 14 `l warp-adjmulticol.sty`

§ 123      Package **adjmulticol**

*(Emulates or patches code by BORIS VEYTSMAN.)*

`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}
```

```
adjmulticols * {\<numcols>} {\<left margin>} {\<right margin>}
```

```
3 \NewDocumentEnvironment{adjmulticols}{s m m m}
4 {%
```

Compute the margins, and limit to positive only:

```
5 \setlength{\LWR@templengthone}{#3}%
6 \ifdimcomp{\LWR@templengthone}{<}{0pt}{\setlength{\LWR@templengthone}{0pt}}{}%
7 \setlength{\LWR@templengthtwo}{#4}%
8 \ifdimcomp{\LWR@templengthtwo}{<}{0pt}{\setlength{\LWR@templengthtwo}{0pt}}{}%
```

If one column is specified, use a `<div>` of class `singlecolumn`, else use `multicols`:

```
9 \newcommand*{\LWR@mcolstype}{multicols}%
10 \ifnumcomp{#2}{=}{1}{\renewcommand*{\LWR@mcolstype}{singlecolumn}}{}%
```

Help avoid page overflow:

```
11 \LWR@forcenewpage%
```

---

Create the <div> with the given margin and class:

```

12 \BlockClass[%  

13   \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %  

14   \LWR@print@mbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}%  

15 ]{\LWR@mcolstype}%  

16 }  

17 {\endBlockClass}

```

---

#### File 15 **l warp-addlines.sty**

### § 124 Package **addlines**

*(Emulates or patches code by WILL ROBERTSON.)*

Pkg addlines

addlines is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{addlines}[2018/12/05]

```

2 \newcommand\addlines{\@ifstar\addlines@a\addlines@a}  

3 \newcommand\addlines@a[1][1]{}  

4 \let\addline\addlines  

5 \newcommand\removelines{\@ifstar\removelines@a\removelines@a}  

6 \newcommand\removelines@a[1][1]{}  

7 \let\removeline\removelines  

8 \newcommand\squeezepage[1][0]{} 

```

---

#### File 16 **l warp-afterpage.sty**

### § 125 Package **afterpage**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg afterpage

afterpage is emulated.

**for HTML output:** Discard all options for l warp-afterpage:

```

1 \LWR@ProvidesPackageDrop{afterpage}[2014/10/28]  

2 \newcommand{\afterpage}[1]{#1} 

```

---

#### File 17 **l warp-algorithm2e.sty**

### § 126 Package **algorithm2e**

*(Emulates or patches code by CHRISTOPHE FIORIO.)*

Pkg algorithm2e

algorithm2e is patched for use by l warp.

For print output, captions are placed according to package options, but for HTML output captions are placed where used. Therefore, to have captions appear at the

top of the algorithms for both print and HTML, place each captions at the top of each algorithm.

**for HTML output:** 1 \LWR@ProvidesPackagePass{algorithm2e}[2017/07/18]

For the list-of entries:

```
2 \renewcommand{\l@algocf}[2]{\hypertocfloat{1}{\algocf}{\loa}{#1}{#2}}
```

Select the lwarf float style according to the algorithm2e style:

```
3 \newcommand*{\LWR@floatstyle@algocf}{ruled}
4
5 \ifdefstring{\algocf@style}{boxed}{%
6 \renewcommand*{\LWR@floatstyle@algocf}{boxed}
7 }{%
8
9 \ifdefstring{\algocf@style}{boxruled}{%
10 \renewcommand*{\LWR@floatstyle@algocf}{boxruled}
11 }{%
12
13 \ifdefstring{\algocf@style}{plain}{%
14 \renewcommand*{\LWR@floatstyle@algocf}{plain}
15 }{}}
```

Paragraph handling to allow line numbers under certain conditions:

```
16 \renewcommand{\algocf@everypar}{%
17     \ifbool{\LWR@algocf@dopars}{%
18         \ifbool{\LWR@doingstartpars}{%
19             \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
20                 {}{%
21                 {}{}}
```

algorithm2e uses \everypar, so the open paragraph tag is generated here instead of \LWR@openparagraph:

```
22
23     \LWR@htmllagc{\LWR@tagregularparagraph}\LWR@orignewline%
24
25     \algocf@everyparnl\algocf@everyparhanging%
26 }{%
27 }
```

lwarf caption handling:

```
28 \renewcommand{\algocf@makecaption}[2]{%
29     \LWR@HTML@caption@begin{\algocf}%
30     \LWR@isolate{\algocf@captiontext{#1}{#2}}%
31     \LWR@HTML@caption@end%
32 }
```

Print any caption where it is declared:

```
33 \renewcommand{\algocf@makecaption@plain}[2]{%
34     \LWR@HTML@caption@begin{\algocf}%
35     \LWR@isolate{\algocf@captiontext{#1}{#2}}%
```

```

36      \LWR@HTML@caption@end%
37 }
38
39 \renewcommand{\algocf@makecaption@boxed}[2]{%
40     \LWR@HTML@caption@begin{\algocf}%
41     \LWR@isolate{\algocf@captiontext{#1}{#2}}%
42     \LWR@HTML@caption@end%
43 }
44
45 \renewcommand{\algocf@makecaption@ruled}[2]{%
46     \LWR@HTML@caption@begin{\algocf}%
47     \LWR@isolate{\algocf@captiontext{#1}{#2}}%
48     \LWR@HTML@caption@end%
49 }

```

Turn off line numbering while making the caption:

```

50 \long\def\algocf@latexcaption#1[#2]#3% original definition of caption
51 \boolfalse{LWR@algocf@dopars}%      lwarf
52 \par%
53 \addcontentsline{\csname ext@\#1\endcsname}{#1}%
54 {\protect\numberline{\csname the\#1\endcsname}\ignorespaces \LWR@isolate{#2}}}%
55 \begingroup%
56 \parboxrestore%
57 \if@minipage%
58   \setminipage%
59 \fi%
60 \normalsize%
61 \makecaption{\csname fnum@\#1\endcsname}\ignorespaces #3}\par%
62 \endgroup%
63 \booltrue{LWR@algocf@dopars}%      lwarf
64 }

```

Line numbers are printed in a <span> of class alg2elinenumber:

```

65 \renewcommand{\algocf@printlnl}[1]{%
66   \InLineClass{alg2elinumber}{\NLSty{#1}}~%
67 }%

```

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.

```

68 \preto{\algocf@init}{%
69   \edef\LWR@floatstyle@figure{\LWR@floatstyle@algocf}%
70 }%

```

For **lwarf**, the algorithm is not assembled inside a box, since `lateximages` would not work, so the captions are printed where declared.

```

71 \renewcommand{\@algocf@start}{%
72   \let@\mathsemicolon=\; \def\;{\ifmmode\mathsemicolon\else\endalgoln\fi}%
73 %   \raggedright%
74   \AlFnt{}%
75   \booltrue{LWR@algocf@dopars}% lwarf
76 }
77
78 \renewcommand{\@algocf@finish}{%
79   \boolfalse{LWR@algocf@dopars}% lwarf
80   \lineskip\normallineskip\setlength{\skiptotal}{\@defaultskiptotal}%

```

```

81      \let\;=\@mathsemicolon%
82      \let\]=\@emathdisplay%
83 }

```

Use an **HTML** break:

```

84 \renewcommand{\BlankLine}{%
85 \LWR@stoppars%
86 \LWR@htmlltagc{br /}%
87 \LWR@startpars%
88 }

```

Simplified for **HTML**. The paragraph handling must be preserved.

```

89 \renewcommand{\SetKwInOut}[2]{%
90   \algocf@newcommand{\#1}[1]{%
91     \ifthenelse{\boolean{\algocf@hanginginout}}{%
92       {\relax}%
93       {\algocf@seteveryparhanging{\relax}}%
94     \ifthenelse{\boolean{\algocf@inoutnumbered}}{%
95       {\relax}%
96       {\algocf@seteveryparnl{\relax}}%
97     }{%
98       \KwSty{\#2\algocf@typo:}%
99       ~##1\par%
100    }%
101    \algocf@linesnumbered% reset the numbering of the lines
102    \ifthenelse{\boolean{\algocf@hanginginout}}{%
103      {\relax}%
104      {\algocf@reseteveryparhanging}}%
105  }%
106 }%
107 %
108 \renewcommand{\ResetInOut}[1]{}

```

Each of the following creates a `<div>` of a given class, and turns off line numbering while creating the `<div>` tags:

```

109 \renewcommand{\algocf@Vline}[1]{%
110   \boolfalse{\LWR@algocf@dopars}%
111   \begin{BlockClass}{alg2evline}%
112   \booltrue{\LWR@algocf@dopars}%
113   #1%
114   \boolfalse{\LWR@algocf@dopars}%
115   \end{BlockClass}%
116   \booltrue{\LWR@algocf@dopars}%
117 }

118 \renewcommand{\algocf@Vsline}[1]{%
119   \boolfalse{\LWR@algocf@dopars}%
120   \begin{BlockClass}{alg2evsline}%
121   \booltrue{\LWR@algocf@dopars}%
122   #1%
123   \boolfalse{\LWR@algocf@dopars}%
124   \end{BlockClass}%
125   \booltrue{\LWR@algocf@dopars}%
126 }

127 \renewcommand{\algocf@Noline}[1]{%

```

```

128      \boolfalse{LWR@algocf@dopars}%
129      \begin{BlockClass}{alg2enoline}
130      \booltrue{LWR@algocf@dopars}%
131      #1
132      \boolfalse{LWR@algocf@dopars}%
133      \end{BlockClass}
134      \booltrue{LWR@algocf@dopars}%
135 }

```

The [H] environment is converted to a regular float, which in HTML is placed where declared. Reusing the regular float allows the [H] version to reuse the ruled and boxed options.

```

136 \LetLtxMacro\algocf@Here\algocf
137 \LetLtxMacro\endalgocf@Here\endalgocf

```

#### File 18 **l warp-algorithmicx.sty**

### § 127 Package **algorithmicx**

(Emulates or patches code by SzÁSZ JÁNOS.)

**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 [636.1](#).

```

2 \AtBeginEnvironment{algorithmic}{%
3 %
4 \let\origALG@doentity\ALG@doentity%
5 %
6 \renewcommand*\ALG@doentity{%
7 \origALG@doentity%
8 \LWR@htmllagc{%
9   span style=\textquotedbl{}%
10    width:\LWR@printlength{\ALG@thistlm}; display:inline-block;%
11    \textquotedbl%
12 }%
13 \ifbool{FormatWP}{%
14 \setlength{\LWR@templengthone}{\the\ALG@thistlm}%
15 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
16 \quad%
17 \addtolength{\LWR@templengthone}{-1em}%
18 }%
19 }{%
20 \LWR@htmllagc{/span}%
21 }%
22 %
23 \let\LWR@origComment\Comment%
24 %
25 \renewcommand{\Comment}[1]{%
26   \InlineClass{floatright}{\LWR@origComment{#1}}%

```

---

```

27 }%
28 }
29
30 \renewcommand\algorithmiccomment[1]{%
31 \hfill\HTMLunicode{25B7} #1% white right triangle
32 }%

```

---

File 19 **l warp-alltt.sty**

§ 128      Package **alltt**

*(Emulates or patches code by JOHANNES BRAAMS.)*

Pkg alltt

**for HTML output:** 1 \LWR@ProvidesPackagePass{alltt}[1997/06/16]

```

2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching alltt.}
4
5 \AtBeginEnvironment{alltt}{%
6   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
7     {}%
8     {}%
9     \LWR@forcenewpage

```

Vertical spacing changes if inside a list.

```

10          \LWR@atbeginverbatim{alltt}%
11        }%
12 }
13
14 \AfterEndEnvironment{alltt}{%
15   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
16     {}%
17     {}%

```

Vertical spacing changes if inside a list.

```

18          \LWR@afterendverbatim%
19        }%
20 }
21
22 }

```

---

File 20 **l warp-amscdx.sty**

§ 129      Package **amscdx**

*(Emulates or patches code by MARTIN VERMEER.)*

Pkg amscdx

amscdx is used as-is for SVG math.

 **MATHJAX** For MATHJAX, a warning notes that the CD environment must be enclosed between

---

\displaymathother and \displaymathnormal.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{amscdx}[2019/07/02]

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4   \renewenvironment{CD}
5     {\text{(Use \unicode{x005C}displaymathother before the CD enviroment.) \quad}}
6     {\quad \text{(Use \unicode{x005C}displaymathnormal after the CD enviroment.)}}
7 }
8
9 \CustomizeMathJax{\newcommand{\CDFattrue}{\relax}}
10 \CustomizeMathJax{\newcommand{\CDFatfalse}{\relax}}
11 \CustomizeMathJax{\newcommand{\CDashtrue}{\relax}}
12 \CustomizeMathJax{\newcommand{\CDashfalse}{\relax}}
13 \CustomizeMathJax{\newcommand{\CDlor}{[1]\relax}}
14 \end{warpMathJax}
```

---

#### File 21 **l warp-amsmath.sty**

### § 130 Package **amsmath**

(Emulates or patches code by AMERICAN MATHEMATICAL SOCIETY, LATEX3 PROJECT.)

Pkg amsmath

amsmath is patched for use by l warp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{amsmath}[2017/09/02]
```

\dotso An HTML text-mode version.

```

2 \newcommand*{\LWR@HTML@dotso}{\textellipsis\ }
3 \LWR@formatted{dotso}
```

Patches to allow \eqref inside a caption:

```

4 \def\maketag@@@#1{\text{\#1}}
5 \def\tagform@#1{\maketag@@@{(\ignorespaces#1\unskip)}}
```

Patches for AMS 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@amsmultiline}
52         \ifstreq{\#2}{multline}{\booltrue{\LWR@amsmultiline}}{%
53           \ifstreq{\#2}{multline*}{\booltrue{\LWR@amsmultiline}}{}}
```



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@amsmultiline}
75                 \LWR@addmathjax{#2}{\the\@envbody}
76             }
77             {\LWR@amsmathenv@@after}

```

Clear the single-use alt text:

```

78     \gdef\LWR@ThisAltText{}%
79     }{}
80     \addtocounter{\LWR@amsmathdepth}{-1}
81 }

```

Env `multline`

```

82 \BeforeBeginEnvironment{multline}{\LWR@amsmathenv@@before{multline}}
83
84 \AfterEndEnvironment{multline}{\LWR@amsmathenv@@after{multline}}

```

Env `multline*`

```

85 \BeforeBeginEnvironment{multline*}{\LWR@amsmathenv@@before*{multline*}}
86
87 \AfterEndEnvironment{multline*}{\LWR@amsmathenv@@after*{multline*}}
88

```

Env `gather`

```

89 \BeforeBeginEnvironment{gather}{\LWR@amsmathenv@@before{gather}}
90
91 \AfterEndEnvironment{gather}{\LWR@amsmathenv@@after{gather}}

```

Env `gather*`

```

92 \BeforeBeginEnvironment{gather*}{\LWR@amsmathenv@before*{gather*}}
93
94 \AfterEndEnvironment{gather*}{\LWR@amsmathenv@after*{gather*}}
```

Env align

```

95 \BeforeBeginEnvironment{align}{\LWR@amsmathenv@before{align}}
96
97 \AfterEndEnvironment{align}{\LWR@amsmathenv@after{align}}
```

Env align\*

```

98 \BeforeBeginEnvironment{align*}{\LWR@amsmathenv@before*{align*}}
99
100 \AfterEndEnvironment{align*}{\LWR@amsmathenv@after*{align*}}
```

Env flalign

```

101 \BeforeBeginEnvironment{flalign}{\LWR@amsmathenv@before{flalign}}
102
103 \AfterEndEnvironment{flalign}{\LWR@amsmathenv@after{flalign}}
```

Env flalign\*

```

104 \BeforeBeginEnvironment{flalign*}{\LWR@amsmathenv@before*{flalign*}}
105
106 \AfterEndEnvironment{flalign*}{\LWR@amsmathenv@after*{flalign*}}
```

Env alignat

```

107 \BeforeBeginEnvironment{alignat}{\LWR@amsmathenv@before{alignat}}
108
109 \AfterEndEnvironment{alignat}{\LWR@amsmathenv@after{alignat}}
```

Env alignat\*

```

110 \BeforeBeginEnvironment{alignat*}{\LWR@amsmathenv@before*{alignat*}}
111
112 \AfterEndEnvironment{alignat*}{\LWR@amsmathenv@after*{alignat*}}
```

```

113 \AtBeginEnvironment{subequations}{
114     \renewcommand*{\theMathJaxsubequations}{1}
115     \renewcommand*{\theMathJaxsection}{\theparentequation}
116     \renewcommand*{\theMathJaxequation}{\arabic{equation}}
117 }
```

For MATHJAX:

```

118 \begin{warpMathJax}
119 \CustomizeMathJax{\newcommand{\intertext}[1]{\text{\#1}\notag \\}}
120 \CustomizeMathJax{\let\Hat\hat}
121 \CustomizeMathJax{\let\Check\check}
122 \CustomizeMathJax{\let\Tilde\tilde}
123 \CustomizeMathJax{\let\Acute\acute}
```

---

```

124 \CustomizeMathJax{\let\Grave\grave}
125 \CustomizeMathJax{\let\Dot\dot}
126 \CustomizeMathJax{\let\Ddot\ddot}
127 \CustomizeMathJax{\let\Breve\breve}
128 \CustomizeMathJax{\let\Bar\bar}
129 \CustomizeMathJax{\let\Vec\vec}
130 \end{warpMathJax}
```

---

File 22 **l warp-amsthm.sty**

§ 131 Package **amsthm**

*(Emulates or patches code by PUBLICATIONS TECHNICAL GROUP—AMERICAN MATHEMATICAL SOCIETY.)*

The original source code is located in `amsclass.dtx`, and printed in `amsclass.pdf`.

`amsthm` is patched for use by `l warp`.

---

Table 19: `amsthm` package—css styling of theorems and proofs

**Theorem:** <div> of class `amsthmbody<theoremstyle>`

**Theorem Name:** <span> of class `amsthmname<theoremstyle>`

**Theorem Number:** <span> of class `amsthmnumber<theoremstyle>`

**Theorem Note:** <span> of class `amsthmnote<theoremstyle>`

**Proof:** <div> of class `amsthmproof`

**Proof Name:** <span> of class `amsthmproofname`

where <theoremstyle> is `plain`, `definition`, etc.

---

**for HTML output:** `amsthm` must be loaded before `mdframed`:

```

1 \IfPackageLoadedTF{mdframed}{
2   \PackageError{l warp}
3   {%
4     Package mdframed must be loaded after package amsthm.\MessageBreak
5     Enter 'H' for solutions%
6   }
7   {%
8     Move ``\protect\usepackage{amsthm}'' before
9     ``\protect\usepackage{mdframed}''.\MessageBreak
10    Package amsthm may be loaded by something else,\MessageBreak
11    which must also be moved before mdframed.%
12  }
13}
14 {\relax}
```

Necessary for `\text`, used by `\openbox`, etc., below:

```

15 \RequirePackage{amsmath}
16 \LWR@ProvidesPackagePass{amsthm}[2017/10/31]
```

Storage for the style being used for new theorems:

```
17 \newcommand{\LWR@newtheoremstyle}{plain}
```

Patched to remember the style being used for new theorems:

```
18 \renewcommand{\theoremstyle}[1]{%
19   \@ifundefined{th@#1}{%
20     \PackageWarning{amsthm}{Unknown theoremstyle '#1'}%
21     \thm@style{plain}%
22     \renewcommand{\LWR@newtheoremstyle}{plain}% l warp
23   }%
24   \thm@style{#1}%
25   \renewcommand{\LWR@newtheoremstyle}{#1}% l warp
26 }%
27 }
```

Patched to remember the style for this theorem type:

```
28 \def@\xnthm#1#2{%
29   \csedef{\LWR@thmstyle#2}{\LWR@newtheoremstyle}% l warp
30   \let@\tempa\relax
31   \xp@\if definable\cscname #2\endcscname{%
32     \global\xp@\let\cscname end#2\endcscname\@endtheorem
33     \ifx *#1% unnumbered, need to get one more mandatory arg
34       \edef@\tempa##1{%
35         \gdef\xp@\nx\cscname#2\endcscname{%
36           \nx\thm{\xp@\nx\cscname th@\the\thm@style\endcscname}%
37           {}{##1}}%
38       \else % numbered theorem, need to check for optional arg
39         \def@\tempa{\oparg{\ynthm{#2}}[]}%
40       \fi
41       \AtBeginEnvironment{#2}{%                                l warp
42         \edef\LWR@thisthmstyle{\nameuse{\LWR@thmstyle#2}}% l warp
43       }%                                              l warp
44   }%
45   \tempa%
46 }
```

Patched to enclose with csc:

```
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 }
```

```

65 \LWR@haveamsthmname
66 \LWR@haveamsthmnumber
67 \LWR@haveamsthmnote

```

Patched for css:

```

68 \def\@begintheorem#1#2[#3]{%
69     \GetTitleString{#3}%
70     \let\@currentlabelname\GetTitleStringResult%
71     \item[% l warp
72         \LWR@newautopagelabel{page}\LWR@orignewline% l warp
73 %         \deferred@thm@head{ l warp
74 %             \the\thm@headfont \thm@indent l warp
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 l warp
80 %             \thmheadnl % possibly a newline. l warp
81 %             \hskip\thm@headsep l warp
82 %         }%
83 %     ]%
84     \ignorespaces}

```

Patched for css:

```

85 \def\@thm#1#2#3{%
86   \ifhmode\unskip\unskip\par\fi
87   \normalfont
88   \LWR@forcenewpage% l warp
89   \LWR@printpendingfootnotes% l warp
90   \BlockClass{amsthmbody}\LWR@thisthmstyle}% l warp
91   \trivlist
92   \let\thmheadnl\relax
93   \let\thm@swap\gobble
94   \thm@notefont{\fontseries\mddefault\upshape}%
95   \thm@headpunct{.}% add period after heading
96   \thm@headsep 5\p@ plus\p@ minus\p@\relax
97   \thm@space@setup
98   #1% style overrides
99   \atopsep \thm@preskip % used by thm head
100  \atopsepadd \thm@postskip % used by \endparenv
101  \def\@tempa{#2}\ifx\@empty\@tempa
102    \def\@tempa{\@oparg{\@begintheorem{#3}{}}[]}%
103  \else
104    \refstepcounter{#2}%
105    \def\@tempa{\@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]}%
106  \fi
107  \@tempa%
108 }

```

cleveref patches \AtBeginDocument to do \cref@thmoptarg if an optional argument is given. lwarp then patches \cref@thmoptarg \AtBeginDocument.

```

109 \AtBeginDocument{%
110 \def\cref@thmoptarg[#1]#2#3#4{%
111   \ifhmode\unskip\unskip\par\fi%
112   \normalfont%
113   \LWR@forcenewpage%                                lwarp
114   \LWR@printpendingfootnotes%                      lwarp
115   \BlockClass{amsthmbody\LWR@thisthmstyle}%    lwarp
116   \trivlist%
117   \let\thmheadnl\relax%
118   \let\thm@swap\@gobble%
119   \thm@notefont{\fontseries\mddefault\upshape}%
120   \thm@headpunct{.}% add period after heading
121   \thm@headsep 5\p@ plus\p@ minus\p@\relax%
122   \thm@space@setup%
123   #2% style overrides
124   \atopsep \thm@preskip          % used by thm head
125   \atopsepadd \thm@postskip      % used by \endparenv
126   \def\@tempa{#3}\ifx\empty\@tempa%
127     \def\@tempa{\@oparg{\@begintheorem{#4}{}}[]}%
128   \else%
129     \refstepcounter[#1]{#3}% << cleveref modification
130     \def\@tempa{\@oparg{\@begintheorem{#4}{\csname the#3\endcsname}}[]}%
131   \fi%
132   \@tempa
133 }%
134 }% AtBeginDocument
135
136 \def\@endtheorem{%
137   \endtrivlist%
138   \LWR@printpendingfootnotes%                      lwarp
139   \endBlockClass%
140   \endpfalse%
141 }

```

Proof QED symbol:

```

142 \AtBeginDocument{%
143 \ifundefined{\LWR@orig@openbox}{%
144   \LetLtxMacro{\LWR@orig@openbox}{\openbox}%
145   \LetLtxMacro{\LWR@orig@blacksquare}{\blacksquare}%
146   \LetLtxMacro{\LWR@orig@Box}{\Box}%
147
148   \def\openbox{\text{\HTMLunicode{25A1}}}%
149   \def\blacksquare{\text{\HTMLunicode{220E}}}%
150   \def\Box{\text{\HTMLunicode{25A1}}}%
151
152 \appto{\LWR@restoreorigformatting}{%
153   \LetLtxMacro{\openbox}{\LWR@orig@openbox}%
154   \LetLtxMacro{\blacksquare}{\LWR@orig@blacksquare}%
155   \LetLtxMacro{\Box}{\LWR@orig@Box}%
156 }%

```

```
157 }{}% @ifundefined
158 % AtBeginDocument
```

Patched to add a <span>:

```
159 \DeclareRobustCommand{\qed}{%
160   \ifmmode \mathqed
161   \else
162 %     \leavevmode\unskip\penalty9999 \hbox{}\nobreak\hfill
163 %     \quad\hbox{\qedsymbol}%
164     \InlineClass{theoremendmark}{\qedsymbol}%
165   \l warp
166 }
```

Patched for css:

```
167 \renewenvironment{proof}[1][\proofname]{\par
168   \LWR@forcenewpage% \l warp

169   \LWR@printpendingfootnotes% \l warp

170   \BlockClass{amsthmproof}%
171   \LWR@newautopagelabel{page}%
172   \pushQED{\qed}%
173   \normalfont \topsep6\p@\relax
174   \trivlist
175   \item[
176     \InlineClass{amsthmproofname}{\#1\@addpunct{.}}]\ignorespaces% changes
177 }{%
178   \popQED\endtrivlist

179   \LWR@printpendingfootnotes% \l warp

180   \endBlockClass% \l warp
181   \endpefalse
182 }
```

### File 23 **lwarp-anonchap.sty**

#### § 132 Package **anonchap**

(Emulates or patches code by PETER WILSON.)

Pkg anonchap

anonchap is emulated.

Pkg tocloft

If using **tocloft** with **tocbibind**, **anonchap**, **fncychap**, or other packages which change chapter title formatting, load **tocloft** with its **titles** option, which tells **tocloft** to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.

The code is shared by **tocbibind**.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{anonchap}[2009/08/03]

---

```

2 \newcommand{\simplechapter}[1][\@empty]{%
3   \def\@chapcntformat##1{%
4     #1\endcsname\simplechapterdelim\quad%
5   }%
6 }
7
8 \newcommand{\restorechapter}{%
9 \let\@chapcntformat\@seccntformat%
10 }

```

---

**File 24 l warp-any size.sty**
**§ 133 Package any size**

*(Emulates or patches code by MICHAEL SALZENBERG, THOMAS ESSER.)*

Pkg any size

any size is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{any size}[1994/08/13]

```

2 \def\papersize#1#2{%
3 \def\marginsize#1#2#3#4{%

```

---

**File 25 l warp-appendix.sty**
**§ 134 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@ppage{%
3 \part*\@appendixpagename%
4 \if@dotoc@pp%
5 \addappheadtotoc%
6 \fi%
7 }%
8
9 \renewcommand*\@sec@pppage{%
10 \part*\@appendixpagename%
11 \if@dotoc@pp%
12 \addappheadtotoc%
13 \fi%
14 }

```

---

**File 26 l warp-ar.sty**

§ 135 Package **ar**

(Emulates or patches code by AGOSTINO DE MARCO.)

ar is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{ar}[2012/01/23]

Measure and print the width of the supplied glyph.

```
2 \newlength{\LWR@ar@width}
3
4 \newcommand*{\LWR@ar@printwidth}[1]{%
5   \setlength{\LWR@ar@width}{\widthof{\#1}}%
6   width:%
7   \LWR@convertto{em}{\the\LWR@ar@width}em%
8 }
```

The HTML version of \AR:

```
9 \newrobustcmd*{\LWR@HTML@AR}{%
```

Start a hashed `\teximage`, additionally hashed by the font series, with a width depending on the given glyph:

```
10 \begin{teximage}*[\AR][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@AR}]%
```

For text mode, set the font series according to the HTML font series:

```
11 \ifmmode\else\csuse{\LWR@orig\LWR@f@series}{\fi}
```

Print the original glyph using the newly set font series:

```
12 \LWR@print@AR%
```

Done.

```
13 \end{teximage}%
14 }
```

Combine the print and HTML versions:

```
15 \LWR@formatted{AR}
```

```
16 \newrobustcmd*{\LWR@HTML@ARb}{%
17   \begin{teximage}*[\AR][b][\LWR@ar@printwidth{\LWR@print@ARb}]%
18   \LWR@print@ARb%
19   \end{teximage}%
20 }
21 \LWR@formatted{ARb}
```

---

```

22 \newrobustcmd*{\LWR@HTML@ARss}{%
23   \begin{lateximage}*[ARss][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@ARss}]%
24   \ifmmode\else\csuse{\LWR@orig\LWR@f@series series}\fi%
25   \LWR@print@ARss%
26   \end{lateximage}%
27 }
28 \LWR@formatted{ARss}

29 \newrobustcmd*{\LWR@HTML@ARssb}{%
30   \begin{lateximage}*[AR][ssb][\LWR@ar@printwidth{\LWR@print@ARssb}]%
31   \LWR@print@ARssb%
32   \end{lateximage}%
33 }
34 \LWR@formatted{ARssb}

35 \newrobustcmd*{\LWR@HTML@ARtt}{%
36   \begin{lateximage}*[AR][tt][\LWR@ar@printwidth{\LWR@print@ARtt}]%
37   \LWR@print@ARtt%
38   \end{lateximage}%
39 }
40 \LWR@formatted{ARtt}

```

For MATHJAX:

```

41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\AR}{\mathit{A}!R}}
43 \CustomizeMathJax{\newcommand{\ARB}{\boldsymbol{A}!R}}
44 \end{warpMathJax}

```

---

### File 27 **l warp-arabicfront.sty**

#### § 136 Package **arabicfront**

Pkg arabicfront      arabicfront is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{arabicfront}[2006/09/03]

---

### File 28 **l warp-array.sty**

#### § 137 Package **array**

Pkg array      array is used as-is for print output, and emulated for HTML.

plarray and plexarray do not affect \firsthline or \lasthline, and so are not affected by the following.

**for HTML output:** If array is not yet loaded, remove the default nullified macros:

```

1 \IfPackageLoadedTF{array}{}{%
2   \let\firsthline\relax
3   \let\lasthline\relax
4 }
5
6 \LWR@ProvidesPackagePass{array}[2018/12/30]

```

Provide simplified column types for HTML:

```
7 \HTMLnewcolumntype{w}[2]{#1}
8 \HTMLnewcolumntype{W}[2]{#1}
```

More HTML versions:

```
9 \newcommand*{\LWR@HTML@firsthline}{\LWR@HTMLhline}%
10 \LWR@expandableformatted{firsthline}%
11
12 \newcommand*{\LWR@HTML@lasthline}{\LWR@HTMLhline}%
13 \LWR@expandableformatted{lasthline}%

14 \let\tabularnewline\\
15 \providecommand*{\LWR@HTML@tabularnewline}{\LWR@tabularendofline}%
16 \LWR@formatted{tabularnewline}
```

For MATHJAX:

```
17 \CustomizeMathJax{
18     \newcommand{\multicolumn}[3]{#3}% only uses one cell
19 }
```

## File 29 l warp-arydshln.sty

### § 138 Package arydshln

(Emulates or patches code by HIROSHI NAKASHIMA.)

Pkg arydshln

arydshln heavily patches tabular code, so the actual package is not used. arydshln is emulated for HTML tabular, and reverts to solid rules for SVG math array and tabular in a lateximage.

css is not able to display a double-dashed border, so a single-dashed rule is displayed as a single-dashed border, and a double-dashed rule is displayed as a thicker single-dashed border.

For MATHJAX, limited emulation is provided for math mode.

**for HTML output:** array is required to allow \newcolumn below.

```
1 \RequirePackage{array}
2 \LWR@ProvidesPackageDrop{arydshln}[2018/09/26]
```

Ignored, but included for source compatibility:

```
3 \newdimen\dashlinedash \dashlinedash4pt %
4 \newdimen\dashlinegap \dashlinegap4pt %
5 \let\hdashlinewidth\dashlinedash
6 \let\hdashlinegap\dashlinegap
7
8 \def\ADLnullwide{}
9 \def\ADLsomewide{}
10 \def\ADLnullwidehline{}
```

```

11 \def\ADLsomewidehline{}
12
13 \def\ADLactivate{}
14 \def\ADLinactivate{}
15 \newcommand*{\ADLdrawingmode}[1]{}
16 \newcommand*{\ADLnoshorthanded}{}
17 \newcommand*{\dashgapcolor}[2][]{}
18 \newcommand*{\nodashgapcolor}{}{}
```

In a `\teximage`, revert to solid vertical rules:

```

19 \appto\LWR@restoreorigformatting{%
20 \newcolumntype{ : }{|}%
21 \newcolumntype{ ; }[1]{|}%
22 \LetLtxMacro\hdashline\hline%
23 }
```

Some of these macros are already defined as temporary placeholders in the `lwarp` core, so they must be redefined here.

The emulated defaults also work for an emulated print mode inside a `\teximage`:

```

24 \def\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% \warp
33 %      \fi
34 %      \@ifnextchar[%]
35 %          {#1}%
36 %          {#1[%}
37 %          \dashlinedash/\dashlinegap
38 %          1pt/1pt
39 %      ]{})}
40 % \def\adl@ihdashline[#1/#2]{\ifnum0='{\fi}%
41 %      \multispan{\adl@columns}\unskip \adl@hcline\z@\[#1/#2]%
42 %      \noalign{\ifnum0='}\fi
43 %      \futurelet\atempa\adl@xhline}
44 \def\adl@inactivehdl[#1/#2]{%
45 %      \ifadl@zwhrule \vskip-\arrayrulewidth \fi
46 %      \hrule\height\arrayrulewidth
47 %      \futurelet\atempa\adl@xhline}
48 \def\adl@xhline{\ifx\atempa\hline \adl@ixhline\fi
49 %      \ifx\atempa\hdashline \adl@ixhline\fi
50 %      \ifnum0='{\fi}%
51 \def\adl@ixhline{\vskip\doublerulesep \adl@hline\relax\doublerulesep}
52 \def\adl@hline#1#2{%
53 %      \atempcpta#2
54 %          \global\advance\adl@totalheight\atempcpta
55 %          \xdef\adl@rowsL{\adl@rowsL
56 %              (#1/\number\atempcpta);}%
57 %          \xdef\adl@rowsR{\adl@rowsR
58 %              (#1/\number\atempcpta);}
59 }
60
61 \def\cdashline#1{\noalign{\ifnum0='}\fi}
```

---

```

62      \@ifnextchar[%]
63 %          {\adl@cdline[#1]}%
64 %          {\adl@cdline[#1][\dashlinedash/\dashlinegap]}
65          {\adl@inactivecdl[#1]}%
66          {\adl@inactivecdl[#1][\dashlinedash/\dashlinegap]}
67 }
68
69 \def\adl@inactivecdl[#1-#2][#3]{\ifnum0='{\fi}\cline{#1-#2}}


70 \begin{warpMathJax}
71 \CustomizeMathJax{\newcommand{\firstdashline}[1][]{\hline}}
72 \CustomizeMathJax{\let\lastdashline\firstdashline}
73 \CustomizeMathJax{\let\cdashline\cline}
74 \end{warpMathJax}

```

---

File 30 **l warp-asymptote.sty**

§ 139 Package **asymptote**

*(Emulates or patches code by ANDY HAMMERLINDL, JOHN BOWMAN, TOM PRINCE.)*

Pkg asymptote

asymptote is patched for use by l warp.

To compile:

```

pdflatex project.tex
asy project-*.asy
pdflatex project.tex

lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1

lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages

```

for HTML output: 1 \LWR@ProvidesPackagePass{asymptote}[2016/11/26]

```

2 \BeforeBeginEnvironment{asy}{%
3   \begin{lateximage}[-asymptote-\~\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{asy}{\end{lateximage}}
6
7 \xpatchcmd{\asyinclude}
8   {\begingroup}
9   {\begin{lateximage}[-asymptote-\~\PackageDiagramAltText]%
10  {}%
11  {\LWR@patcherror{asymptote}{asyinclude-begingroup}}%
12 }
13 \xpatchcmd{\asyinclude}
14   {\endgroup}
15   {\end{lateximage}}

```

```
16  {}
17  {\LWR@patcherror{asymptote}{asyinclude-endgroup}}
```

---

**File 31 l warp-atbegshi.sty****§ 140 Package atbegshi**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg atbegshi

atbegshi is ignored.

**for HTML output:** Discard all options for l warp-atbegshi:

```
1 \LWR@ProvidesPackageDrop{atbegshi}[2011/10/05]

2 \let\AtBeginShipout\relax
3 \let\AtBeginShipoutNext\relax
4 \let\AtBeginShipoutFirst\relax
5 \let\AtBeginShipoutDiscard\relax
6 \let\AtBeginShipoutInit\relax
7 \let\AtBeginShipoutAddToBox\relax
8 \let\AtBeginShipoutAddToBoxForeground\relax
9 \let\AtBeginShipoutUpperLeft\relax
10 \let\AtBeginShipoutUpperLeftForeground\relax
11 \let\AtBeginShipoutOriginalShipout\relax
12
13 \newcommand*{\AtBeginShipout}[1]{}
14 \newbox\AtBeginShipoutBox
15 \newcommand*{\AtBeginShipoutNext}[1]{}
16 \newcommand*{\AtBeginShipoutFirst}[1]{}
17 \newcommand*{\AtBeginShipoutDiscard}={}
18 \newcommand*{\AtBeginShipoutInit}={}
19 \newcommand*{\AtBeginShipoutAddToBox}[1]{}
20 \newcommand*{\AtBeginShipoutAddToBoxForeground}[1]{}
21 \newcommand*{\AtBeginShipoutUpperLeft}[1]{}
22 \newcommand*{\AtBeginShipoutUpperLeftForeground}[1]{}
23 \newcommand*{\AtBeginShipoutOriginalShipout}[1]{}
24 \def\AtBeginShipoutBoxWidth{0pt}
25 \def\AtBeginShipoutBoxHeight{0pt}
26 \def\AtBeginShipoutBoxDepth{0pt}
```

---

**File 32 l warp-attachfile.sty****§ 141 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{lateximage}{}%
5         [-attachfile-]%
6         [%]
7             \detokenize\expandafter{\atfi@icon@icon}-%
8                 \detokenize\expandafter{\atfi@color@rgb}%
9             ]%
10 }
11 {
12     \end{lateximage}
13 }
```

Each icon is enclosed inside a `\LWR@attachfile@icon` environment:

```

14 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
15 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
16
17 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
18 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
19
20 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
21 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}
22
23 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
24 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}
```

Disable PDF file embedding:

```
25 \DeclareRobustCommand{\atfi@embedfile}[1]{}
```

The displayed output for an `\attachfile` reference:

```

26 \newcommand*{\LWR@attachfile@appearance}{}%
27
28 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
29     \def\LWR@attachfile@appearance{#1}%
30 }
```

A file annotation becomes a reference:

```

31 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
32     \LWR@href{#1}{\LWR@attachfile@appearance}%
33 }
```

### File 33 l warp-attachfile2.sty

§ 142 Package **attachfile2**

(Emulates or patches code by HEIKO OBERDIEK.)

`attachfile2` is patched for use by `l warp`.



Metadata is ignored for now.

**for HTML output:** 1 \LWR@ProvidesPackagePass{attachfile2}[2016/05/16]

Adds memory of the selected color:

```

2 \def\LWR@attachfiletwo@color{}%
3
4 \define@key{AtFi}{color}{%
5   \def\LWR@attachfiletwo@color{\#1}%
6   \HyColor@AttachfileColor{\#1}%
7     \atfi@color@tex\atfi@color@color@inline\atfi@color@annot
8   {attachfile2}{color}%
9 }
```

Encloses each icon:

```

10 \newenvironment*{\LWR@attachfile@icon}{%
11 {
12   \begin{lateximage}{%
13     [-attachfile-]}%
14   [%%
15     \detokenize\expandafter{\atfi@icon@icon}-%
16     \detokenize\expandafter{\LWR@attachfiletwo@color}%
17   ]%
18 }
19 {
20   \end{lateximage}%
21 }
```

Each icon is enclosed inside a `\LWR@attachfile@icon` environment:

```

22 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{%
23 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{%
24
25 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{%
26 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{%
27
28 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{%
29 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{%
30
31 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{%
32 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}}
```

Disable PDF file embedding:

```
33 \DeclareRobustCommand{\atfi@embedfile}[1]{}
```

The displayed output for an `\attachfile` reference:

```

34 \newcommand*{\LWR@attachfile@appearance}{}%
35
36 \def\atfi@set@appearance@icon{%
37   \atfi@set@appearance{\csname atfi@acro\atfi@icon@icon\endcsname}%
38 }%
39
40 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
41   \def\LWR@attachfile@appearance{\#1}%
42 }
```

A file annotation becomes a reference:

```
43 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
```

---

```

44      \LWR@href{\#1}{\LWR@attachfile@appearance}%
45 }

```

Modified for text color:

```

46 \DeclareRobustCommand{\notextattachfile}[2][]{%
47   \begingroup
48   \atfi@setup{\#1}%
49   \ifatfi@print
50     \leavevmode
51     \begingroup
52       \HyColor@UseColor\atfi@color@tex
53       \LWR@textcurrentcolor{\#2}%
54       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

### § 143 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 \IfPackageLoadedTF{titling}{}

```

---

```

2   \PackageError{lwarp-authblk}
3     {Package authblk must be loaded before titling}
4     {%
5       Titling appends authblk's author macro,
6       so authblk must be loaded first.%}
7   }
8 }
9 {\relax}

```

Load authblk:

```
10 \LWR@ProvidesPackagePass{authblk}[2001/02/27]
```

Patch to add a class for the affiliation:

```

11 \LetLtxMacro\LWRAB@affil\affil
12
13 \renewcommand{\affil}[2][]{%
14 \LWRAB@affil[#1]{\protect\InlineClass{affiliation}{#2}}%
15 }

```

Create an HTML break for an \authorcr:

```
16 \renewcommand*{\authorcr}{\protect\LWR@newlinebr}
```

---

### File 35 **lwarp-autobreak.sty**

#### § 144 Package **autobreak**

*(Emulates or patches code by TAKAHIRO UEDA.)*

Pkg **autobreak**

**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 **lwarp-autonum.sty**

#### § 145 Package **autonum**

Pkg **autonum**

autonum is ignored.

- ⚠ **numbering, +** All equations are numbered in HTML output. MATHJAX does not support the “+” environments.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{autonum}[2015/01/18]

2 \RequirePackage{amsmath}
3
4
5 \newenvironment{equation+}{\begin{equation}}{\end{equation}}
6
7
8 \newenvironment{gather+}{\begin{gather}}{\end{gather}}
9
10 \BeforeBeginEnvironment{gather+}{\LWR@amsmathenv@@before{gather+}}
11
12 \AfterEndEnvironment{gather+}{\LWR@amsmathenv@@after}
13
14
15 \newenvironment{multline+}{\begin{multline}}{\end{multline}}
16
17 \BeforeBeginEnvironment{multline+}{\LWR@amsmathenv@@before{multline+}}
18
19 \AfterEndEnvironment{multline+}{\LWR@amsmathenv@@after}

20 \newenvironment{flalign+}{\begin{flalign}}{\end{flalign}}
21
22 \BeforeBeginEnvironment{flalign+}{\LWR@amsmathenv@@before{flalign+}}
23
24 \AfterEndEnvironment{flalign+}{\LWR@amsmathenv@@after}
25
26
27 \newenvironment{align+}{\begin{align}}{\end{align}}
28
29 \BeforeBeginEnvironment{align+}{\LWR@amsmathenv@@before{align+}}
30
31 \AfterEndEnvironment{align+}{\LWR@amsmathenv@@after}
32
33
34 \newenvironment{alignat+}{\begin{alignat}}{\end{alignat}}
35
36 \BeforeBeginEnvironment{alignat+}{\LWR@amsmathenv@@before{alignat+}}
37
38 \AfterEndEnvironment{alignat+}{\LWR@amsmathenv@@after}
39
40
41 \newenvironment{split+}{\begin{split}}{\end{split}}
```

---

File 37 **l warp-awesomebox.sty**

§ 146      Package **awesomebox**

(Emulates or patches code by ÉTIENNE DEPARIS.)

Pkg awesomebox      awesomebox is patched for use by l warp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{awesomebox}[2019/07/27]
```

```

2 \newcommand*\{\LWR@awesomebox@boxborders\}{}
3 \newcommand*\{\LWR@awesomebox@contentsborders\}{}
4
5 \newcommand*\{\LWR@awesomebox@ruleborders\}{%
6   border-top: 1px solid black ;
7   border-bottom: 1px solid black%
8 }
9
10 \% \awesomebox[1:vrulecolor][2:hrule][3:title]{4:vrulewidth}{5:icon}{6:iconcolor}{7:content}
11 \RenewDocumentCommand \awesomebox { 0{abvrulecolor} 0{} 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}{ 0{abvrulecolor} 0{} 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   \ifdefstrelational{\abShortLine}{#2}{%
27     \renewcommand*\{\LWR@awesomebox@contentsborders\}{\LWR@awesomebox@ruleborders}%
28   }{%
29   \ifdefstrelational{\abLongLine}{#2}{%
30     \renewcommand*\{\LWR@awesomebox@boxborders\}{\LWR@awesomebox@ruleborders}%
31   }{%
32   \begin{BlockClass}[\LWR@awesomebox@boxborders]\{awesomebox\}
33   \begin{BlockClass}[% 
34     margin-left: 2% ;
35     vertical-align: top
36   ]{\minipage}
37     \color{#6}\Huge #5
38   \end{BlockClass}
39   \begin{BlockClass}[% 
40     width:75% ;
41     vertical-align: top ;
42     padding-left: 1em ;
43     \LWR@awesomebox@contentsborders ;
44     border-left: \LWR@printlength{\LWR@atleastonept} %
45       solid \LWR@origpound\LWR@tempcolor%
46   ]{\minipage}
47     \IfValueTF{#3}{#3\newline}{}
48 }
49 {%
50   \end{BlockClass}
51   \end{BlockClass}
52 }

```

---

File 38 **lwarf-axessibility.sty**

§ 147      Package **axessibility**

Pkg axessibility

axessibility is ignored.

```

for HTML output: 1 \PackageInfo{l warp}{Using the l warp version of package ‘axessibility’.}%
2 \ProvidesPackage{l warp-axessibility}%
3
4 \newif\iftagpdfopt
5
6 \DeclareOption{accsupp}%
7   \tagpdfoptfalse
8 }
9
10 \DeclareOption{tagpdf}%
11   \tagpdfopttrue
12 }
13
14 \ProcessOptions\relax
15
16 \iftagpdfopt
17   \RequirePackage{tagpdf}
18 \else
19   \RequirePackage{accsupp}
20 \fi

21 \long\def\wrap#1{}
22 \long\def\wrapml#1{}
23 \long\def\wrapmlstar#1{}
24 \long\def\wrapmlalt#1{}

```

For MATHJAX. These usually will not be needed.

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\wrap}[1]{}}
27 \CustomizeMathJax{\newcommand{\wrapml}[1]{}}
28 \CustomizeMathJax{\newcommand{\wrapmlstar}[1]{}}
29 \CustomizeMathJax{\newcommand{\wrapmlalt}[1]{}}
30 \end{warpMathJax}

```

### File 39 l warp-axodraw2.sty

#### § 148 Package **axodraw2**

*(Emulates or patches code by JOHN C. COLLINS, J.A.M. VERMASEREN.)*

Pkg axodraw2

axodraw2 is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{axodraw2}[2018/02/15]

```

2 \BeforeBeginEnvironment{axopicture}{%
3   \begin{lateximage}[-axopicture-\~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{axopicture}{\end{lateximage}}

```

---

**File 40 l warp-backnaur.sty**

§ 149      Package **backnaur**

*(Emulates or patches code by ADRIAN P. ROBSON.)*

Pkg backnaur

**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 \IfPackageLoadedWithOptionsTF{backnaur}{perp}{
9   \CustomizeMathJax{\newcommand{\bnfes}{\perp}}
10 }{
11   \IfPackageLoadedWithOptionsTF{backnaur}{epsilon}{
12     \CustomizeMathJax{\newcommand{\bnfes}{\epsilon}}
13   }{
14     \CustomizeMathJax{\newcommand{\bnfes}{\lambda}}
15   }
16 }
17 \IfPackageLoadedWithOptionsTF{backnaur}{tsrm}{
18   \CustomizeMathJax{\newcommand{\bnfts}[1]{\text{\#1}}}
19 }{
20   \CustomizeMathJax{\newcommand{\bnfts}{\text{\texttt{\#1}}}}
21 }
22 \CustomizeMathJax{\newcommand{\bnftd}[1]{\text{\textit{\#1}}}}
23 \CustomizeMathJax{\newcommand{\bnfsk}{\dots}}
24 \IfPackageLoadedWithOptionsTF{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{\LWRbnfmoreyn}[1]{\nonumber \& \#1}}
34 \CustomizeMathJax{\newcommand{\LWRbnfmorenn}[1]{\nonumber \& \#1}}
35 \end{warpMathJax}

```

---

**File 41 l warp-backref.sty**

§ 150      Package **backref**

*(Emulates or patches code by DAVID CARLISLE AND SEBASTIAN RAHTZ.)*

## Pkg backref

**backref** is patched for use by **lwarp**.

**⚠ 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:  
1 \usepackage{hyperref}  
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 **lwarp-balance.sty**

## § 151      Package **balance**

(Emulates or patches code by PATRICK W. DALY.)

Pkg balance

balance is ignored.

**for HTML output:** Discard all options for l warp-balance:

```
1 \LWR@ProvidesPackageDrop{balance}[1999/02/23]  
  
2 \newcommand*{\balance}{}  
3 \newcommand*{\nobalance}{}  
4 \newcommand*{\balance@}{\balance}
```

File 43 **lwarp-bbdng.sty**

§ 152 Package **bbding**

(Emulates or patches code by KAREL HORAK, PETER MØLLER NEERGAARD.)

Pkg bbding

**blding** is patched for use by lwp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bbding}[1999/04/15]

```
2 \newcommand*{\LWR@bbdingsymbol}[2]{\HTMLunicode{#2}}
3
4 \newcommand{\LWR@HTML@ScissorRightBrokenBottom}{\LWR@bbdingsymbol{000} {2701}}
5 \newcommand{\LWR@HTML@ScissorRight}{\LWR@bbdingsymbol{001} {2702}}
6 \newcommand{\LWR@HTML@ScissorRightBrokenTop}{\LWR@bbdingsymbol{002} {2703}}
7 \newcommand{\LWR@HTML@ScissorLeftBrokenBottom}{\LWR@bbdingsymbol{003} {2701}}
8 \newcommand{\LWR@HTML@ScissorLeft}{\LWR@bbdingsymbol{004} {2702}}
9 \newcommand{\LWR@HTML@ScissorLeftBrokenTop}{\LWR@bbdingsymbol{005} {2703}}
10 \newcommand{\LWR@HTML@ScissorHollowRight}{\LWR@bbdingsymbol{006} {2704}}
11 \newcommand{\LWR@HTML@ScissorHollowLeft}{\LWR@bbdingsymbol{007} {2704}}
12 \newcommand{\LWR@HTML@Phone}{\LWR@bbdingsymbol{010} {260E}}
13 \newcommand{\LWR@HTML@PhoneHandset}{\LWR@bbdingsymbol{011} {2706}}
```

```

14 \newcommand{\LWR@HTML@Tape}{\LWR@bbdingsymbol{012}} {2707}}
15 \newcommand{\LWR@HTML@Plane}{\LWR@bbdingsymbol{013}} {2708}}
16 \newcommand{\LWR@HTML@Envelope}{\LWR@bbdingsymbol{014}} {2709}}
17 \newcommand{\LWR@HTML@HandCuffRight}{\LWR@bbdingsymbol{015}} {261B}}
18 \newcommand{\LWR@HTML@HandCuffLeft}{\LWR@bbdingsymbol{016}} {261A}}
19 \newcommand{\LWR@HTML@HandCuffRightUp}{\LWR@bbdingsymbol{017}} {261D}}
20 \newcommand{\LWR@HTML@HandCuffLeftUp}{\LWR@bbdingsymbol{020}} {261F}}
21 \newcommand{\LWR@HTML@HandRight}{\LWR@bbdingsymbol{021}} {261E}}
22 \newcommand{\LWR@HTML@HandLeft}{\LWR@bbdingsymbol{022}} {261C}}
23 \newcommand{\LWR@HTML@HandRightUp}{\LWR@bbdingsymbol{023}} {261D}}
24 \newcommand{\LWR@HTML@HandLeftUp}{\LWR@bbdingsymbol{024}} {261F}}
25 \newcommand{\LWR@HTML@Peace}{\LWR@bbdingsymbol{025}} {270C}}
26 \newcommand{\LWR@HTML@HandPencilLeft}{\LWR@bbdingsymbol{026}} {270D}}
27 \newcommand{\LWR@HTML@PencilRight}{\LWR@bbdingsymbol{027}} {270F}}
28 \newcommand{\LWR@HTML@PencilLeft}{\LWR@bbdingsymbol{030}} {270F}}
29 \newcommand{\LWR@HTML@PencilRightUp}{\LWR@bbdingsymbol{031}} {2710}}
30 \newcommand{\LWR@HTML@PencilLeftUp}{\LWR@bbdingsymbol{032}} {2710}}
31 \newcommand{\LWR@HTML@PencilRightDown}{\LWR@bbdingsymbol{033}} {270E}}
32 \newcommand{\LWR@HTML@PencilLeftDown}{\LWR@bbdingsymbol{034}} {270E}}
33 \newcommand{\LWR@HTML@NibRight}{\LWR@bbdingsymbol{035}} {2711}}
34 \newcommand{\LWR@HTML@NibLeft}{\LWR@bbdingsymbol{036}} {2711}}
35 \newcommand{\LWR@HTML@NibSolidRight}{\LWR@bbdingsymbol{037}} {2712}}
36 \newcommand{\LWR@HTML@NibSolidLeft}{\LWR@bbdingsymbol{040}} {2712}}
37 \newcommand{\LWR@HTML@Checkmark}{\LWR@bbdingsymbol{041}} {2713}}
38 \newcommand{\LWR@HTML@CheckmarkBold}{\LWR@bbdingsymbol{042}} {2714}}
39 \newcommand{\LWR@HTML@XSolid}{\LWR@bbdingsymbol{043}} {2715}}
40 \newcommand{\LWR@HTML@XSolidBold}{\LWR@bbdingsymbol{044}} {2716}}
41 \newcommand{\LWR@HTML@XSolidBrush}{\LWR@bbdingsymbol{045}} {2717}}
42 \newcommand{\LWR@HTML@PlusOutline}{\LWR@bbdingsymbol{046}} {2719}}
43 \newcommand{\LWR@HTML@Plus}{\LWR@bbdingsymbol{047}} {271A}}
44 \newcommand{\LWR@HTML@PlusCenterOpen}{\LWR@bbdingsymbol{050}} {271C}}
45 \newcommand{\LWR@HTML@PlusThinCenterOpen}{\LWR@bbdingsymbol{051}} {271B}}
46 \newcommand{\LWR@HTML@Cross}{\LWR@bbdingsymbol{052}} {271D}}
47 \newcommand{\LWR@HTML@CrossOpenShadow}{\LWR@bbdingsymbol{053}} {271E}}
48 \newcommand{\LWR@HTML@CrossOutline}{\LWR@bbdingsymbol{054}} {271F}}
49 \newcommand{\LWR@HTML@CrossBoldOutline}{\LWR@bbdingsymbol{055}} {271F}}
50 \newcommand{\LWR@HTML@CrossMaltese}{\LWR@bbdingsymbol{056}} {2720}}
51 \newcommand{\LWR@HTML@DavidStarSolid}{\LWR@bbdingsymbol{057}} {2721}}
52 \newcommand{\LWR@HTML@DavidStar}{\LWR@bbdingsymbol{060}} {2721}}
53 \newcommand{\LWR@HTML@FourAsterisk}{\LWR@bbdingsymbol{061}} {2722}}
54 \newcommand{\LWR@HTML@JackStar}{\LWR@bbdingsymbol{062}} {2723}}
55 \newcommand{\LWR@HTML@JackStarBold}{\LWR@bbdingsymbol{063}} {2724}}
56 \newcommand{\LWR@HTML@CrossClowerTips}{\LWR@bbdingsymbol{064}} {2725}}
57 \newcommand{\LWR@HTML@FourStar}{\LWR@bbdingsymbol{065}} {2726}}
58 \newcommand{\LWR@HTML@FourStarOpen}{\LWR@bbdingsymbol{066}} {2727}}
59 \newcommand{\LWR@HTML@FiveStarLines}{\LWR@bbdingsymbol{067}} {2729}}
60 \newcommand{\LWR@HTML@FiveStar}{\LWR@bbdingsymbol{070}} {2605}}
61 \newcommand{\LWR@HTML@FiveStarOpen}{\LWR@bbdingsymbol{071}} {2729}}
62 \newcommand{\LWR@HTML@FiveStarOpenCircled}{\LWR@bbdingsymbol{072}} {272A}}
63 \newcommand{\LWR@HTML@FiveStarCenterOpen}{\LWR@bbdingsymbol{073}} {272B}}
64 \newcommand{\LWR@HTML@FiveStarOpenDotted}{\LWR@bbdingsymbol{074}} {272C}}
65 \newcommand{\LWR@HTML@FiveStarOutline}{\LWR@bbdingsymbol{075}} {272D}}
66 \newcommand{\LWR@HTML@FiveStarOutlineHeavy}{\LWR@bbdingsymbol{076}} {272E}}
67 \newcommand{\LWR@HTML@FiveStarConvex}{\LWR@bbdingsymbol{077}} {272F}}
68 \newcommand{\LWR@HTML@FiveStarShadow}{\LWR@bbdingsymbol{100}} {2730}}
69 \newcommand{\LWR@HTML@AsteriskBold}{\LWR@bbdingsymbol{101}} {2731}}
70 \newcommand{\LWR@HTML@AsteriskCenterOpen}{\LWR@bbdingsymbol{102}} {2732}}
71 \newcommand{\LWR@HTML@AsteriskThin}{\LWR@bbdingsymbol{103}} {273B}}
72 \newcommand{\LWR@HTML@AsteriskThinCenterOpen}{\LWR@bbdingsymbol{104}} {273C}}
73 \newcommand{\LWR@HTML@EightStarTaper}{\LWR@bbdingsymbol{105}} {2733}}

```

```
74 \newcommand{\LWR@HTML@EightStarConvex}{\LWR@bbdingsymbol{106}} {2735}}
75 \newcommand{\LWR@HTML@SixStar}{\LWR@bbdingsymbol{107}} {2736}}
76 \newcommand{\LWR@HTML@EightStar}{\LWR@bbdingsymbol{110}} {2737}}
77 \newcommand{\LWR@HTML@EightStarBold}{\LWR@bbdingsymbol{111}} {2738}}
78 \newcommand{\LWR@HTML@TwelweStar}{\LWR@bbdingsymbol{112}} {2739}}
79 \newcommand{\LWR@HTML@SixteenStarLight}{\LWR@bbdingsymbol{113}} {273A}}
80 \newcommand{\LWR@HTML@SixFlowerPetalRemoved}{\LWR@bbdingsymbol{114}} {273B}}
81 \newcommand{\LWR@HTML@SixFlowerOpenCenter}{\LWR@bbdingsymbol{115}} {273C}}
82 \newcommand{\LWR@HTML@Asterisk}{\LWR@bbdingsymbol{116}} {273D}}
83 \newcommand{\LWR@HTML@SixFlowerAlternate}{\LWR@bbdingsymbol{117}} {273E}}
84 \newcommand{\LWR@HTML@FiveFlowerPetal}{\LWR@bbdingsymbol{120}} {273F}}
85 \newcommand{\LWR@HTML@SixFlowerPetalDotted}{\LWR@bbdingsymbol{121}} {2740}}
86 \newcommand{\LWR@HTML@FiveFlowerOpen}{\LWR@bbdingsymbol{122}} {2740}}
87 \newcommand{\LWR@HTML@EightFlowerPetal}{\LWR@bbdingsymbol{123}} {2741}}
88 \newcommand{\LWR@HTML@SunshineOpenCircled}{\LWR@bbdingsymbol{124}} {2742}}
89 \newcommand{\LWR@HTML@SixFlowerAltPetal}{\LWR@bbdingsymbol{125}} {2743}}
90 \newcommand{\LWR@HTML@FourClowerOpen}{\LWR@bbdingsymbol{126}} {273F}}
91 \newcommand{\LWR@HTML@FourClowerSolid}{\LWR@bbdingsymbol{127}} {273F}}
92 \newcommand{\LWR@HTML@AsteriskRoundedEnds}{\LWR@bbdingsymbol{130}} {2749}}
93 \newcommand{\LWR@HTML@EightFlowerPetalRemoved}{\LWR@bbdingsymbol{131}} {274A}}
94 \newcommand{\LWR@HTML@EightAsterisk}{\LWR@bbdingsymbol{132}} {274B}}
95 \newcommand{\LWR@HTML@SixFlowerRemovedOpenPetal}{\LWR@bbdingsymbol{133}} {2740}}
96 \newcommand{\LWR@HTML@SparkleBold}{\LWR@bbdingsymbol{134}} {2748}}
97 \newcommand{\LWR@HTML@Sparkle}{\LWR@bbdingsymbol{135}} {2747}}
98 \newcommand{\LWR@HTML@SnowflakeChevron}{\LWR@bbdingsymbol{136}} {2744}}
99 \newcommand{\LWR@HTML@SnowflakeChevronBold}{\LWR@bbdingsymbol{137}} {2746}}
100 \newcommand{\LWR@HTML@Snowflake}{\LWR@bbdingsymbol{140}} {2744}}
101 \newcommand{\LWR@HTML@CircleSolid}{\LWR@bbdingsymbol{141}} {25CF}}
102 \newcommand{\LWR@HTML@Ellipse}{\LWR@bbdingsymbol{142}} {274D}}
103 \newcommand{\LWR@HTML@EllipseSolid}{\LWR@bbdingsymbol{143}} {25CF}}
104 \newcommand{\LWR@HTML@CircleShadow}{\LWR@bbdingsymbol{144}} {274D}}
105 \newcommand{\LWR@HTML@EllipseShadow}{\LWR@bbdingsymbol{145}} {274D}}
106 \newcommand{\LWR@HTML@Square}{\LWR@bbdingsymbol{146}} {25A1}}
107 \newcommand{\LWR@HTML@SquareSolid}{\LWR@bbdingsymbol{147}} {25A0}}
108 \newcommand{\LWR@HTML@SquareShadowBottomRight}{\LWR@bbdingsymbol{150}} {2751}}
109 \newcommand{\LWR@HTML@SquareShadowTopRight}{\LWR@bbdingsymbol{151}} {2752}}
110 \newcommand{\LWR@HTML@SquareShadowTopLeft}{\LWR@bbdingsymbol{152}} {2752}}
111 \newcommand{\LWR@HTML@SquareCastShadowBottomRight}{\LWR@bbdingsymbol{153}} {2751}}
112 \newcommand{\LWR@HTML@SquareCastShadowTopRight}{\LWR@bbdingsymbol{154}} {2752}}
113 \newcommand{\LWR@HTML@SquareCastShadowTopLeft}{\LWR@bbdingsymbol{155}} {2752}}
114 \newcommand{\LWR@HTML@TriangleUp}{\LWR@bbdingsymbol{156}} {25B2}}
115 \newcommand{\LWR@HTML@TriangleDown}{\LWR@bbdingsymbol{157}} {25BC}}
116 \newcommand{\LWR@HTML@DiamondSolid}{\LWR@bbdingsymbol{160}} {25C6}}
117 \newcommand{\LWR@HTML@OrnamentDiamondSolid}{\LWR@bbdingsymbol{161}} {2756}}
118 \newcommand{\LWR@HTML@HalfCircleRight}{\LWR@bbdingsymbol{162}} {25D7}}
119 \newcommand{\LWR@HTML@HalfCircleLeft}{\LWR@bbdingsymbol{163}} {25D6}}
120 \newcommand{\LWR@HTML@RectangleThin}{\LWR@bbdingsymbol{164}} {2758}}
121 \newcommand{\LWR@HTML@Rectangle}{\LWR@bbdingsymbol{165}} {2759}}
122 \newcommand{\LWR@HTML@RectangleBold}{\LWR@bbdingsymbol{166}} {275A}}
123 \newcommand{\LWR@HTML@ArrowBoldRightStrobe}{\LWR@bbdingsymbol{167}} {27A0}}
124 \newcommand{\LWR@HTML@ArrowBoldUpRight}{\LWR@bbdingsymbol{170}} {27A6}}
125 \newcommand{\LWR@HTML@ArrowBoldDownRight}{\LWR@bbdingsymbol{171}} {27A5}}
126 \newcommand{\LWR@HTML@ArrowBoldRightShort}{\LWR@bbdingsymbol{172}} {27A7}}
127 \newcommand{\LWR@HTML@ArrowBoldRightCircled}{\LWR@bbdingsymbol{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 l warp-beamerarticle.sty**

§ 153      Package **beamerarticle**

*(Emulates or patches code by TILL TANTAU, VEDRAN MILETIĆ, LOUIS STUART, JOSEPH WRIGHT.)*

beamerarticle is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{beamerarticle}[2021/05/26]

```
2 \renewcommand<>{\textcolor}{\only#1{\beameroriginal{\textcolor}}}
3
4 \AtBeginDocument{
5
6 \renewcommand<>{\LWR@listitem}{%
7   \only#1{%
8     \beameroriginal{\LWR@listitem}%
9   }%
10 }
11
12 \renewcommand<>{\LWR@itemizeitem}{%
13   \only#1{%
14     \beameroriginal{\LWR@itemizeitem}%
15   }%
16 }
17
18 \renewcommand<>{\LWR@descitem}{%
19   \only#1{%
20     \beameroriginal{\LWR@descitem}%
21   }%
22 }
23
24 \renewcommand<>{\abstract}{%
25   \only#1{%
26     \beameroriginal{\abstract}%
27   }%
28 }
29
30 \renewcommand<>{\LWR@includegraphicsb}{%
31   \only#1{%
32     \beameroriginal{\LWR@includegraphicsb}%
33   }%
34 }
35
36 \xpretocmd\frame{
37   {
38     \LWR@forcenewpage
39     \BlockClass{beamerframe}%
40   }
41   {}
42   {\LWR@patcherror{beamerarticle}{frame}}
43
44 \xapptocmd\beamer@endframe{
45   {\endBlockClass}
46   {}
47   {\LWR@patcherror{beamerarticle}{beamer@endframe}}}
```

```
48
49 % An example in the beamer docs for \cs{includegraphics}
50 % shows the use of \cs{llap} in a frame.
51 \xpretocmd{beamer@article@startframe}
52   {\LWR@nulllistfills}
53   {}
54   {\LWR@patcherror{beamerarticle}{beamer@article@startframe}}
55
56 }% AtBeginDocument
57
58 \let\beamer@@tmpop@frametitle@default\relax
59 \defbeamertemplate<article>*[frametitle]{default}{%
60   \paragraph*{\insertframetitle}\ \par%
61   \ifdefempty{\insertframesubtitle}{\{}{%
62     \noindent\emph{\insertframesubtitle}\par%
63   \}%
64 }
65
66
67 \NewDocumentCommand{\LWR@beamer@itemize}{o}{%
68   \LWR@itemizestart\LWR@origitemize%
69 }%
70 \NewDocumentCommand{\LWR@beamer@description}{o o}{%
71   \LWR@descriptionstart\LWR@origdescription%
72 }%
73
74 \xapptocmd{\LWR@patchlists}{%
75   {%
76     \LetLtxMacro{\itemize}{\LWR@beamer@itemize}%
77     \LetLtxMacro{\description}{\LWR@beamer@description}%
78   }%
79   {}%
80   {\LWR@patcherror{beamerarticle}{\LWR@patchlists}}%
81
82
83 \LetLtxMacro{\maketitle}{\LWR@maketitle}
84
85 \renewcommand{\subtitle}[2][]{%
86   \gdef\@subtitle{#2}%
87   \def\insertsubtitle{#2}%
88 }
89
90 \xpatchcmd{\@maketitle}{%
91   {%
92     \LWR@htmlltag{\LWR@tagtitleend}%
93     \LWR@startpars%
94   }%
95   {%
96     \LWR@htmlltag{\LWR@tagtitleend}%
97     \ifdefvoid{\@subtitle}{\{}{%
98       \begin{BlockClass}{subtitle}%
99         \@subtitle%
100        \end{BlockClass}%
101     }%
102     \LWR@startpars%
103   }%
104   {}%
105   {\LWR@patcherror{beamerarticle}{\@maketitle}}%
106
107 \RequirePackage{fancyvrb}
```

---

```
108 \DefineVerbatimEnvironment{semiverbatim}{Verbatim}{commandchars=\\\{\}}
```

---

File 45 **l warp-biblatex.sty**

§ 154      Package **biblatex**

*(Emulates or patches code by PHILIPP LEHMAN.)*

Pkg biblatex

for HTML output:

1. l warp uses newfloat.
2. For classes with chapters which newfloat does not know about, such as CTEX-related classes, newfloat may modify \addtocontents.
3. biblatex, though, wants to patch \addtocontents, which causes an error if \addtocontents has been changed.
4. Therefore, \addtocontents is restored to its original here, since biblatex is about to be loaded.
5. This means that the newfloat's chapterlistsgaps option may no longer work.

```
1 \ifdef{\newfloat@addtocontents@ORI}%
2   \let\addtocontents\newfloat@addtocontents@ORI
3 {}%
```

hyperref emulation is loaded \AtBeginDocument to avoid an options clash.

```
4 \AtBeginDocument{\RequirePackage{hyperref}}
5
6 \LWR@ProvidesPackagePass{biblatex}[2018/03/04]
```

The following create hyperlinks to the references. The original code to use hyperref is recreated here, because hyperref is emulated.

```
7 \AfterPreamble{
8
9 \let\blx@anchors@\empty
10 \protected\def\blx@anchor{%
11   \xifinlist{\the\c@refsection @\abx@field@entrykey}{\blx@anchors}%
12   {}%
13   {\listxadd\blx@anchors{\the\c@refsection @\abx@field@entrykey}%
14   \hypertarget{cite.\the\c@refsection @\abx@field@entrykey}{}}
15 }
16 \protected\def\blx@imc@bibhyperref{%
17   \@ifnextchar[%]
18   { \blx@bibhyperref}
19   { \blx@bibhyperref[\abx@field@entrykey]}%
20 }
21 \long\def\blx@bibhyperref[#1]#2{%
22   \blx@sfsave
23   \hyperlink{cite.\the\c@refsection @#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{biblatex}{\blx@citecmdinit}}

```

Ensure that an autopage reference is current for each backref. If the citation is in a footnote, the backref will point to whatever preceded the footnotes.

```

56 \xpatchcmd{\blx@addbackref@i}
57   {\thepage}
58   {\the\LWR@previousautopagelabel}% ref to the most recent object
59   {}
60   {\LWR@patcherror{biblatex}{\blx@addbackref@i A}}
61
62 \xpatchcmd{\blx@addbackref@i}
63   {\c@page}
64   {\c@LWR@previousautopagelabel}% ref to the most recent object
65   {}
66   {\LWR@patcherror{biblatex}{\blx@addbackref@i B}}

```

The following patches are for back page references.

```

67 \DeclareListFormat{pageref}{%
68   \ifnumless{\abx@pagerefstyle}{0}{%
69     \usebibmacro{list:plain}%
70     \ifhyperref{%
71       \hyperlink{page.#1}{#1}%
72     }{\LWR@refwithsection{\BaseJobname-autopage-#1}}%
73   }%

```

```
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{\rmntonum{#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}}% lwarf
112          {#1}}%
113        \edef\abx@range@prev{\abx@range@num}%
114      \usebibmacro{pageref:dump}%
115      \ifnumgreater{\abx@range@last}{-1}
116        {\printdelim{multilistdelim}}%
117      {}}%
118      \ifhyperref
119        {\hyperlink{page.#1}{#1}%
120          {\LWR@refwithsection{\BaseJobname-autopage-#1}}% lwarf
121          {#1}}%
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 46 **l warp-bibunits.sty**

§ 155 Package **bibunits**

(Emulates or patches code by THORSTEN HANSEN.)

Pkg bibunits

bibunits is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bibunits}[2004/05/12]

2 \def\bu@bibdata{\BaseJobname}

---

File 47 **l warp-bigdelim.sty**

§ 156 Package **bigdelim**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

Pkg bigdelim

bigdelim is used as-is for print or lateximage, and patched for HTML.

The delimiters are displayed in HTML by printing the delimiter, the text, and a thick border across the side of the \multirow which indicates the actual height of the delimiter. The delimiter character is given a <span> class of ldelim or rdelim, and the default css sets this to font-size:200%

⚠ **use \mrowcell** \ldelim and \rdelim use \multirow, so \mrowcell must be used in the proper number of empty cells in the same column below \ldelim or \rdelim, but not in cells which are above or below the delimiter:

---

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

<-> a b
      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\l delim\relax
2 \let\r delim\relax

```

Next, load the package's new definitions:

```

3 \LWR@ProvidesPackagePass{bigdelim}[2021/03/15]

\l delim {{<1:delimiter>}} {<2:#rows>} [<3: vmove>] [<4:width>] [<5:text>]
\r delim
4 \NewDocumentCommand{\LWR@HTML@l delim}{m m o m O{} }{%
5 \renewcommand{\LWR@multirowborder}{right}%
6 \multirow{#2}{#4}{#5 \InlineClass{l delim}{#1}}%
7 }%
8
9 \LWR@formatted{l delim}
10
11 \NewDocumentCommand{\LWR@HTML@r delim}{m m o m O{} }{%
12 \renewcommand{\LWR@multirowborder}{left}%
13 \multirow{#2}{#4}{\InlineClass{r delim}{#1} #5}%
14 }%
15
16 \LWR@formatted{r delim}

```

Limited emulation for MATHJAX. The delimiter is printed on the first row, along with any optional text.

```

17 \begin{warpMathJax}
18 % \l delim ( {n}{width}[text]
19 \CustomizeMathJax{\newcommand{\LWRl delimtwo}[1][]{{\text{#1}}~\LWRbigdelim}}
20 \CustomizeMathJax{\newcommand{\LWRl delimone}[2][]{{\LWRl delimtwo}}}
21 \CustomizeMathJax{\def\l delim#1#2{\def\LWRbigdelim{#1}\LWRl delimone}}
22 % \r delim ) {n}{width}[text]
23 \CustomizeMathJax{\newcommand{\LWRr delimtwo}[1][]{{\LWRbigdelim~\text{#1}}}}
24 \CustomizeMathJax{\newcommand{\LWRr delimone}[2][]{{\LWRr delimtwo}}}
25 \CustomizeMathJax{\def\r delim#1#2{\def\LWRbigdelim{#1}\LWRr delimone}}
26 \end{warpMathJax}

```

#### File 48 **l warp-bigfoot.sty**

§ 157      Package **bigfoot**

Pkg bigfoot                            bigfoot is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bigfoot}[2015/08/30]

```

2 \RequirePackage{manyfoot}
3 \RequirePackage{perpage}
4
5 \def\RestyleFootnote#1#2{}
6 \def\FootnoteSpecific#1{}
7 \def\DefineFootnoteStack#1{}
8 \def\PushFootnoteMark#1{}
9 \def\PopFootnoteMark#1{}
10 \def\hfootfraction{0.9}
11 \def\vtypefraction{0.7}
12 \def\FootnoteMinimum{1sp}

```

---

```

13 \def\FootnoteMainMinimum{0pt}
14 \newcount\bigfoottolerance
15 \bigfoottolerance=100
16 \providecommand\footnotecarryratio{2}

```

---

File 49 **l warp-bigstrut.sty**

§ 158 Package **bigstrut**

*(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)*

Pkg bigstrut

bigstrut is used as-is for print or `\textrimage`, and patched for HTML.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bigstrut}[2018/08/03]

```

2 \LetLtxMacro{\LWR@origbigstrut}{\bigstrut}
3
4 \renewcommand{\bigstrut}[1][x]{}
5
6 \appto{\LWR@restoreorigformatting}{%
7 \LetLtxMacro{\bigstrut}{\LWR@origbigstrut}%
8 }
9

```

```

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\bigstrut}[1][]{}}
12 \end{warpMathJax}

```

---

File 50 **l warp-bitpattern.sty**

§ 159 Package **bitpattern**

*(Emulates or patches code by JEAN-MARC BOURGUET.)*

Pkg bitpattern

bitpattern is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bitpattern}[2015/12/11]

```

2 \xpatchcmd{\bitpattern}
3   {\begingroup}
4   {\begin{lateximage}[-bitpattern-\~\PackageDiagramAltText]}
5   {}
6   {\LWR@patcherror{bitpattern}{bitpattern}}
7
8 \xpatchcmd{\bp@Done}
9   {\endgroup}
10  {\end{lateximage}}
11  {}
12  {\LWR@patcherror{bitpattern}{bp@Done}}

```

---

**File 51 l warp-blowup.sty**

§ 160      Package **blowup**

Pkg blowup                    blowup is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{blowup}[2018/01/02]

2 \newcommand\*\blowUp[1]{}

---

---

**File 52 l warp-bm.sty**

§ 161      Package **bm**

(Emulates or patches code by DAVID CARLISLE, FRANK MITTELBACH.)

Pkg bm                        bm is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bm}[2019/07/24]

\DeclareBoldMathCommand must only be used in the preamble, since it adds to the MATHJAX setup code.

2 \begin{warpMathJax}  
3 \LetLtxMacro{\LWR@orig}{\DeclareBoldMathCommand}\DeclareBoldMathCommand  
4  
5 \renewcommand{\DeclareBoldMathCommand}[3][bold]{%  
6 \LWR@orig{\DeclareBoldMathCommand[#1]{#2}{#3}}%  
7 \CustomizeMathJax{\newcommand{\bm}[1]{\boldsymbol{#1}}}}%  
8 }  
9  
10 \onlypreamble{\DeclareBoldMathCommand  
11  
12 \CustomizeMathJax{\newcommand{\bm}[1]{\boldsymbol{#1}}}}  
13 \end{warpMathJax}

---

---

**File 53 l warp-booklet.sty**

§ 162      Package **booklet**

(Emulates or patches code by PETER WILSON.)

Pkg booklet                  booklet is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{booklet}[2009/09/02]

2 \newdimen\pageselength  
3 \newdimen\pagesepwidth  
4 \newdimen\pagesepoffset

---

```

5 \newif\ifsidebyside    \sidebysidetrue
6 \newif\ifuselandscape   \uselandscapefalse
7 \newif\ifprintoption    \printoptionfalse
8 \newcommand*{\pagespersignature}[1]{}
9 \def\magstepminus#1{}
10 \newcommand*{\target}[3]{}
11 \newcommand*{\source}[3]{}
12 \newcommand*{\setpdftargetpages}(){}
13 \newcommand*{\setdvipstargetpages}){}
14 \newcommand*{\targettopbottom}){}
15 \newcommand*{\twoupemptypage}){}
16 \newcommand*{\twoupclearpage}){}
17 \newcommand*{\checkforlandscape}){}

```

---

#### File 54 l warp-bookmark.sty

### § 163 Package **bookmark**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg bookmark

bookmark is ignored.

**for HTML output:** Discard all options for l warp-bookmark:

```

1 \LWR@ProvidesPackageDrop{bookmark}[2016/05/17]

2 \newcommand*{\bookmarksetup}[1]{}
3 \newcommand*{\bookmarksetupnext}[1]{}
4 \newcommand*{\bookmark}[2][]{}
5 \newcommand*{\bookmarkdefinestyle}[2]{}
6 \newcommand*{\bookmarkget}[1]{}
7 \newcommand{\BookmarkAtEnd}[1]{}

```

---

#### File 55 l warp-booktabs.sty

### § 164 Package **booktabs**

*(Emulates or patches code by SIMON FEAR.)*

Pkg booktabs

booktabs is emulated during HTML output, and used as-is during print output and inside an HTML `\textrule`.

⚠ **\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 \IfPackageLoadedTF{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
63 \LWR@expandableformatted{addlinespace}
64
65 \DeclareDocumentCommand{\LWR@HTML@morecmidrules}{}{}%
66
67 \LWR@expandableformatted{morecmidrules}
68
69 \DeclareDocumentCommand{\LWR@HTML@specialrule}{m m m d()}%
70   {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}\LWR@getmynexttoken}%
71
72 \LWR@expandableformatted{specialrule}

```

For MATHJAX:

```

73 \begin{warpMathJax}
74 \CustomizeMathJax{\newcommand{\toprule}[1][]{\hline}}
75 \CustomizeMathJax{\let\midrule\toprule}
76 \CustomizeMathJax{\let\bottomrule\toprule}
77 \CustomizeMathJax{\def\LWRbooktabscmidruleparen(#1)#2{}}
78 \CustomizeMathJax{\newcommand{\LWRbooktabscmidrulelenoparen}[1]{}}
79 \CustomizeMathJax{\newcommand{\cmidrule}[1][]{}}
80   \ifnextchar{\LWRbooktabscmidruleparen\LWRbooktabscmidrulelenoparen%}
81 {}}
82 \CustomizeMathJax{\newcommand{\morecmidrules}{}}
83 \CustomizeMathJax{\newcommand{\specialrule}[3]{\hline}}
84 \CustomizeMathJax{\newcommand{\addlinespace}[1][]{}}
85 \end{warpMathJax}

```

---

#### File 56 **l warp-bophook.sty**

§ 165      Package **bophook**

Pkg bophook                  bophook is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{bophook}[2001/03/29]

2 \newcommand*{\AtBeginPage}[1]{}
3 \newcommand*{\PageLayout}[1]{}

```

---

#### File 57 **l warp-bounddvi.sty**

§ 166      Package **bounddvi**

Pkg bounddvi                bounddvi is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{bounddvi}[2016/12/28]

```

---

**File 58 l warp-boxedminipage.sty**

§ 167      Package **boxedminipage**

(Emulates or patches code by SCOTT PAKIN.)

Pkg    boxedminipage

boxedminipage is emulated for HTML, and used as-is for lateximages.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{boxedminipage}[2020/04/19]

2 \newenvironment{\LWR@HTML@boxedminipage}{%
3     \LWR@stoppars%
4     \begin{BlockClass}{framebox}%
5     \minipage%
6 }
7 {%
8     \endminipage%
9     \end{BlockClass}%
10    \LWR@startpars%
11 }
12 \LWR@formattede{boxedminipage}
```

---

**File 59 l warp-boxedminipage2e.sty**

§ 168      Package **boxedminipage2e**

(Emulates or patches code by SCOTT PAKIN.)

Pkg    boxedminipage2e

boxedminipage2e has been renamed boxedminipage by the author.

**for HTML output:** Automatically loads boxedminipage:

```
1 \LWR@ProvidesPackagePass{boxedminipage2e}
```

---

**File 60 l warp-braket.sty**

§ 169      Package **braket**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg    braket

braket works as-is for HTML with SVG math. For MATHJAX, the MATHJAX extension is used.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{braket}% No date is provided by the file.
```

```
2 \begin{warpMathJax}
3     \CustomizeMathJax{\require{braket}}
4 \end{warpMathJax}
```

---

**File 61 l warp-breakurl.sty**

§ 170 Package **breakurl**

(Emulates or patches code by VILAR CAMARA NETO.)

Pkg breakurl

breakurl is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{breakurl}[2013/04/10]

2 \LetLtxMacro\burl\LWR@url
3
4 \NewDocumentCommand{\LWR@burlaltb}{O{} +m m}{%
5   \LWR@ensuredoingapar%
6   \LWR@subhyperref{#2}%
7   \LWR@subhyperreftext{#3}%
8   \endgroup% restore catcodes
9 }
10
11 \newrobustcmd*\burlalt{%
12   \begingroup%
13   \LWR@linkcatcodes%
14   \LWR@burlaltb%
15 }
16
17 \LetLtxMacro\urlalt\burlalt
```

---

**File 62 l warp-breqn.sty**

§ 171 Package **breqn**

(Emulates or patches code by MICHAEL J. DOWNES, MORTEN 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{R}
5 % \def\eqnumplace{T}
6
7 \BeforeBeginEnvironment{dmath}{
8   \begin{BlockClass}{displaymathnumbered}
9   \LWR@newautoidanchor%
10  \booltrue{\LWR@indisplaymathimage}%
11  \begin{lateximage}[-breqn dmath- \MathImageAltText]
12 }
13
```

```
14 \AfterEndEnvironment{dmath}{
15     \end{lateximage}\end{BlockClass}
16 }
17
18 \BeforeBeginEnvironment{dmath*}{
19     \begin{BlockClass}{displaymath}
20     \LWR@newautoidanchor%
21     \booltrue{\LWR@indisplaymathimage}%
22     \begin{lateximage}[-breqn dmath*- \MathImageAltText]
23 }
24
25 \AfterEndEnvironment{dmath*}{
26     \end{lateximage}\end{BlockClass}
27 }
28
29 \BeforeBeginEnvironment{dseries}{
30     \begin{BlockClass}{displaymathnumbered}
31     \LWR@newautoidanchor%
32     \booltrue{\LWR@indisplaymathimage}%
33     \begin{lateximage}[-breqn dseries- \MathImageAltText]
34 }
35
36 \AfterEndEnvironment{dseries}{
37     \end{lateximage}\end{BlockClass}
38 }
39
40 \BeforeBeginEnvironment{dseries*}{
41     \begin{BlockClass}{displaymath}
42     \LWR@newautoidanchor%
43     \booltrue{\LWR@indisplaymathimage}%
44     \begin{lateximage}[-breqn dseries*- \MathImageAltText]
45 }
46
47 \AfterEndEnvironment{dseries*}{
48     \end{lateximage}\end{BlockClass}
49 }
50
51 \BeforeBeginEnvironment{dgroup}{
52     \begin{BlockClass}{displaymath}
53     \LWR@newautoidanchor%
54     \booltrue{\LWR@indisplaymathimage}%
55     \begin{lateximage}[-breqn dgroup- \MathImageAltText]
56 }
57
58 \AfterEndEnvironment{dgroup}{
59     \end{lateximage}\end{BlockClass}
60 }
61
62 \BeforeBeginEnvironment{dgroup*}{
63     \begin{BlockClass}{displaymath}
64     \LWR@newautoidanchor%
65     \booltrue{\LWR@indisplaymathimage}%
66     \begin{lateximage}[-breqn dgroup*- \MathImageAltText]
67 }
68
69 \AfterEndEnvironment{dgroup*}{
70     \end{lateximage}\end{BlockClass}
71 }
```

---

**File 63 l warp-bsheaders.sty****§ 172 Package bsheaders**

Pkg bsheaders      bsheaders is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bsheaders}[1997/10/06]

---

**File 64 l warp-bussproofs.sty****§ 173 Package bussproofs**

(Emulates or patches code by SAMUEL R. BUSS.)

Pkg bussproofs      bussproofs is used as-is for HTML, and emulated by MATHJAX's extension.

**⚠ \DisplayProof** If not using MATHJAX, inline proofs with \DisplayMath must be placed inside a math expression.

If using MATHJAX, only the prooftree environment may be used, not \DisplayProof.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bussproofs} % no date in file

```
2 \ifbool{mathjax}{  
3   \CustomizeMathJax{\require{bussproofs}}}  
4  
5   \NewEnviron{\LWR@HTML@prooftree}{%  
6     {\LWR@doequation{\BODY}{prooftree}}%  
7     [\LWR@doendequation{prooftree}]  
8     \LWR@formattedenv{prooftree}  
9 }{% SVG HTML  
10   \BeforeBeginEnvironment{prooftree}{%  
11     \begin{lateximage}[-bussproofs-\PackageDiagramAltText]%  
12   }  
13   \AfterEndEnvironment{prooftree}{\end{lateximage}}  
14 }
```

---

**File 65 l warp-bxpapersize.sty****§ 174 Package bxpapersize**

Pkg bxpapersize      bxpapersize is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bxpapersize}[2017/10/08]

```
2 \providecommand*\papersizesetup{\bxpapersizesetup}  
3 \newcommand*\bxpapersizesetup[1]{}

---


```

---

**File 66 l warp-bytefield.sty**

§ 175      Package **bytefield**

(Emulates or patches code by SCOTT PAKIN.)

Pkg bytefield

bytefield is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bytefield}[2017/09/15]

```
2 \BeforeBeginEnvironment{bytefield}{%
3   \begin{latentimage}[-bytefield-\~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{bytefield}{\end{latentimage}}
```

---

**File 67 l warp-cancel.sty**

§ 176      Package **cancel**

Pkg cancel

cancel is used as-is for SVG math, and emulated for HTML text output.

**for HTML output:** 1 \LWR@origRequirePackage{l warp-xcolor}% for \convertcolorspec  
2 \LWR@ProvidesPackagePass{cancel}[2013/04/12]

\cancelto is math-only, so is used as-is.

{⟨text⟩} {⟨color⟩} {⟨class⟩} {⟨colorstyle⟩} {⟨FormatWPstyle⟩}

Add colors if not empty:

```
3 \newcommand{\LWR@cancelcolor}[5]{%
4 \ifcsempty{#2}{%
5 {\InlineClass{#5}{#3}{#1}}{%
6 {\LWR@htmlspanclass[#5:#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}}{%
7 }}
```

{⟨text⟩}

8 \DeclareRobustCommand{\LWR@HTML@cancel}[1]{%

9 \begingroup%

10 \CancelColor%

11 \LWR@findcurrenttextcolor%

12 \color{black}%

13 \LWR@cancelcolor{#1}{\LWR@tempcolor}{sout}{text-decoration-color}%

14 {text-decoration:line-through}%

15 \endgroup%

16 }

17 \LWR@formatted{cancel}%

18

19 \LetLtxMacro\bcancel\cancel

20 \LetLtxMacro\xcancel\cancel

For MATHJAX:

```
21 \begin{warpMathJax}
22 \PackageNoteNoLine{l warp, cancel}{The MathJax v3 extension will be used}
23 \CustomizeMathJax{\require{cancel}}
24 \end{warpMathJax}
```

---

### File 68 **l warp-canoniclayout.sty**

## § 177 Package **canoniclayout**

Pkg canoniclayout canoniclayout is ignored.

**for HTML output:** s 1 \LWR@ProvidesPackageDrop{canoniclayout}[2011/11/05]

```
2 \newcommand*{\currentfontletters}{}%
3 \newcommand*{\charactersperpage}{}%
```

---

### File 69 **l warp-caption.sty**

## § 178 Package **caption**

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg caption caption is patched for use by l warp.

**for HTML output:**

```
1 \typeout{---}
2 \typeout{Packages l warp and caption:}
3 \typeout{If a ‘‘Missing \protect\begin\protect\document\protect’’ error occurs here,}
4 \typeout{try using: \space \protect\usepackage\protect\caption\protect\space}
5   \protect\captionsetup{options}
6 \typeout{instead of: \protect\usepackage[options]\protect\caption\protect.}
7 \typeout{---}
8
9 \LWR@ProvidesPackagePass{caption}[2020/10/26]

10 \long\def\caption@iibox#1#2#3#4{%
11 %   \setbox@tempboxa\hbox{#4}%
12   \caption@iibox{#1}{#2}{#3}%
13 %   [\wd\@tempboxa]%
14   []%                                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]{%
20   \begingroup
21   #1% set \caption@position
22   \caption@iftop{%
23     \endgroup

24     \minipagefullwidth%                  l warp
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          l warp
38  \parbox[b]{\linewidth}{%           l warp
39      #1\relax
40      \caption@setposition b%
41 %      \csname caption@hj@#7\endcsname
42      #8%
43 %      \captionbox@hrule
44 %      #3
45      {\caption#4{#5}%
46      }%
47  }%
48 }

```

## \caption@makecaption

```

49 \long\def\caption@makecaption#1#2{%
50 %  \caption@make@above
51  \caption@@make{#1}{#2}%
52 %  \caption@make@below
53 }
54
55 \AtBeginDocument{
56   \let\@makecaption\caption@makecaption
57 }

```

Appended to look ahead to the next token for \centering, etc:

```

58 \AtBeginDocument{
59 \xapptocmd{@xfloat}
60   {\LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment}
61   {}
62   {\LWR@patcherror{caption}{@xfloat}}
63
64 \xapptocmd{@dblfloat}
65   {\LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment}
66   {}
67   {\LWR@patcherror{caption}{@dblfloat}}
68 }

69 \long\def\caption@@text#1#2#3[#4]#5{%
70   \begin{BlockClass}{figurecaption}%           l warp
71   \begingroup
72   #3{\csname c@#1\endcsname #4\relax}%
73   #2{\caption@fnum{#1}}{#5}%
74   \endgroup%
75   \end{BlockClass}%                         l warp
76 }

```

Updates for late patches for scrextend:

```

77 \caption@AtBeginDocument{
78 \IfPackageLoadedTF{l warp-scrextend}){
79   \LetLtxMacro\captionbelow\caption
80   \LetLtxMacro\captionabove\caption
81   \LetLtxMacro\captionofbelow\captionof
82   \LetLtxMacro\captionofabove\captionof
83 }{}
84 }
```

### File 70 **l warp-caption3.sty**

§ 179      Package **caption3**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg caption3

for HTML output: 1 \LWR@ProvidesPackagePass{caption3}[2020/10/21]

```

\caption@@@make      {\langle caption label\rangle} {\langle caption text\rangle}

2 \IfPackageAtLeastTF{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%                      lwarp
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}%                      lwarp
69          \endgroup
70          \fi}%
71  {\ifcaption@star\else
72      \begingroup
73          \caption@iflf\captionlabelfont
74          \relax
75          \caption@lsep
76      \endgroup
77      \fi}%
78  {{%
79      \captiontextfont
80      \let\\newline%                      lwarp
81      \caption@ifstrut
82 %          {\vrule@height\ht\strutbox\@width\z@}%
83 %          {}%

```

```

84 %      \nobreak\hskip\z@skip % enable hyphenation
85   \LWR@isolate{\caption@tfmt{#2}}%           l warp
86 %      \caption@ifstrut
87 %      {\ifhmode@\finalstrut\strutbox\fi}%
88 %      {}%
89 }%}
90 \LWR@startpars%                                l warp
91 \LWR@traceinfo{caption@@@make done}%
92 }
93 % earlier than 2020/08/23

\caption@@make@ {<} {>}
94 \renewcommand{\caption@@make@}[2]{%
95   \caption@stepthecounter%
96   \caption@beginhook%
97 %   \caption@box\hsize{%
98 %   \caption@singlelinecheck{\caption@slc{#1}{#2}\caption@singleline\caption@multiline}{\caption@m
99 %   \caption@calcmargin
100 %  \caption@make@leftmargin
101 %  \caption@make@parbox{%
102 %    \caption@make@indention
103 %    \caption@@make{#1}{#2}%
104 %  }
105 %  \caption@make@rightmargin
106 % }%
107 \caption@endhook%
108 }

109 \DeclareCaptionBox{none}{#2}
110 \DeclareCaptionBox{parbox}{%
111   #2%
112 }

113 \DeclareCaptionBox{colorbox}{%
114   #2%
115 }

```

### File 71 **l warp-cases.sty**

§ 180      Package **Cases**

(Emulates or patches code by DONALD ARSENEAU.)

**cases** is patched for use by **l warp**.

While using MATHJAX, **cases** objects are converted to SVG math images. The MathJax 3.2 **cases** package does not yet work with **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{cases}[2020/03/29]

```

2 \BeforeBeginEnvironment{numcases}%
3   \begin{BlockClass}{displaymathnumbered}
4   \LWR@newauto{danchor}%
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@newauto{danchor}%
16     \booltrue{\LWR@indisplaymathimage}%
17     \begin{lateximage}[-cases- \MathImageAltText]
18 }
19
20 \AfterEndEnvironment{subnumcases}{
21     \end{lateximage}\end{BlockClass}
22 }
```

Patch to fix bug for `cases` when used with `microtype`:

```

23 \makeatletter
24 \begin{warpHTML}
25 \AtBeginDocument{
26     \@ifpackageloaded{amsmath}
27     {
28         \xpatchcmd{\tagform@}{\leftprotrusion{()}{()}}{()
29             {}}
30             {\LWR@patcherror{cases}{tagform@ A}}%
31         \xpatchcmd{\tagform@}{\rightprotrusion{()}{()}}{()
32             {}}
33             {\LWR@patcherror{cases}{tagform@ B}}%
34     }
35     {
36         \xpatchcmd{\@eqnnum}{\leftprotrusion{()}{()}}{()
37             {}}
38             {\LWR@patcherror{cases}{@eqnnum A}}%
39         \xpatchcmd{\@eqnnum}{\rightprotrusion{()}{()}}{()
40             {}}
41             {\LWR@patcherror{cases}{@eqnnum A}}%
42     }%
43 }
44 \end{warpHTML}
45 \makeatother
```

## File 72 l warp-ccicons.sty

§ 181 Package **ccicons**

(Emulates or patches code by MICHAEL UMMELS.)

Pkg ccicons

ccicons is used as SVG images for HTML.

**for HTML output:** Discard all options for l warp-ccicons:

```

1 \LWR@ProvidesPackagePass{ccicons}[2017/10/30]

2 \newcommand{\LWR@ccicons}[2]{%
3     \begin{lateximage}*[#1]\ccicons@font\char#2\end{lateximage}}
```

---

```

4 }
5 \renewcommand{\ccicons@logo}{\LWR@ccicons{ccLogo}{0}}
6 \renewcommand{\ccicons@by}{\LWR@ccicons{ccAttribution}{1}}
7 \renewcommand{\ccicons@sa}{\LWR@ccicons{ccShareAlike}{2}}
8 \renewcommand{\ccicons@nd}{\LWR@ccicons{ccNoDerivatives}{3}}
9 \renewcommand{\ccicons@nc}{\LWR@ccicons{ccNonCommercial}{4}}
10 \renewcommand{\ccicons@nceu}{\LWR@ccicons{ccNonCommercialEU}{5}}
11 \renewcommand{\ccicons@ncjp}{\LWR@ccicons{ccNonCommercialJP}{6}}
12 \renewcommand{\ccicons@pd}{\LWR@ccicons{ccPublicDomain}{7}}
13 \renewcommand{\ccicons@zero}{\LWR@ccicons{ccZero}{8}}
14 \renewcommand{\ccicons@sampling}{\LWR@ccicons{ccSampling}{9}}
15 \renewcommand{\ccicons@share}{\LWR@ccicons{ccShare}{10}}
16 \renewcommand{\ccicons@remix}{\LWR@ccicons{ccRemix}{11}}
17 \renewcommand{\ccicons@copy}{\LWR@ccicons{ccCopy}{12}}
18 \renewcommand{\ccicons@pdalt}{\LWR@ccicons{ccPublicDomainAlt}{13}}

```

---

#### File 73 **l warp-centerlastline.sty**

##### § 182 Package **centerlastline**

Pkg centerlastline centerlastline is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{centerlastline}[2020/10/12]

2 \providecommand{\centerlastline}{}
3 \def\endcenterlastline{\par}

```

---

#### File 74 **l warp-centernot.sty**

##### § 183 Package **centernot**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg centernot centernot is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{centernot}[2016/05/16]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{centernot}}
4 \end{warpMathJax}

```

---

#### File 75 **l warp-changebar.sty**

##### § 184 Package **changebar**

Pkg changebar changebar is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{changebar}[2018/03/09]

```

---

```

2 \newcommand*\{\cbstart\}{}%
3 \newcommand*\{\cbend\}{}%
4 \newenvironment*\{\changebar\}{}{}%
5 \newcommand*\{\cbdelete\}{}%
6 \newcommand*\{\nochnagebars\}{}%
7 \newcommand*\{\cbcolor\}[1]{}%
8 \newlength{\changebarwidth}%
9 \newlength{\deletebarwidth}%
10 \newlength{\changebarssep}%
11 \newcounter{changebargrey}

```

---

File 76 **l warp-changelayout.sty**

§ 185 Package **changelayout**

*(Emulates or patches code by AHMED MUSA.)*

Pkg changelayout

**for HTML output:** 1 \LWR@ProvidesPackagePass{changelayout}[2009/10/07]

```

2 \renewrobustcmd\cpl@backtodefaults{}%
3 %
4 \renewrobustcmd\cpl@checkifoddpage{%
5   \cpl@oddpagefalse%
6 }%
7 %
8 \renewrobustcmd\changepagelayout[1]{%
9   \setkeys[KV]{changelay}{#1}%
10 }%
11 %
12 \renewrobustcmd{\changetextlayout}[1]{\changepagelayout{#1}}%
13 %
14 \renewrobustcmd\adjustpagelayout[1]{%
15   \setkeys[KV@X]{changelay}{#1}%
16 }%
17 %
18 \renewrobustcmd{\adjusttextlayout}[1]{\adjustpagelayout{#1}}%
19 %
20 \renewrobustcmd\adjusttextwidth[1]{%
21   \setkeys[KV]{changelay}{#1}%
22   \begin{BlockClass}[color:\LWR@colorstyle{named}{\cpl@textcolor}]{changelayout}%
23     \color{\cpl@textcolor}%
24     \cpl@content%
25   \end{BlockClass}%
26 }

```

---

File 77 **l warp-changepage.sty**

§ 186 Package **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 78 `l warp-changes.sty`

§ 187 Package **changes**

(Emulates or patches code by EKKART KLEINOD.)

Pkg changes

`changes` is patched for use by `l warp`.

 `\comment` Use commandnameprefix=ifneeded to avoid a conflict with the `\comment` command when using `l warp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{changes}[2021/07/15]

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```

2 \renewcommand{\ChangesListline}[4]{%
3   \IfIsInList{#1}{\Changes@loc@show}{%
4     \LWR@startpars%
5     #2: #3 \qquad%
6     \nameref{\BaseJobname-autopage-#4}%
7     \LWR@stoppars%
8   }{}%
9 }
10
11 \renewcommand{\listofchanges}[1][\empty]{%
12 \setkeys{Changes@loc}{#1}%
13 \ifbool{Changes@optiondraft}{%
14 {%
15 \IfIsInList{\Changes@loc@style}{list|summary|compactsummary}%
16 {}%
17 {%
18 \PackageWarning{changes}{Wrong style for list of changes: '\Changes@loc@style', using 'list' instead.}%
19 \def\Changes@loc@style{}%
20 }%
21 \IfIsEmpty{\Changes@loc@style}{%
22 {\def\Changes@loc@style{list}}%

```

```
23 { }%
24 \IfStrEq{\Changes@loc@show}{all}%
25 {\def\Changes@loc@show{added|deleted|replaced|highlight|comment}}%
26 { }%
27 \IfIsInList{\Changes@loc@show}{added|deleted|replaced|highlight|comment}%
28 { }%
29 {%
30 \PackageWarning{changes}{Wrong show-value for list of changes: '\Changes@loc@show', using 'all' instead}
31 \def\Changes@loc@show{}%
32 }%
33 \IfIsEmpty{\Changes@loc@show}%
34 {\def\Changes@loc@show{added|deleted|replaced|highlight|comment}}%
35 { }%
36 \IfIsEmpty{\Changes@loc@title}%
37 {%
38 \IfStrEq{\Changes@loc@style}{list}%
39 {\def\Changes@heading{\listofchangesname}}{}%
40 \IfStrEq{\Changes@loc@style}{summary}%
41 {\def\Changes@heading{\summaryofchangesname}}{}%
42 \IfStrEq{\Changes@loc@style}{compactsummary}%
43 {\def\Changes@heading{\compactsummaryofchangesname}}{}%
44 }%
45 {\def\Changes@heading{\Changes@loc@title}}%
46 \section*\{\Changes@heading}
47 \IfIsInList{\Changes@loc@style}{list}%
48 {%
49 \IfFileExists{\jobname.\Changes@locextension}%
50 {%
51 \newread\Changes@InFile%
52 \openin\Changes@InFile=\jobname.\Changes@locextension%
53 \loop\nless\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\nless\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{\% lwarf
82         \changesauthorname: \changesanonymousname%
```

```
83      }% l warp
84 }%
85 {%
86   \LWR@textcurrentcolor{%
87 \changesauthorname: \Changes@Inid%
88   }% l warp
89 \IfIsEmpty{\Changes@Inname}%
90 {}%
91 { %
92   \LWR@textcurrentcolor{%
93 (\Changes@Inname)%
94   }% l warp
95 }%
96 }%
97 }\\%
98 \numdef{\Changes@InSum}{0}%
99 \renewcommand*{\do}[1]{%
100 \numdef{\Changes@InSum}{\Changes@InSum + \csuse{Changes@In#####1}}%
101 }%
102 \expandafter\dopsvlist\expandafter{\Changes@loc@show}%
103 \ifnumcomp{\Changes@InSum}{=}{0}%
104 {}%
105 % \parbox{\Changes@summary@width}{%
106   \changesnochanges%
107 }% l warp
108 % \\[1ex]%
109   \par% \l warp
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}{%
121 \csuse{changes#####1name}~%
122 \let\cleaders\leaders\dotfill~% l warp
123 \dotfill~% \l warp
124 \csuse{Changes@In#####1}%
125 }% l warp
126 % \ifnumless{\Changes@InCount}{\Changes@InSum}%
127 {}\\%
128 % \\[1ex]%
129 }%
130 {}%
131 }%
132 \expandafter\dopsvlist\expandafter{\Changes@loc@show}%
133   \par% l warp
134 }%
135 \fi%
136 \repeat
137 \closein\Changes@InFile%
138 }{%
139 \emph{\changesnosoc}%
140 \PackageWarning{changes}{\LaTeX\ rerun needed for summary of changes}%
141 }%
142 }{}}
```

```
143 }{ }%
144 }
145
146
147 \renewcommand{\Changes@Markup@comment}[3]{%
148 \IfStrEq{\Changes@optioncommentmarkup}{todo}%
149 {%
150 \IfIsColored%
151 {\colorlet{Changes@todocolor}{authorcolor}}%
152 {\colorlet{Changes@todocolor}{black}}%
153 \todo[color=Changes@todocolor!10, bordercolor=Changes@todocolor, linecolor=Changes@todocolor!70, no%
154 }{ }%
155 \IfStrEq{\Changes@optioncommentmarkup}{margin}%
156 {%
157 \marginpar{%
158 \IfIsColored%
159 {\leavevmode\color{authorcolor}}%
160 }{ }%
161 \LWR@textcurrentcolor{} lwarf
162 \textbf{[\IfIsAnonymous{#2}{}{#3~}\arabic{Changes@commentCount#2}]:} #1%
163 }% lwarf
164 }%
165 }{ }%
166 \IfStrEq{\Changes@optioncommentmarkup}{footnote}%
167 {%
168 \footnote{%
169 \LWR@textcurrentcolor{} lwarf
170 \textbf{[\IfIsAnonymous{#2}{}{#3~}\arabic{Changes@commentCount#2}]:} #1%
171 }% lwarf
172 }%
173 }{ }%
174 \IfStrEq{\Changes@optioncommentmarkup}{uwave}%
175 {%
176 {%
177 \IfIsColored%
178 {\color{authorcolor}}%
179 }{ }%
180 \allowbreak%
181 \uwave{%
182 \textbf{[\IfIsAnonymous{#2}{}{#3~}\arabic{Changes@commentCount#2}]:} #1%
183 }{ }%
184 }{ }%
185 }{ }%
186 }%
187
188 \renewrobustcmd{\Changes@output}[7]{%
189 \ifbool{Changes@optiondraft}{%
190 {%
191 \Changes@check@author{#2}%
192 \Changes@set@color{#2}%
193 {%
194 \IfIsInList{#1}{added|deleted|replaced|highlight}%
195 {%
196 \IfIsEmpty{#5}%
197 {%
198 \IfIsAuthorEmptyAtPosition{#2}{left}%
199 }{ }%
200 }{ }%
201 \IfIsColored%
202 {\color{authorcolor}}%
```

```
203 { }%
204     \LWR{textcurrentcolor}{%      l warp
205 \Changes@Markup@author{\Changes@output@author@position{#2}{left}}%
206     }%  l warp
207 }}%
208 }{%
209 {%
210 \IfStrEq{#1}{highlight}%
211 {}{%
212 \IfIsColored%
213 {\color{authorcolor}}%
214 {}%
215 }%
216     \LWR{textcurrentcolor}{%      l warp
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     }%  l warp
222 }%
223 \IfIsEmpty{#5}%
224 {}%
225 \IfIsEmptyAtPosition{#2}{right}%
226 {}%
227 {}{%
228 \IfIsColored%
229 {\color{authorcolor}}%
230 {}%
231     \LWR{textcurrentcolor}{%      l warp
232 \Changes@Markup@author{\Changes@output@author@position{#2}{right}}%
233     }%  l warp
234 }}%
235 }{%
236 \stepcounter{Changes@#1Count#2}%
237 }{%
238 \IfIsEmpty{#5}%
239 {}%
240 {}%
241 \stepcounter{Changes@commentCount#2}%
242 \Changes@set@commentcount{#2}%
243 \Changes@Markup@comment%
244 {#5}%
245 {#2}%
246 {\Changes@output@author{#2}}%
247 }%
248 }%
249 \IfIsEmpty{#2}%
250 {\def\Changes@locid{}}
251 {\def\Changes@locid{\~{#2}}}
252 \addtocontents{\Changes@locextension}{\protect\ChangesListline{#1}{#6\Changes@locid}{#7}{\thepage}}
253 }%
254 {}%
255 \IfIsEmpty{#3}%
256 {\@bsphack\@esphack}%
257 {#3}%
258 }%
259 }
```

---

**File 79 l warp-chappg.sty****§ 188 Package chappg***(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg chappg

chappg is ignored.

**for HTML output:**  
1 \LWR@ProvidesPackageDrop{chappg}[2006/05/09]  
  
2 \renewcommand{\pagenumbering}[2]{}{}  
3 \providecommand{\chappgsep}{--}

---

**File 80 l warp-chapterbib.sty****§ 189 Package chapterbib***(Emulates or patches code by DONALD ARSENEAU.)*

Pkg chapterbib

chapterbib is patched for use by l warp.

**for HTML output:**  
1 \LWR@ProvidesPackagePass{chapterbib}[2010/09/18]  
  
2 \xdef\@savedjobname{\BaseJobname}  
3 \let\@currentipfile\@savedjobname

---

**File 81 l warp-chemfig.sty****§ 190 Package chemfig***(Emulates or patches code by CHRISTIAN TELLECHEA.)*

Pkg chemfig

chemfig is patched for use by l warp.

If using \polymerdelim to add delimiters to a \chemfig, wrap both inside a single \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 \IfPackageAtLeastTF{chemfig}{2020/03/05}

```
5 {
6   \xpretocmd\charge{\begin{ lateximage }[-chemfig-\PackageDiagramAltText]}
7     {}{\LWR@patcherror{chemfig}{charge}}
8   \xpretocmd\Charge{\begin{ lateximage }[-chemfig-\PackageDiagramAltText]}
9     {}{\LWR@patcherror{chemfig}{Charge}}
10  \xapptocmd\charge_c{\end{ lateximage }}
11    {}{\LWR@patcherror{chemfig}{charge_c}}
12 }{}
13
14 \IfPackageAtLeastTF{chemfig}{2019/04/18}%
15 {%
16   \xpretocmd{\CF_chemfiga}
17     {\begin{ lateximage }[-chemfig-\PackageDiagramAltText]}
18     {}{\LWR@patcherror{chemfig}{CF_chemfiga}}
19
20   \xpatchcmd{\CF_chemfigb}
21     {\let\CF_flipstate\CF_zero}
22     {\end{ lateximage }\let\CF_flipstate\CF_zero}
23     {}{\LWR@patcherror{chemfig}{CF_chemfigb}}
24
25   \GlobalLetLtxMacro\LWR@chemfig@origCF_lewisc\CF_lewisc
26   \gdef\CF_lewisc#1,#2\_nil{%
27     \begin{ lateximage }[-chemfig-\PackageDiagramAltText]%
28       \LWR@chemfig@origCF_lewisc#1,#2\_nil
29     \end{ lateximage }
30   }
31
32   \gpreto{\schemestart}{%
33     \begin{ lateximage }[-chemfig-\PackageDiagramAltText]%
34   }
35   \gappto{\CF_schemestop}{\end{ lateximage }}
36
37 }%
38 {%
39   \LetLtxMacro\LWR@chemfig@origchemfig\chemfig
40
41   \DeclareDocumentCommand\chemfig{s O{} O{} m}{%
42     \begin{ lateximage }[-chemfig-\PackageDiagramAltText]%
43     \IfBooleanTF{#1}{%
44       \LWR@chemfig@origchemfig*[#2][#3]{#4}%
45     }{%
46       \LWR@chemfig@origchemfig[#2][#3]{#4}%
47     }
48   }
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 82 l warp-chemformula.sty

## § 191 Package chemformula

(Emulates or patches code by CLEMENS NIEDERBERGER.)

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}[2022/01/23]

2 \ExplSyntaxOn

\ch  
Enclose in an inline SVG image or MATHJAX. The alt tag is the contents of the \ch expression. The filename is hashed, and also has additional hashing information based on the local options.

3 \RenewDocumentCommand \ch { O{}m }  
4 {%

To work inside align with \displaymathother, a simple version must be used to work with chemformula's adaptation to align.

5 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{% l warp

```

6      {
7          \chemformula_ch:nn {#1} {#2}%   original
8      }

```

If used as the outer level, must temporarily ensure MATHJAX is disabled:

```

9      {
10         \begingroup%
11         \boolfalse{mathjax}%

```

An inline image is used, adjusted for the baseline:

```

12         \LWR@subsingledollar*{\% lwarp
13             \textbackslash{}%
14             ch%
15             \{%
16                 \LWR@HTMLsanitizeddetokenized{\detokenize{#2}}%
17                 \} alt text
18             \}%
19             \protect\LWR@HTMLsanitizeddetokenized{%
20                 \detokenize\expandafter{#1}%
21                 }% add'l hashing
22             \}%
23             \{%
24                 \chemformula_ch:nn {#1} {#2}%   original
25             \}%
26             \endgroup%
27         }
28     }

```

\chcpd

Similar to \ch.

```

29 \IfPackageAtLeastTF{chemformula}{2019/10/13}{
30 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
31 {
32     \begingroup%
33     \boolfalse{mathjax}%
34     \LWR@subsingledollar*{\% lwarp
35         \textbackslash{}%
36         chcpd%
37         \{%
38             \LWR@HTMLsanitizeddetokenized{\detokenize{#2}}%
39             \}%
40         \}%
41         \protect\LWR@HTMLsanitizeddetokenized{\detokenize\expandafter{#1}}%
42     \}%
43     \original
44     \group_begin:
45         \tl_if_blank:nF {#2}
46         {
47             \keys_set:nn {chemformula} {#1}
48             \chemformula_save_catcodes:
49             \chemformula_sanitize:Nn
50             \l_chemformula_chemformula_tmpa_tl
51             {#2}
52             \chemformula_input_compound_no_check:NV
53             \l_chemformula_compound_tl
54             \l_chemformula_chemformula_tmpa_tl
55             \chemformula_prepare_output:NV
56             \l_chemformula_compound_tl
57             \l_chemformula_catcodes_tl
58             \chemformula_write:V \l_chemformula_compound_tl
}

```

```

59     \group_end:
60   }
61   \endgroup
62 }
63 }% later than 2019/10/13
64 {%
65 \changes{v0.903}{2021/12/18}{\pkg{chemformula}}: Improved alt tag sanitization.}
66 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
67 {
68   \begingroup%
69   \boolfalse{mathjax}%
70   \LWR@subsingle dollar*{\% l warp
71     \textbackslash{}%
72     chcpd%
73     \{%
74       \LWR@HTMLsanitizedetokenized{\detokenize{#2}}%
75     \}%
76   }{%
77     \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
78   }{%
79     \original
80     \group_begin:
81       \tl_if_blank:nF {#2}
82     {
83       \keys_set:nn {chemformula} {#1}
84       \chemformula_save_catcodes:
85       \chemformula_sanitize:Nn
86       \l_chemformula_chemformula_tmpa_tl
87       {#2}
88       \chemformula_input_compound_no_check:NV
89       \l_chemformula_compound_tl
90       \l_chemformula_chemformula_tmpa_tl
91       \chemformula_prepare_output:N \l_chemformula_compound_tl
92       \chemformula_write:V \l_chemformula_compound_tl
93     }
94   \group_end:
95 }
96 \endgroup
97 }% earlier than 2019/10/13

```

## \charrow

If standalone, appears in a regular `\teximage`.

```

98 \RenewDocumentCommand \charrow { mO{}O{} }
99 {
100   \begin{teximage}[-chemformula- charrow]
101   \group_begin:
102     \chemformula_draw_arrow:nnn {#1} {#2} {#3}
103   \group_end:
104   \end{teximage}
105 }

```

## \chname

If standalone, appears in a regular `\teximage`, hashed according to contents.

```

106 \RenewDocumentCommand \chname { R(){}R(){} }
107 {
108   \begin{teximage}*[%
109     \textbackslash{}%
110     chname%
111     (\LWR@HTMLsanitizedetokenized{\detokenize{#1}})%
112     (\LWR@HTMLsanitizedetokenized{\detokenize{#2}})%

```

```

113      ]*%
114      \chemformula_chwritebelow:nn {#1} {#2}
115      \end{lateximage}
116  }

```

\chlewis Placed inline, hashed according to contents and options.

```

117 \RenewDocumentCommand \chlewis { O{}mm }
118  {
119      \begingroup%
120      \boolfalse{mathjax}%
121      \LWR@subsingle$@{\textbackslash chlewis\{#2\}\{#3\}}%
122  {
123      \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
124  }%
125      \chemformula_lewis:nnn {#1} {#2} {#3}
126  }
127  \endgroup%
128 }

```

**l warp** redefines the \$ character, so special handling is required to escape math expressions inside \ch.

This boolean tracks a new kind of escaped math:

```
129 \bool_new:N      \l__chemformula_first_last_LWRdollar_bool
```

### \chemformula\_input\_escape\_math

Adds additional escaping for the new dollar definition:

```

130 \cs_gset_protected:Npn \__chemformula_input_escape_math:n #1
131  {
132      \__chemformula_first_last_math:n {#1}
133      \bool_if:NT \l__chemformula_first_last_dollar_bool
134      {
135          \bool_set_true:N \l__chemformula_first_last_math_bool
136          \__chemformula_read_escape_dollar:w #1 \q_nil
137      }
138      \bool_if:NT \l__chemformula_first_last_mathbraces_bool
139      {
140          \bool_set_true:N \l__chemformula_first_last_math_bool
141          \__chemformula_read_escape_mathbraces:w #1 \q_nil
142      }

```

Added by **l warp**:

```

143 \bool_if:NT \l__chemformula_first_last_LWRdollar_bool% l warp
144  {
145      \bool_set_true:N \l__chemformula_first_last_math_bool% l warp
146      \__chemformula_read_escape_LWRdollar:w #1 \q_nil% l warp
147  }
148 }
```

### \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.

```

149 \begingroup
150 \catcode`\$=\active
151
152 \cs_new_protected:Npn \__chemformula_read_escape_LWRdollar:w $#1$ \q_nil
153 {
154     \__chemformula_read_escape_math:n {#1}
155 }
156
157 \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 \$.

```

158 \cs_new_protected:Npn \__chemformula_bool_cs_set_if_last:NnNN #1#2#3#4
159 {
160     \int_zero:N \l__chemformula_tmpa_int
161     \int_zero:N \l__chemformula_tmpb_int
162     \int_set:Nn \l__chemformula_tmpa_int { \tl_count:n {#2} }
163     \tl_map_inline:nn {#2}
164     {
165         \int_incr:N \l__chemformula_tmpb_int
166         \int_compare:nT { \l__chemformula_tmpb_int = 1 }
167     }

```

At the start, the cs\_ version compares control sequences:

```

168         \ifdstreq{##1}{#3}%
169             \bool_set_true:N #1
170         }%
171             \bool_set_false:N #1
172         {}
173     }

```

At the end, compare more control sequences:

```

174     \int_compare:nT { \l__chemformula_tmpb_int = \l__chemformula_tmpa_int }
175     {
176         \ifdstreq{##1}{#4}
177             {}
178             \bool_set_false:N #1
179         }
180     }
181 }
182 }
183 }

```

#### \chemformula\_first\_last\_math

Modified to check for the new meaning of \$ at first/last:

```

184 \cs_gset_protected:Npn \__chemformula_first_last_math:n #1
185 {
186     \bool_set_false:N \l__chemformula_first_last_math_bool

```

```

187      \bool_set_false:N \l__chemformula_first_last_dollar_bool
188      \bool_set_false:N \l__chemformula_first_last_LWRdollar_bool%    l warp
189      \bool_set_false:N \l__chemformula_first_last_mathbraces_bool
190      \__chemformula_bool_set_if_first_last:Nnnn
191          \l__chemformula_first_last_dollar_bool
192          {#1}
193          { $ } { $ }
194      \bool_if:NF \l__chemformula_first_last_dollar_bool
195      {
196          \__chemformula_bool_set_if_first_last:Nnnn
197          \l__chemformula_first_last_mathbraces_bool
198          {#1}
199          { \c { } { \c } }
```

Added by l warp:

```

200          \bool_if:NF \l__chemformula_first_last_mathbraces_bool%    l warp
201          {
202              \__chemformula_bool_cs_set_if_first_last:NnNN
203              \l__chemformula_first_last_LWRdollar_bool
204              {#1}
205              { \LWR@newsingledollar } { \LWR@newsingledollar }
206          }% l warp
207      }
208  }
```

209 \ExplSyntaxOff

### File 83 l warp-chemgreek.sty

## § 192 Package chemgreek

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemgreek

### 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 E T A E X , L u a L T E X

If using X E T A E X or L u a L T E X , select the fontspec mapping:

```
\selectchemgreekmapping{fontspec}
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemgreek}[2020/01/16]

```

2 \ExplSyntaxOn
3
4 \cs_gset_protected:Npn \chemgreek_text:n #1
5  { { \text {#1} } }
6
7 \appto\LWR@restoreorigformatting{%
8 \cs_set_protected:Npn \chemgreek_text:n #1%
9  { \ensuremath { \text {#1} } } }%
10 }
11
12 \ExplSyntaxOff
```

---

**File 84 l warp-chemmacros.sty**

§ 193 Package **chemmacros**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemmacros

chemmacros is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{chemmacros}[2022/02/13]

svg file hashing assumes that the relevant options are constant for the entire document.

### § 193.1 Changes to the user's document

⚠ \makepolymerdelims When using \makepolymerdelims, enclose the entire expression inside a polymerdelims environment, such as (from the chemmacros manual):

```
\begin{polymerdelims}
\chemfig{-[@{op,.75}]CH_2-CH(-[6]Cl)-[@{cl,0.25}]}
\makepolymerdelims{5pt}[27pt]{op}{cl}
\end{polymerdelims}
```

⚠ redox reactions Redox reactions must be enclosed inside a redoxreaction environment. For print output, extra space must be included above and/or below the result, so they are declared as arguments to the environment, instead of being manually entered as per the chemmacros manual. For HTML output, the extra space is ignored and a lateximage is used instead.

```
\begin{redoxreaction}{7mm}{7mm}
\OX{a,Na} $\rightarrow$ \OX{b,Na}\pch\redox(a,b){oxidation}
\end{redoxreaction}
```

### § 193.2 Code

2 \ExplSyntaxOn

### § 193.3 Loading packages

Also accept the l warp version:

```
3 \prg_set_conditional:Npn \chemmacros_if_package_loaded:n #1 {p,T,F,TF}
4  {
5    \cs_if_exist:cTF {ver@#1.sty}
6    {
7      \prg_return_true:
8    }
9    \cs_if_exist:cTF {ver@l warp-#1.sty}
10   {
11     \prg_return_true:
12   }
13 }
```

Nullify `hyperref` detection:

```
13 \hook_gput_code:nnn {begindocument/end} {chemmacros}
14  {
15      \bool_set_false:N \l__chemmacros_hyperref_bool
16 }
```

### § 193.4 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.

### § 193.5 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`

```
17 \DeclareDocumentEnvironment{polymerdelims}{}{%
18 { \begin{ lateximage }[-chemmacros- polymer] }{%
19 { \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.

```
20 \DeclareDocumentEnvironment{redoxreaction}{m m}{%
21 { \begin{ lateximage }[-chemmacros- redoxreaction] }{%
22 { \end{ lateximage } }}
```

### § 193.6 Acid-base

```
23 \AtBeginDocument{%
24 \chemmacros_module_if_loaded:nTF{{acid-base}}{%
25 \PackageInfo{l warp}{Patching~chemmacros~module~acid-base}}{%
26 %
27 \cs_gset_protected:Npn \chemmacros_p:n #1{%
28 {%
29     \begingroup
30     \boolfalse{mathjax}
31     \LWR@subsingledollar*{%
32         \textbackslash%}
33     p%
34     \{%
35         \LWR@HTMLsanitizeddetokenized{\detokenize{#1}}%
36     \}%
37 }{%
38     \chemmacrosp%
39     \protect\LWR@HTMLsanitizeddetokenized{\detokenize\expandafter{#1}}%
40 }{%
41     \group_begin:%
42     \mbox{%
43     {%
44         \chemmacros_p_style:n {p}
```

```
45          \ensuremath {\#1}
46      }
47  \group_end:
48  }
49  \endgroup
50 }
51
52 \RenewDocumentCommand \pH {} {
53   \begingroup
54   \boolfalse{mathjax}
55   \LWR@subsingle dollar*\textbackslash{}pH\chemmacros{%
56     \chemmacros_p:n { \chemmacros_formula:n {H} }%
57   }%
58   \endgroup
59 }
60
61 \RenewDocumentCommand \pOH {} {
62   \begingroup
63   \boolfalse{mathjax}
64   \LWR@subsingle dollar*\textbackslash{}pOH\chemmacros{%
65     \chemmacros_p:n { \chemmacros_formula:n {OH} }%
66   }%
67   \endgroup
68 }
69
70 \RenewDocumentCommand \pKa {O{}}
71 {
72   \begingroup
73   \boolfalse{mathjax}
74   \LWR@subsingle dollar*\textbackslash{}pKa{[]}\chemmacros #1{%
75     \chemmacros_p:n
76     {
77       \Ka \ifblank {\#1} {}
78       { {} \c_math_subscript_token { \chemmacros_bold:n {\#1} } }%
79     }%
80   }%
81   \endgroup
82 }
83
84 \RenewDocumentCommand \pKb {O{}}
85 {
86   \begingroup
87   \boolfalse{mathjax}
88   \LWR@subsingle dollar*\textbackslash{}pKb{[]}\chemmacros #1{%
89     \chemmacros_p:n
90     {
91       \Kb \ifblank {\#1} {}
92       { {} \c_math_subscript_token { \chemmacros_bold:n {\#1} } }%
93     }%
94   }%
95   \endgroup
96 }
97
98 \LetLtxMacro \LWR@chemmacros@origKa \Ka
99 \renewcommand*\Ka{%
100   \begingroup
101   \boolfalse{mathjax}
102   \LWR@subsingle dollar*\textbackslash{}Ka\chemmacros{%
103     \LWR@chemmacros@origKa%
104   }%
```

```

105      \endgroup
106 }
107
108 \LetLtxMacro{\LWR@chemmacros@origKb}{\Kb}
109 \renewcommand*{\Kb}{%
110     \begingroup
111     \boolfalse{mathjax}
112     \LWR@subsingle dollar*{\textbackslash}{\Kb}{chemmacros}{%
113         \LWR@chemmacros@origKb%
114     }%
115     \endgroup
116 }
117
118 \LetLtxMacro{\LWR@chemmacros@origKw}{\Kw}
119 \renewcommand*{\Kw}{%
120     \begingroup
121     \boolfalse{mathjax}
122     \LWR@subsingle dollar*{\textbackslash}{\Kw}{chemmacros}{%
123         \LWR@chemmacros@origKw%
124     }%
125     \endgroup
126 }
127
128 }{}% module loaded
129 }% AtBeginDocument

```

### § 193.7 Charges

```

130 \AtBeginDocument{
131 \chemmacros_module_if_loaded:nTF{{charges}}{
132 \PackageInfo{l warp}{Patching~chemmacros~module~charges}
133
134 \cs_gset_protected:Npn \fplus {
135     \begingroup
136     \boolfalse{mathjax}
137     \LWR@subsingle dollar*{\textbackslash}{\fplus}{chemmacros}%
138     { \LWR@origensuredmath{\chemformula_fplus:} }
139     \endgroup
140 }
141 \cs_gset_protected:Npn \fminus {
142     \begingroup
143     \boolfalse{mathjax}
144     \LWR@subsingle dollar*{\textbackslash}{\fminus}{chemmacros}%
145     { \LWR@origensuredmath{\chemformula_fminus:} }
146     \endgroup
147 }
148
149 }{}% Module loaded.
150 }% AtBeginDocument

```

### § 193.8 Nomenclature

```

151 \AtBeginDocument{
152 \chemmacros_module_if_loaded:nTF{{nomenclature}}{
153 \PackageInfo{l warp}{Patching~chemmacros~module~nomenclature}
154
155 \cs_gset_protected:Npn \chemmacros_charge:n #1
156 {
157     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
158         {\chemmacros_formula:n { }^{#1}}}}

```

```
159      {
160          \ifmmode
161              {\chemmacros_formula:n { {}^{\#1} {}}}
162          \else
163              { \textsuperscript{\ensuremath{\#1}} } }
164          \fi
165      }
166  }
167
168 \LetLtxMacro{\LWR@chemmacros@origchemprime}{\chemprime}
169 \protected\def\chemprime { \HTMLUnicode{2032} }
170
171 \appto{\LWR@restoreorigformatting}{%
172 \LetLtxMacro{\chemprime}{\LWR@chemmacros@origchemprime}%
173 }
174
175
176 \cs_gset_protected:Npn \__chemmacros_cip:n #1
177  {
178      \tl_set:Nn \l__chemmacros_tmpa_tl {\#1}
179      \int_step_inline:nnnn {0} {1} {9}
180      {
181          \tl_replace_all:Nnn \l__chemmacros_tmpa_tl
182          {##1}
183          { { \l__chemmacros_cip_number_tl ##1 } }
184      }
185  {
186      \l__chemmacros_cip_inner_tl
187      \LWR@textcurrentcolor{\LWR@textcurrentfont\% lwarp
188          \l__chemmacros_tmpa_tl
189      }% lwarp
190  }
191 }
192 \RenewDocumentCommand \Sconf { O{S} } {
193 \begin{ lateximage } [ \textbackslash textbackslash{} \Sconf{[]\#1{}} ] *
194     \chemmacros_sconf:n {\#1}
195 \end{ lateximage }
196 }
197
198 \RenewDocumentCommand \Rconf { O{R} } {
199 \begin{ lateximage } [ \textbackslash textbackslash{} \Rconf{[]\#1{}} ] *
200     \chemmacros_rconf:n {\#1}
201 \end{ lateximage }
202 }
203
204 \cs_gset_protected:Npn \chemmacros_hpto:n #1
205  {
206      \begingroup
207      \boolfalse{mathjax}
208      \LWR@subsingle dollar*{\textbackslash hpto{\#1\}}{\chemmacros}{%
209          \chemmacros_coordination_symbol:nnnn
210          { \l__chemmacros_coord_use_hyphen_bool }
211          {
212              { \c_true_bool }
213          }
214          { \chemeta }
215          {\#1}
216      }
217 }
```

```

216     \endgroup
217 }
218
219 \cs_gset_protected:Npn \chemmacros_dento:n #1
220 {
221     \begingroup
222     \boolfalse{mathjax}
223     \LWR@subsingle dollar*\textbackslash{}dento\{\#1\}\chemmacros{
224         \chemmacros_coordination_symbol:nnnn
225         { \l__chemmacros_coord_use_hyphen_bool }
226         {
227             \c_true_bool
228         }
229         { \chemkappa }
230         {\#1}
231     }
232     \endgroup
233 }
234
235 \cs_gset_protected:Npn \chemmacros_bridge:n #1
236 {
237     \begingroup
238     \boolfalse{mathjax}
239     \LWR@subsingle dollar*\textbackslash{}bridge\{\#1\}\chemmacros{
240         \chemmacros_coordination_symbol:nnnn
241         { \l__chemmacros_coord_use_hyphen_bool }
242         { \l__chemmacros_bridge_super_bool }
243         { \chemmu }
244         {\#1}
245     }
246     \endgroup
247 }
248 }{}% Module loaded.
249 }% AtBeginDocument

```

### § 193.9 Particles

```

250 \AtBeginDocument{
251 \chemmacros_module_if_loaded:nTF{{particles}}{
252 \PackageInfo{lwarf}{Patching\chemmacros\module\particles}
253
254 \cs_gset_protected:Npn \chemmacros_declare_nucleophile:Nn #1#2
255 {
256     \cs_set_protected:cpx {\chemmacros_\chemmacros_remove_backslash:N #1:}
257     {
258         \bool_if:NTF \l__chemmacros_nucleophile_elpair_bool
259         {
260             \chemmacros_elpair:n { #2 }
261             { \skip_horizontal:N \l__chemmacros_nucleophile_dim }
262             \chemmacros_formula:n { {}^{-} }
263         }
264         { \chemmacros_formula:n { #2^{-} } }
265     }
266     \DeclareDocumentCommand #1 {o}
267     {%
268         \begin{lateximage}%
269         \group_begin:-
270         \IfNoValueF {##1}%
271         { \chemmacros_set_keys:nn {particles} {##1} }%
272         \use:c {\chemmacros_\chemmacros_remove_backslash:N #1:}%

```

```

273      \group_end:%
274      \end{lateximage}%
275    }
276  }
277
278 \RenewChemNucleophile \Nuc {Nu}
279 \RenewChemNucleophile \ba {ba}
280
281 }{}% Module loaded.
282 % AtBeginDocument

```

### § 193.10 Phases

```

283 \AtBeginDocument{
284 \chemmacros_module_if_loaded:nTF{{phases}}{
285 \PackageInfo{l warp}{Patching~chemmacros~module~phases}}
286
287 \cs_undefine:N \chemmacros_phase:n
288 \cs_new_protected:Npn \chemmacros_phase:n #1
289 {

290   \mode_leave_vertical:
291
292   \bool_if:NTF \l__chemmacros_phases_sub_bool
293   {
294     \ifnumequal{\value{LWR@lateximagedepth}}{0}
295     {
296       \textsubscript{ (#1) }
297     }
298     \chemformula_subscript:n { (#1) }
299   }
300 }
301 {
302   \skip_horizontal:N \l__chemmacros_phases_space_dim
303   \chemmacros_text:n { (#1) }
304 }
305 }
306
307 }{}% Module loaded.
308 % AtBeginDocument

```

### § 193.11 Mechanisms

```

309 \AtBeginDocument{
310 \chemmacros_module_if_loaded:nTF{{mechanisms}}{
311 \PackageInfo{l warp}{Patching~chemmacros~module~mechanisms}}
312
313 \chemmacros_define_keys:nn {textmechanisms}
314 {
315   type .choice: ,
316   type / .code:n =
317   {
318     \__chemmacros_set_mechanisms:nnn { S }
319     {
320       \textsubscript{N}
321     }
322     { }
323   },
324   type / 1 .code:n =

```

```
325      {
326          \__chemmacros_set_mechanisms:nnn { S }
327          {
328              \textsubscript{N}
329              1
330          }
331          { }
332      } ,
333      type / 2 .code:n     =
334      {
335          \__chemmacros_set_mechanisms:nnn { S }
336          {
337              \textsubscript{N}
338              2
339          }
340          { }
341      } ,
342      type / se .code:n    =
343      {
344          \__chemmacros_set_mechanisms:nnn { S }
345          {
346              \textsubscript{E}
347          }
348          { }
349      } ,
350      type / 1e .code:n    =
351      {
352          \__chemmacros_set_mechanisms:nnn { S }
353          {
354              \textsubscript{E}
355              1
356          }
357          { }
358      } ,
359      type / 2e .code:n    =
360      {
361          \__chemmacros_set_mechanisms:nnn { S }
362          {
363              \textsubscript{E}
364              2
365          }
366          { }
367      } ,
368      type / ar .code:n    =
369      {
370          \__chemmacros_set_mechanisms:nnn { S }
371          {
372              \textsubscript{E}
373          }
374          { Ar - }
375      } ,
376      type / e  .code:n    =
377      { \__chemmacros_set_mechanisms:nnn { E } { } { } { } } ,
378      type / e1 .code:n    =
379      { \__chemmacros_set_mechanisms:nnn { E } { 1 } { } { } } ,
380      type / e2 .code:n    =
381      { \__chemmacros_set_mechanisms:nnn { E } { 2 } { } { } } ,
382      type / cb .code:n    =
383      {
384          \__chemmacros_set_mechanisms:nnn { E }
```

```

385      {
386          1
387          \textsubscript{cb}
388      }
389      { }
390  } ,
391  type     .default:n =
392 }
393
394 \cs_gset_protected:Npn \chemmacros_mechanisms:n #1
395 {
396     \tl_if_blank:nTF {#1}
397     { \chemmacros_set_keys:nn {textmechanisms} { type } }
398     { \chemmacros_set_keys:nn {textmechanisms} { type = #1 } }
399     \mbox
400     {
401         \tl_use:N \l__chemmacros_mechanisms_ar_tl
402         \tl_use:N \l__chemmacros_mechanisms_type_tl
403         \tl_use:N \l__chemmacros_mechanisms_mol_tl
404     }
405 }
406
407 \appto\LWR@restoreorigformatting{%
408 \cs_set_protected:Npn \chemmacros_mechanisms:n #1%
409 {%
410     \tl_if_blank:nTF {#1}%
411     { \chemmacros_set_keys:nn {mechanisms} { type } }%
412     { \chemmacros_set_keys:nn {mechanisms} { type = #1 } }%
413     \mbox%
414     {%
415         \tl_use:N \l__chemmacros_mechanisms_ar_tl%
416         \tl_use:N \l__chemmacros_mechanisms_type_tl%
417         \tl_use:N \l__chemmacros_mechanisms_mol_tl%
418     }%
419 }
420 }
421
422 }{}% Module loaded.
423 }% AtBeginDocument

```

### § 193.12 Newman

There are so many options that it is hard to hash these images for reuse.

```

424 \AtBeginDocument{
425 \chemmacros_module_if_loaded:nTF{{newman}}{
426 \PackageInfo{lwarp}{Patching~chemmacros~module~newman}
427
428 \RenewDocumentCommand \newman {od()}%
429 {
430     \IfValueTF{#2}
431     {\begin{ lateximage }[\textbackslash newman{#2}\{\#3\}]*
432     {\begin{ lateximage }[\textbackslash newman\{\#3\}]*
433     \group_begin:
434     \IfNoValueF {#1} { \chemmacros_set_keys:nn {newman} {#1} }
435     \IfNoValueTF {#2}
436     { \chemmacros_newman:nn { } {#3} }
437     { \chemmacros_newman:nn {#2} {#3} }
438     \group_end:
439     \end{ lateximage }

```

```

440  }%
441
442 }{}% Module loaded.
443 }% AtBeginDocument

```

### § 193.13 Orbital

```

444 \AtBeginDocument{
445 \chemmacros_module_if_loaded:nTF{{orbital}}{
446 \PackageInfo{l warp}{Patching~chemmacros~module~orbital}
447
448 \RenewDocumentCommand \orbital {om}
449 {
450   \IfValueTF{#1}
451   {
452     \begin{ lateximage }[%
453       \textbackslash%
454       orbital{[]}%
455       \LWR@HTMLsanitizedetokenized{\detokenize{#1}}%
456       {} \{ #2 \}%
457     ]*[[] [margin-left: 1em ; margin-right: 1em]
458   }
459   {
460     \begin{ lateximage }[%
461       \textbackslash%
462       orbital\{#2\}%
463     ]*[[] [margin-left: 1em ; margin-right: 1em]
464   }
465   \group_begin:
466   \chemmacros_set_keys:nn {orbital/type} {#2}
467   \IfNoValueTF {#1}
468   {
469     \chemmacros_orbital:n { }
470   }
471   \group_end:
472   \end{ lateximage }
473 }{}% Module loaded.
474 }% AtBeginDocument

```

### § 193.14 Reactions

```

\chemmacros_declare_reaction_env {<chem>} {<math>} {<args number>} {<argument list (#2){#3}...> }

475 \AtBeginDocument{
476 \chemmacros_module_if_loaded:nTF{{reactions}}{
477 \PackageInfo{l warp}{Patching~chemmacros~module~reactions}
478
479 % #1: chem
480 % #2: math
481 % #3: args number
482 % #4: argument list (#2){#3}...
483 \cs_gset_protected:Npn \__chemmacros_declare_reaction_env:nnnn #1#2#3#4
484 {
485   \exp_args:Nnx \DeclareDocumentEnvironment {#1}
486   { \int_compare:nT { #3+0 = 0 } { ! } 0{} \prg_replicate:nn {#3+0} {m} }
487   {
488     \boolfalse{mathjax}%                                l warp
489     \ifdefvoid{\LWR@ThisAltText}{%                  l warp
490       \ThisAltText{-chemmacros~reaction}%

```

```

491      }{}%                                l warp
492      \chemmacros_add_reaction_description:n {##1}
493      \__chemmacros_begin_reaction:
494      \__chemmacros_reaction_read:nw {#2} {#4}
495    }
496  {
497    \__chemmacros_end_reaction:
498    \gdef\lWR@ThisAltText{}%                  l warp
499    \ignorespacesafterend
500  }
501 }
502
503 \cs_generate_variant:Nn \chemmacros_declare_reaction_env:nnn {nnnV}
504
505 \RenewChemReaction {reaction}  {equation}
506 \RenewChemReaction {reaction*} {equation*}
507 \RenewChemReaction {reactions} {align}
508 \RenewChemReaction {reactions*} {align*}
509
510 }{}% Module loaded.
511 }% AtBeginDocument

```

### § 193.15 Reactants

Recompiled for tabular ampersand processing, with the only change being `\StartDefiningTabulars`. `\xpatchcmd` does not work here.

```

512 \StartDefiningTabulars%      l warp
513
514 % #1: star: include ID in table
515 \RenewDocumentCommand \printreactants {s}
516 {
517   \group_begin:
518   \chemmacros_set_keys:nn {reactants} { switch = false }
519   \int_step_variable:nNn
520   { \seq_count:N \g_chemnum_initiated_compounds_seq }
521   \l__chemmacros_reactants_tmpa_tl
522   {
523     \seq_put_right:Nx
524     \l__chemmacros_reactants_tmpa_seq
525     {
526       \chemnum_cmpd:nnne { \c_false_bool } { \c_true_bool } {}
527       {
528         \seq_item:NV
529         \g_chemnum_initiated_compounds_seq
530         \l__chemmacros_reactants_tmpa_tl
531       }
532     &
533     \bool_if:nT {#1}
534     {
535       \seq_item:NV
536       \g_chemnum_initiated_compounds_seq
537       \l__chemmacros_reactants_tmpa_tl
538     }
539     % TODO: expl3-command ??
540     \solvent
541     {
542       \seq_item:NV
543       \g_chemnum_initiated_compounds_seq
544

```

```
545          \l__chemmacros_reactants_tmpa_tl
546      }
547      \tabularnewline
548  }
549  \tl_set:Nx
550  \l__chemmacros_reactants_tmpb_tl
551  {
552      \seq_item:NV
553      \g_chemnum_initiated_compounds_seq
554      \l__chemmacros_reactants_tmpa_tl
555  }
556  \chemmacros_reactants_list_subreactant:Vn
557  \l__chemmacros_reactants_tmpb_tl
558  {#1}
559 }
560 % TODO: longtable ?
561 %     table customizable?
562 % first draft of two styles
563 \par
564 \noindent
565 \bool_if:NTF \l__chemmacros_reactants_printreactants_style_bool
566 {
567     \str_case:Vn \l__chemmacros_reactants_printreactants_style_str
568     {
569         {xltabular}
570     {
571         \chemmacros_if_package_loaded:nTF {xltabular}
572         {
573             \bool_if:nTF {#1}
574             {
575                 \begin{xltabular}{\textwidth}
576                 { @{}ll>{\raggedright\arraybackslash}X@{} }
577             }
578         {
579             \begin{xltabular}{\textwidth}
580                 { @{}l>{\raggedright\arraybackslash}X@{} }
581             }
582             {
583                 \begin{xltabular}{\textwidth}
584                     { \textwidth }
585                     { @{}l>{\raggedright\arraybackslash}X@{} }
586                 }
587             }
588             \seq_use:Nn \l__chemmacros_reactants_tmpa_seq { }
589             \end{xltabular}
590         }
591         {
592             \msg_expandable_error:nnnn
593             {chemmacros}
594             {package-not-loaded}
595             { \printreactants }
596             {xltabular}
597         }
598     }
599     {longtable}
600     {
601         \chemmacros_if_package_loaded:nTF {longtable}
602         {
603             \bool_if:nTF {#1}
604             {
605                 \begin{longtable}{l}
606                 { @{}ll>{\raggedright\arraybackslash}p{0.6\textwidth}@{} }
607             }
608         }
609     }
610 }
```

```
605          \begin {longtable}[l]
606          { @{}l>{\raggedright\arraybackslash}p{0.9\textwidth}@{} }
607          }
608          \seq_use:Nn \l__chemmacros_reactants_tmpa_seq { }
609          \end{longtable}
610      }
611      {
612          \msg_expandable_error:nnnn
613          {chemmacros}
614          {package-not-loaded}
615          { \printreactants }
616          {longtable}
617      }
618  }
619  }
620 }
621 {
622     \msg_warning:nn {chemmacros} {missing-printreactants-style}
623 }
624 \group_end:
625 }
626
627 % #1: full ID
628 % #2: star, include ID in table
629 \cs_gset_protected:Npn \chemmacros_reactants_list_subreactant:nn #1#2
630 {
631     \chemnum_if_subcompounds:nT {#1}
632     {
633         \int_step_variable:nNn
634         { \chemnum_count_subcompounds:n {#1} }
635         \l__chemmacros_reactants_tmpa_tl
636         {
637             \seq_put_right:Nx
638             \l__chemmacros_reactants_tmpa_seq
639             {
640                 \chemnum_cmpd:nnne { \c_false_bool } { \c_true_bool } {}
641                 {
642                     \exp_not:n {#1}
643                     \exp_not:V \l_chemnum_compound_separator_tl
644                     \chemnum_get_subcompound:nV
645                     {#1}
646                     \l__chemmacros_reactants_tmpa_tl
647                 }
648                 &
649                 \bool_if:nT {#2}
650                 {
651                     #1
652                     \l_chemnum_compound_separator_tl
653                     \chemnum_get_subcompound:nV
654                     {#1}
655                     \l__chemmacros_reactants_tmpa_tl
656                     &
657                 }
658                 % TODO: expl3-command ??
659                 \solvent
660                 {
661                     #1
662                     \l_chemnum_compound_separator_tl
663                     \chemnum_get_subcompound:nV
664                     {#1}
```

```
665          \l__chemmacros_reactants_tmpa_tl
666      }
667      \tabularnewline
668  }
669 }
670 }
671 }
672 \cs_generate_variant:Nn \chemmacros_reactants_list_subreactant:nn {V}
673
674 \StopDefiningTabulars%      lwarf
```

### § 193.16 Redox

```
675 \AtBeginDocument{
676 \chemmacros_module_if_loaded:nTF{{redox}}{
677 \PackageInfo{lwarf}{Patching~chemmacros~module~redox}
678
679 \NewDocumentCommand \LWR@chemmacros@ox { s m >{\SplitArgument{1}{,}m } }
680 {
681     \IfBooleanTF {#1}
682     { \chemmacros_ox:nnnn {#1} {#2} #3 }
683     { \chemmacros_ox:nnnn { } {#2} #3 }
684 }
685
686 \RenewDocumentCommand \ox { s O{} m }
687 {
688     \begingroup
689     \boolfalse{mathjax}
690     \IfBooleanTF {#1}
691     {
692         \LWR@subsingle dollar*{%
693             \textbackslash{}%
694             ox*%
695             \{%
696                 \LWR@HTMLsanitizeddetokenized{\detokenize{#3}}%
697             \}%
698             alt
699             star \protect\LWR@HTMLsanitizeddetokenized{\detokenize\expandafter{#2}}%
700         }%
701         \LWR@chemmacros@ox* {#2} {#3}%
702     }%
703 }
704 {
705     \LWR@subsingle dollar*{%
706         \textbackslash{}%
707         ox%
708         \{%
709             \LWR@HTMLsanitizeddetokenized{\detokenize{#3}}%
710         \}%
711         alt
712         \protect\LWR@HTMLsanitizeddetokenized{\detokenize\expandafter{#2}}%
713     }%
714     \LWR@chemmacros@ox {#2} {#3}%
715 }
716 }
717 \endgroup
718 }
719 }%
720 }% Module loaded.
721 }% AtBeginDocument
```

### § 193.17 Scheme

Fix for chemmacros as of v5.8b, when using newfloat and babel:

```

722 \AtBeginDocument{
723 \chemmacros_module_if_loaded:nTF{{scheme}}{
724 \PackageInfo{lwarf}{Patching~chemmacros~module~scheme}
725
726 \ifdefstring{\schemename}{los}{
727 \SetupFloatingEnvironment{scheme}{
728 name = \chemmacros_translate:n {scheme-name}
729 }
730 }()
731
732 }{}% Module loaded.
733 }% AtBeginDocument

```

### § 193.18 Spectroscopy

```

734 \AtBeginDocument{
735 \chemmacros_module_if_loaded:nTF{{spectroscopy}}{
736 \PackageInfo{lwarf}{Patching~chemmacros~module~spectroscopy}
737
738 \cs_gset_protected:Npn \__chemmacros_nmr_base:nn #1#2
739 {
740     \group_begin:
741         \tl_use:N \l__chemmacros_nmr_base_format_tl
742         \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
743         {
744             \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl { \{ }
745             \tl_put_right:Nn \g__chemmacros_nmr_element_coupled_tl { \} }
746         }
747         \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl {#2}
748 %         \chemmacros_formula:n { ^{#1} }
749         \textsuperscript{#1}
750         \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
751         {
752             \bool_if:NTF \l__chemmacros_nmr_parse_bool
753             { \chemformula_ch:nV {} \g__chemmacros_nmr_element_coupled_tl }
754             { \chemmacros_formula:V \g__chemmacros_nmr_element_coupled_tl }
755         }
756         \tl_use:N \l__chemmacros_nmr_element_method_connector_tl
757         \tl_use:N \l__chemmacros_nmr_method_tl
758     \group_end:
759 }
760
761
762 \cs_gset_protected:Npn \chemmacros_nmr_position:n #1
763 {
764     \chemmacros_formula:x
765     {
766         \exp_not:V \g__chemmacros_nmr_element_tl
767         \bool_if:NF \l__chemmacros_nmr_position_side_bool
768         {
769             \tl_if_eq:NnTF \l__chemmacros_nmr_position_tl {^}% lwarf
770             { \textsuperscript{\exp_not:n { {#1} }} }% lwarf
771             { \textsubscript{\exp_not:n { {#1} }} }% lwarf
772 %             \exp_not:V \l__chemmacros_nmr_position_tl
773 %             \exp_not:n { {#1} }
774     }

```

```
775      }
776      \bool_if:NT \l_chemmacros_nmr_position_side_bool
777      {
778          \tl_use:N \l_chemmacros_nmr_position_tl
779          \chemmacros_nmr_position:n {#1}
780      }
781  }
782
783 \cs_gset_protected:Npn \__chemmacros_nmr_coupling:w (#1;#2)
784  {
785      \tl_set:Nn \l_chemmacros_nmr_coupling_bonds_tl
786      {
787          \l_chemmacros_nmr_coupling_bonds_pre_tl
788          #1
789          \l_chemmacros_nmr_coupling_bonds_post_tl
790      }
791      \bool_if:NTF \l_chemmacros_nmr_coupling_nuclei_sub_bool
792      {
793          \tl_set:Nn \l_chemmacros_nmr_coupling_nuclei_tl
794          {
795              \c_math_subscript_token
796              \textsubscript% lwarf
797              {
798                  \l_chemmacros_nmr_coupling_nuclei_pre_tl
799                  \chemmacros_formula:n {#2}
800                  \l_chemmacros_nmr_coupling_nuclei_post_tl
801              }
802          }
803      }
804      {
805          \tl_set:Nn \l_chemmacros_nmr_coupling_nuclei_tl
806          {
807              \l_chemmacros_nmr_coupling_nuclei_pre_tl
808              \chemmacros_formula:n {#2}
809              \l_chemmacros_nmr_coupling_nuclei_post_tl
810          }
811      }
812      \__chemmacros_nmr_coupling_aux_i:w
813  }
814 \AfterEndPreamble{%
815     \NMR{<num>,<elem>}(<num>,<unit>)[<solvent>] ALL arguments are optional
816     \NMR* same but without ":" $\delta$ at end
817 \cs_gset_protected:Npn \chemmacros_nmr:nnnn #1#2#3#4
818  {
819      \bool_if:NT \l_chemmacros_nmr_list_bool { \item \scan_stop: }
820      \group_begin:
821
822          \mode_leave_vertical:
823
824          \bool_set_false:N \l_chemmacros_nmr_frequency_bool
825          \bool_set_false:N \l_chemmacros_nmr_solvent_bool
826          \tl_if_empty:nF {#3}
827          { \bool_set_true:N \l_chemmacros_nmr_frequency_bool }
828          \tl_if_empty:nF {#4}
829          { \bool_set_true:N \l_chemmacros_nmr_solvent_bool }
830          \bool_if:nT
831          {
832              \l_chemmacros_nmr_frequency_bool
833              ||
834              \l_chemmacros_nmr_solvent_bool
835          }
836      }
837  }
```

```
833      }
834      { \bool_set_true:N \l__chemmacros_nmr_delimiters_bool }
835      \bool_if:nT
836      {
837          \l__chemmacros_nmr_frequency_bool
838          &&
839          \l__chemmacros_nmr_solvent_bool
840      }
841      { \bool_set_true:N \l__chemmacros_nmr_comma_bool }
842      \tl_if_empty:nTF {#2}
843      {
844          \l__chemmacros_nmr_nucleus:VV
845          \l__chemmacros_nmr_isotope_default_tl
846          \l__chemmacros_nmr_element_default_tl
847      }
848      { \l__chemmacros_nmr_nucleus:w #2 \q_stop }
849      \mode_if_math:TF
850      {
851          \text
852          {
853              \group_begin:
854              \tl_use:N \l__chemmacros_nmr_format_tl
855 \LWR@textcurrentcolor{\LWR@textcurrentfont{%
856             \l warp
857             \l__chemmacros_nmr_base:VV
858             \g__chemmacros_nmr_isotope_tl
859             \g__chemmacros_nmr_element_tl
860             \bool_if:NT \l__chemmacros_nmr_delimiters_bool
861             { ~ ( }
862             \bool_if:NT \l__chemmacros_nmr_frequency_bool
863             { \l__chemmacros_nmr_frequency:n {#3} }
864             \bool_if:NT \l__chemmacros_nmr_comma_bool
865             { , ~ }
866             \bool_if:NT \l__chemmacros_nmr_solvent_bool
867             { \chemmacros_formula:n {#4} }
868             \bool_if:NT \l__chemmacros_nmr_delimiters_bool
869             { ) }
870             \tl_if_blank:nT {#1} {::~}
871         }% l warp
872         \group_end:
873     }
874     \tl_if_blank:nT {#1}
875     {
876         \delta
877         \text { \l__chemmacros_nmr_delta_tl }
878         \bool_if:NT \l__chemmacros_nmr_use_equal_bool {=}
879     }
880     {
881         \group_begin:
882         \tl_use:N \l__chemmacros_nmr_format_tl
883 \LWR@textcurrentcolor{\LWR@textcurrentfont{%
884             \l warp
885             \l__chemmacros_nmr_base:VV
886             \g__chemmacros_nmr_isotope_tl
887             \g__chemmacros_nmr_element_tl
888             \bool_if:NT \l__chemmacros_nmr_delimiters_bool
889             { ~() }
890             \bool_if:NT \l__chemmacros_nmr_frequency_bool
891             { \l__chemmacros_nmr_frequency:n {#3} }
892             \bool_if:NT \l__chemmacros_nmr_comma_bool
893             { ,~ }
```

```

893           \bool_if:NT \l__chemmacros_nmr_solvent_bool
894           {
895               \bool_if:NTF \l__chemmacros_nmr_parse_bool
896
897                   { \chemformula_ch:nn { } {#4} }% original
898                   {\ch{#4}}% l warp
899                   {#4}
900
901           \bool_if:NT \l__chemmacros_nmr_delimiters_bool
902           {}}
902 }% l warp
903           \tl_if_blank:nT {#1} {:}
904           \group_end:
905           \tl_if_blank:nT {#1}
906           {
907               \tl_use:N \c_space_tl
908               \c_math_toggle_token
909               \delta
910               \c_math_toggle_token
911               \l__chemmacros_nmr_delta_tl
912               \bool_if:NT \l__chemmacros_nmr_use_equal_bool {~=}
913           }
914       }
915   \group_end:
916 }
917 }% AfterEndPreamble
918
919
920 \RenewDocumentCommand \chemmacros_data:w { smo }
921 {
922     \bool_if:NT \l__chemmacros_nmr_list_bool { \item }
923     {
924 %         \tl_use:N \l__chemmacros_nmr_format_tl #2
925         \tl_use:N \l__chemmacros_nmr_format_tl
926         \LWR@textcurrentcolor{\LWR@textcurrentfont}% l warp
927         #2
928         \IfNoValueF {#3} { ~ ( #3 ) }
929         \IfBooleanT {#1} { \bool_if:NT \l__chemmacros_nmr_use_equal_bool { : } }
930     }% l warp
931 }
932 \IfBooleanF {#1} { \bool_if:NT \l__chemmacros_nmr_use_equal_bool { ~= } }
933 }
934
935 }% Module loaded.
936 }% AtBeginDocument

```

### § 193.19 Thermodynamics

```

937 \AtBeginDocument{
938 \chemmacros_module_if_loaded:nTF{{thermodynamics}}{
939 \PackageInfo{l warp}{Patching~chemmacros~module~thermodynamics}
940
941 \cs_gset_protected:Npn \chemmacros_state:nnnnnn #1#2#3#4#5#6
942 {
943     \group_begin:
944     \chemmacros_set_keys:ne {thermodynamics}
945     {
946         \exp_not:n {#1} ,
947         \tl_if_novalue:nF {#2} { subscript-left = \exp_not:n {#2} , }
948         \tl_if_novalue:nF {#3} { superscript-left = \exp_not:n {#3} , }

```

```

949          \tl_if_novalue:nF {#5} { subscript-right = \exp_not:n {#5} , }
950          \tl_if_novalue:nF {#6} { superscript-right = \exp_not:n {#6} }
951      }
952      \LWR@subsingledollar*{*% yes hashing
953          \textbackslash{}state%
954          \{\LWR@HTMLsanitizedetokenized{\detokenize{#4}}\}% alt
955      }{%
956          chemmacros_state% add'l hashing
957          #1% options
958          LSP \tl_use:N \l__chemmacros_state_sp_left_tl% super/subscripts
959          LSB \tl_use:N \l__chemmacros_state_sb_left_tl
960          RSP \tl_use:N \l__chemmacros_state_sp_right_tl
961          RSB \tl_use:N \l__chemmacros_state_sb_right_tl
962      }
963      {
964          \LWR@origensuredmath
965          {
966              \chemmacros_text:V \l__chemmacros_state_pre_tl
967              \c_math_superscript_token
968              { \chemmacros_text:V \l__chemmacros_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*.

```

969          \tl_if_empty:NTF \l__chemmacros_state_sb_left_tl
970          {}
971          {
972              \c_math_subscript_token
973              { \chemmacros_text:V \l__chemmacros_state_sb_left_tl }
974          }
975          #4
976          \c_math_superscript_token
977              { \chemmacros_text:V \l__chemmacros_state_sp_right_tl }
978          \tl_if_empty:NTF \l__chemmacros_state_sb_right_tl
979          {}
980          {
981              \c_math_subscript_token
982              { \chemmacros_text:V \l__chemmacros_state_sb_right_tl }
983          }
984          \chemmacros_text:V \l__chemmacros_state_post_tl
985      }
986      }
987      \group_end:
988  }
989 \cs_generate_variant:Nn \chemmacros_state:nnnnnn { nVVVVV }
990
991 \cs_gset_protected:Npn \chemmacros_declare_state:Nn #1#2
992  {
993      \chemmacros_define_keys:xn
994          {thermodynamics/\chemmacros_remove_backslash:N #1}
995          {
996              pre .meta:nn = {chemmacros/thermodynamics} { pre = ##1 } ,
997              post .meta:nn = {chemmacros/thermodynamics} { post = ##1 } ,
998              superscript-left .meta:nn = {chemmacros/thermodynamics} { superscript-left = ##1 } ,
999              superscript-right .meta:nn = {chemmacros/thermodynamics} { superscript-right = ##1 } ,
1000              superscript .meta:n = { superscript-right = ##1 } ,
1001              subscript-left .meta:nn = {chemmacros/thermodynamics} { subscript-left = ##1 } ,
1002              subscript-right .meta:nn = {chemmacros/thermodynamics} { subscript-right = ##1 } ,
1003              subscript .meta:n = { subscript-left = ##1 } ,
1004              subscript-pos .choices:nn =

```

```

1005      { left , right }
1006      { \tl_set_eq:NN \l_chemmacros_state_sb_pos_tl \l_keys_choice_tl } ,
1007      symbol          .tl_set:N = \l_chemmacros_state_symbol_tl ,
1008      unit           .tl_set:N = \l_chemmacros_state_unit_tl
1009    }
1010  \DeclareDocumentCommand #1 { s o{ }D(){}m }
1011  {
1012    \group_begin:
1013      \chemmacros_set_keys:en
1014      {thermodynamics}\chemmacros_remove_backslash:N #1}
1015      {#2}
1016      \tl_if_blank:nF {##3}
1017      {
1018        \chemmacros_set_keys:ne {thermodynamics}
1019        { subscript-\l_chemmacros_state_sb_pos_tl = \exp_not:n {##3} }
1020      }
1021 %
1022 %
1023      \chemmacros_state:nVVVVV
1024      {##2}
1025      \c_novalue_tl
1026      \c_novalue_tl
1027      \l_chemmacros_state_symbol_tl
1028      \c_novalue_tl
1029      \c_novalue_tl
1030      \chemmacros_set_keys_groups:nnn {thermodynamics} {variables} {##2}
1031      \IfBooleanF {##1} { = \qty {##4} { \l_chemmacros_state_unit_tl } }
1032 %
1033      \group_end:
1034    }
1035  }

```

The pre-existing macros are redefined with the new definition:

```

1036 \RenewChemState \enthalpy { symbol = H , unit = \kilo\joule\per\mole }
1037 \RenewChemState \entropy { symbol = S , unit = \joule\per\kelvin\per\mole , pre = }
1038 \RenewChemState \gibbs { symbol = G , unit = \kilo\joule\per\mole }
1039
1040 }% Module loaded.
1041 % AtBeginDocument
1042 \ExplSyntaxOff

```

### File 85 lwarf-chemnum.sty

#### § 194 Package **chemnum**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

chemnum is patched for use by lwarf.

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemnum}[2016/04/14]

```

2 \ExplSyntaxOn
3
4 \cs_gset_protected:Npn \chemnum_compound_write:n #1
5  {

```

---

```

6   \chemnum_get_compound_property:nn {#1} {pre-main-label-code}
7   \group_begin:
8     \bool_if:NTF \l__chemnum_compound_local_bool
9       { \l__chemnum_local_label_format_tl }
10      { \chemnum_get_compound_property:nn {#1} {label-format} }
11    {
12      \LWR@textcurrentfont{
13        \chemnum_get_compound_property:nn {#1} {counter-representation}
14      }
15    }
16  \group_end:
17  \chemnum_get_compound_property:nn {#1} {post-main-label-code}
18 }
19
20 \cs_gset_protected:Npn \chemnum_subcompound_write:nn #1#2
21 {
22   \group_begin:
23     \bool_if:NTF \l__chemnum_compound_local_bool
24       { \l__chemnum_local_label_format_tl }
25       { \chemnum_get_compound_property:nn {#1} {label-format} }
26     {
27       \LWR@textcurrentfont{
28         \chemnum_get_subcompound_property:nnn {#1} {#2}
29         {counter-representation}
30       }
31     }
32   \group_end:
33 }
34
35 \ExplSyntaxOff

```

---

File 86 **lwarf-chkfloat.sty**

§ 195 Package **chkfloat**

Pkg **chkfloat** **chkfloat** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{chkfloat}[2012/08/19]

---

File 87 **lwarf-chngpage.sty**

§ 196 Package **chngpage**

(Emulates or patches code by PETER WILSON.)

Pkg **chngpage** **chngpage** is ignored.

**for HTML output:** Discard all options for **lwarf-chngpage**:

1 \LWR@ProvidesPackageDrop{chngpage}[2009/10/20]  
2 \LWR@origRequirePackage{lwarf-changepage}

---

**File 88 l warp-cite.sty**

§ 197      Package **cite**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg cite

cite is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{cite}[2015/02/27]

For the [super] option, the \kern must be removed:

```
2 \def\lWRCT@biblabel#1{\@citess{#1}\kern-\labelsep\,}
3
4 \ifdef\strequal{\@biblabel}{\lWRCT@biblabel}
5 {
6     \def\@biblabel#1{\@citess{#1}}
7 }{}
```

For the [super] option, \textsuperscript is used instead of math superscript:

```
8 \def\@citess#1{\textsuperscript{#1}}
9
10 \DeclareDocumentCommand\citeref{}{\, , \relax}
```

---

**File 89 l warp-citeref.sty**

§ 198      Package **citeref**

(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\citeref{#1}{\theLWR@previousautopagelabel}}%
4 }
5
6 \def\citeref#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         {%
16           \namexdef{cpr@#1}{\@nameuse{cpr@#1}, % space
17           \LWR@refwithsection{\BaseJobname-autopage-#2}}%
18         }%
```

```
19     \fi  
20 }
```

---

File 90 **l warp-CJK.sty**

§ 199 Package **CJK**

Pkg CJK

CJK does not work with l warp unless called from ctex.

**for HTML output:**

```
1 \IfPackageLoadedTF{xeCJK}{}{  
2   \LWR@loadnever{CJK}{ctex, xeCJK}  
3 }  
4  
5 \LWR@ProvidesPackagePass{CJK}[2015/04/18]
```

---

File 91 **l warp-CJKutf8.sty**

§ 200 Package **CJKutf8**

Pkg CJKutf8

CJKutf8 does not work with l warp unless called from ctex.

**for HTML output:**

```
1 \IfPackageLoadedTF{xeCJK}{}{  
2   \LWR@loadnever{CJKutf8}{ctex, xeCJK}  
3 }  
4  
5 \LWR@ProvidesPackagePass{CJKutf8}[2015/04/18]
```

---

File 92 **l warp-classicthesis.sty**

§ 201 Package **classicthesis**

Pkg classicthesis

(Emulates or patches code by ANDRÉ MIEDE AND IVO PLETIKOSIĆ.)

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{scrttime} % time access  
4 \PassOptionsToPackage{titles}{tocloft}  
5 \RequirePackage{textcase} % for \MakeTextUppercase  
6 \RequirePackage[newparttoc]{titlesec} % newparttoc to write \part to .toc with \numberline  
7 \RequirePackage{tocloft}  
8 \PassOptionsToPackage{headinclude,footinclude}{typearea} % for classes other than KOMA  
9 \RequirePackage{typearea}  
10 \PassOptionsToPackage{marginal}{footmisc} % marginal flushmargin  
11 \RequirePackage{footmisc}%  
12 \RequirePackage{prelim2e}  
13 \RequirePackage{remreset}%  
14
```

---

```

15 \DeclareRobustCommand{\spacedallcaps}[1]{\textsc{\MakeTextUppercase{#1}}}
16 \DeclareRobustCommand{\spacedlowsmallcaps}[1]{\textsc{\MakeTextLowercase{#1}}}
17 \newcommand{\ctparttext}[1]{}
18 \newcommand{\tocEntry}[1]{}
19 \DeclareRobustCommand*\deactivateaddvspace{}%
20 \newlength{\beforebibskip}

```

---

File 93 **l warp-cleveref.sty**

§ 202 Package **cleveref**

*(Emulates or patches code by TOBY CUBITT.)*

Pkg cleveref

- ⚠ **cleveref page numbers** cleveref and variorref 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 728 to redefine the message which is printed for page number references.

Table 16 on page 491 shows the data structure of the label/reference system as revised by l warp and cleveref.

- ⚠ **multiple labels** 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.

**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\>}

\@templatelabel becomes the section number.

```

2 \def\LWR@orig@@@setcref#1#2{\cref@getlabel{#2}{\@templatelabel}#1{\@templatelabel}{}{}% 
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{l warp-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{l warp-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 {\typeofref} {\label}, where typeofref is “page” or “pages”

```

39 \def\LWR@orig@@@setcpageref#1#2{%
40   \cref@getpageref{#2}{\@temppage}#1{\@temppage}{}}{}}%
41
42 \def\LWR@orig@@@setcpageref#1#2{%
43   \cpageref@getlabel{#2}{\@temppage}#1{\@temppage}{}}{}}%
44
45 \ifdefequal{\@@@setcpageref}{\LWR@orig@@@setcpageref}{%
46   \renewcommand*{\@@@setcpageref}[2]{%
47     #1{\cpagerefFor\ \cref{#2}}{\{}{\}}{}}%
48 }
49 }{
50   \ifdefequal{\@@@setcpageref}{\LWR@orig@@@setcpageref}{%
51     \renewcommand*{\@@@setcpageref}[2]{%
52       #1{\cpagerefFor\ \cref{#2}}{\{}{\}}{}}%
53   }
54 }
55 }{
56   \PackageWarningNoLine{l warp-cleveref}{%
57     Unknown version of cleveref.%
58     \protect\cpageref\space will fail.%
59   }
60 }
61 }

```

```

62 \def\LWR@orig@@setcpagerefrange#1#2#3{%
63   \cref@getpageref{#2}{\@pagea}%
64   \cref@getpageref{#3}{\@pageb}%
65   #1{\@pagea}{\@pageb}{\{}{\}}{\}}%
66
67 \def\LWR@orig@@setcpagerefrange#1#2#3{%
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   \ifdefequal{\@@@setcpagerefrange}{\LWR@orig@@@setcpagerefrange}{%
78     \renewcommand*{\@@@setcpagerefrange}[3]{%
79       #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{\{}{\}}{\}}%
80     }%
81   }%
82   {%
83     \PackageWarningNoLine{l warp-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 \IfPackageLoadedTF{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 \IfClassLoadedTF{memoir}{%
108 \AtBeginDocument{%
109 \def\sf@memsub@label{#1}#2{%
110   \protected@edef\mem@currentlabelname{#1}%
111   \sf@memsub@label{#2}%
112 }
113 }
114 }

```

```

112 }
113 }{ }

114 \IfPackageLoadedTF{subfig}{
115 \def\sf@sub@label(#1){%
116   \ifhyperrefloaded
117     \protected@edef\@currentlabelname{%
118       \expandafter\strip@period #1\relax.\relax\@@@}%
119   \fi
120   \sf@sub@label{#2}}
121 }{}
```

---

File 94 **lwarf-clrdblpg.sty**

§ 203 Package **clrdblpg**

Pkg clrdblpg      clrdblpg is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{clrdblpg}[2018/04/21]

---

File 95 **lwarf-cmbright.sty**

§ 204 Package **cmbright**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg cmbright      cmbright is used as-is for SVG math, and is emulated for MATHJAX.

⚠ **limitations** The MATHJAX emulation ignores all package options, except slantedGreek is honored, and \mathbold is available.

The dedicated macros for upright Greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{cmbright}[2005/04/13]

2

3 \LWR@infoprocessingmathjax{cmbright}

4 \LWR@origRequirePackage{lwarf-common-mathjax-letters}

5

6 \begin{warpMathJax}

7

8 \IfPackageLoadedWithOptionsTF{cmbright}{slantedGreek}

9 {

10 \LWR@mathjax@addgreek@u@it\*{}{}

11 }

12 {}

13

14 \LWR@mathjax@addgreek@u@up\*{up}{}

15

16 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}

17

18 \end{warpMathJax}

---

File 96 **l warp-cmdtrack.sty**

§ 205 Package **cmdtrack**

Pkg cmdtrack cmdtrack is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{cmdtrack}[2012/12/18]

2 \newcommand{\untrack}[1]{}

---

File 97 **l warp-colonequals.sty**

§ 206 Package **colonequals**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg colonequals colonequals is used as-is for SVG math, and is emulated for MATHJAX.

Since UNICODE symbols are not available for each of the following, only two are used for the single and double colons, and the other symbols are derived in a consistent manner. Occasional negative space is added as well. This may need to be undone for some fonts.

**for HTML output:** 1 \LWR@ProvidesPackagePass{colonequals}[2016/05/16]

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{colonequals}
4
5 \CustomizeMathJax{\newcommand{\ratio}{\mathrel{\!unicode{x2236}}}}
6 \CustomizeMathJax{\newcommand{\coloncolon}{\mathrel{\!unicode{x2237}}}}
7 \CustomizeMathJax{\newcommand{\colonequals}{\mathrel{\!unicode{x2236}\!=}}}
8 \CustomizeMathJax{\newcommand{\coloncolonequals}{\mathrel{\!unicode{x2237}\!=}}}
9 \CustomizeMathJax{\newcommand{\equalscolon}{\mathrel{=\!unicode{x2236}}}}
10 \CustomizeMathJax{\newcommand{\equalscoloncolon}{\mathrel{=\!unicode{x2237}}}}
11 \CustomizeMathJax{\newcommand{\colonminus}{\mathrel{\!unicode{x2236}\!-}}}
12 \CustomizeMathJax{\newcommand{\coloncolonminus}{\mathrel{\!unicode{x2237}\!-}}}
13 \CustomizeMathJax{\newcommand{\minuscolon}{\mathrel{-\!unicode{x2236}}}}
14 \CustomizeMathJax{\newcommand{\minuscoloncolon}{\mathrel{-\!unicode{x2237}}}}
15 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{\!unicode{x2236}\!\approx}}}
16 \CustomizeMathJax{\newcommand{\coloncolonapprox}{\mathrel{\!unicode{x2237}\!\approx}}}
17 \CustomizeMathJax{\newcommand{\approxcolon}{\mathrel{\approx\!unicode{x2236}}}}
18 \CustomizeMathJax{\newcommand{\approxcoloncolon}{\mathrel{\approx\!unicode{x2237}}}}
19 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{\!unicode{x2236}\!\sim}}}
20 \CustomizeMathJax{\newcommand{\coloncolonsim}{\mathrel{\!unicode{x2237}\!\sim}}}
21 \CustomizeMathJax{\newcommand{\simcolon}{\mathrel{\sim\!unicode{x2236}}}}
22 \CustomizeMathJax{\newcommand{\simcoloncolon}{\mathrel{\sim\!unicode{x2237}}}}
23 \end{warpMathJax}

```

---

File 98 **l warp-color.sty**

§ 207 Package **color**

Pkg color

Allowed but ignored. `xcolor` is then required as well.

`color` is superceded by `xcolor`, and `l warp` requires several of the features of `xcolor`. When `color` is requested, `xcolor` is loaded as well.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{color}[2016/07/10]
2 \RequirePackage{xcolor}
```

`\color@endgroup`'s `\endgraf` was conflicting with `l warp`'s paragraph handling.

```
3 \let\color@endgroup\endgroup
```

---

File 99 **l warp-colortbl.sty**

§ 208 Package **colortbl**

Pkg colortbl

`colortbl` is used as-is for print output, and emulated for HTML.

⚠ **row/cell color** Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.

`colortbl` ignores the overhang arguments.

**for HTML output:** A placeholder definition is forgotten first:

```
1 \let\rowcolor\relax
2
3 \LWR@ProvidesPackagePass{colortbl}[2018/12/12]
```

The following `\LWR@HTML` versions are used inside an `HTML tabular`.

`\columncolor [⟨model⟩] {⟨color⟩} [⟨left overhang⟩] [⟨right overhang⟩]`

`\LWR@getmynexttoken` is not used here because `\columncolor` is not used inside the data area of the `tabular`.

`\columncolor` is provided here to satisfy `\LWR@formatted`'s test for the existence of the print-mode macro.

```
4 \ProvideDocumentCommand{\columncolor}{O{named} m o o}{%
5
6 \NewDocumentCommand{\LWR@HTML@columncolor}{O{named} m o o}{%
7   \convertcolorspec{#1}{#2}{HTML}\LWR@columnHTMLcolor%
8   \LWR@addtabularcellcolor%
9 }
10
11 \AtBeginDocument{\LWR@formatted{\columncolor}}
```

`\LWR@getmynexttoken` is used for `\rowcolor` because it is used inside the data area of the `tabular`.

\rowcolor

```
[⟨model⟩] {⟨color⟩} [⟨left overhang⟩] [⟨right overhang⟩]

12 \NewDocumentCommand{\LWR@HTML@rowcolor}{O{named} m o o}{%
13   \convertcolorspec{#1}{#2}{HTML}\LWR@rowHTMLcolor%
14   \LWR@getmynexttoken%
15 }
16
17 \AtBeginDocument{\LWR@expandableformatted{rowcolor}}
```

\cellcolor

```
[⟨model⟩] {⟨color⟩} [⟨left overhang⟩] [⟨right overhang⟩]

18 \NewDocumentCommand{\LWR@HTML@cellcolor}{O{named} m o o}{%
19   \convertcolorspec{#1}{#2}{HTML}\LWR@cellHTMLcolor%
20   \LWR@addtabularcellcolor%
21 }
22
23 \AtBeginDocument{\LWR@formatted{cellcolor}}
```

\arrayrulecolor

```
[⟨model⟩] {⟨color⟩}
```

The **HTML** version for use outside a tabular. Inside a tabular, \LWR@HTML@arrayrulecolornexttoken is used instead.

```
24 \newcommand{\LWR@HTML@arrayrulecolor}[2][named]{%
25   \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
26 }
27
28 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolor}}
```

\LWR@arrayrulecolornexttoken

```
[⟨model⟩] {⟨color⟩}
```

The **HTML** version for use inside a tabular.

```
29 \newcommand{\LWR@HTML@arrayrulecolornexttoken}[2][named]{%
30   \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
31   \LWR@getmynexttoken%
32 }
33
34 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolornexttoken}}
```

\doublerulesepcolor

```
[⟨model⟩] {⟨color⟩}
```

The version for use outside a tabular.

```
35 \newcommand{\LWR@HTML@doublerulesepcolor}[2][named]{}%
36
37 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolor}}
```

\LWR@doublerulesepcolornexttoken

```
[⟨model⟩] {⟨color⟩}
```

The version for use inside a tabular.

```
38 \newcommand{\LWR@HTML@doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}%
39
40 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolornexttoken}}
```

For **MATHJAX**, use the **MATHJAX** package. The unused macro options are ignored.

```
41 \begin{warpMathJax}
```

---

```

42
43 \CustomizeMathJax{\require{colortbl}}
44 \CustomizeMathJax{\let\LWRorigcolumncolor\columncolor}
45 \CustomizeMathJax{\renewcommand{\columncolor}[2][named]{%
46   \LWRorigcolumncolor[#1]{#2}%
47   \LWRabsorbtwooptions%
48 }{%
49
50 \CustomizeMathJax{\let\LWRorigrowcolor\rowcolor}
51 \CustomizeMathJax{\renewcommand{\rowcolor}[2][named]{%
52   \LWRorigrowcolor[#1]{#2}%
53   \LWRabsorbtwooptions%
54 }{%
55
56 \CustomizeMathJax{\let\LWRorigcellcolor\cellcolor}
57 \CustomizeMathJax{\renewcommand{\cellcolor}[2][named]{%
58   \LWRorigcellcolor[#1]{#2}%
59   \LWRabsorbtwooptions%
60 }{%
61
62 \end{warpMathJax}

```

---

File 100 **l warp-continue.sty**

§ 209 Package **continue**

Pkg **continue** **continue** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{continue}[2018/12/09]

```

2 \newcommand*{\flagcont}{}
3 \newcommand*{\flagend}{}
4 \newcommand*{\flagword}{}
5 \newcommand*{\preflagword}{}
6 \newcommand*{\postflagword}{}
7 \newlength\contsep
8 \newlength\contdrop

```

---

File 101 **l warp-copyrightbox.sty**

§ 210 Package **copyrightbox**

(Emulates or patches code by THOMAS FISCHER, IVES VAN DER FLAAS.)

Pkg **copyrightbox** **copyrightbox** is emulated for use by **l warp**.

The entire copyright box is placed inside a <div> of class **copyrightbox**.

The contents are placed inside a <div> of class **copyrightboxcontents**.

The copyright notice is placed inside a <div> of class **copyrightboxnote**.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{copyrightbox}[2011/11/27]

---

```

2 \newcommand{\copyrightbox}[3][r]{%
3 \begin{BlockClass}[
4   display: inline-flex;
5   flex-direction: column ;
6 ]{\copyrightbox}
7 \begin{BlockClass}{copyrightboxcontents}
8 #2
9 \end{BlockClass}
10 \begin{BlockClass}{copyrightboxnote}
11 #3
12 \end{BlockClass}
13 \end{BlockClass}
14 }
15
16 \newcommand{\CRB@setcopyrightfont}(){}
17 \newcommand{\CRB@setcopyrightparagraphstyle}{}

```

---

File 102 **l warp-crop.sty**

§ 211 Package **crop**

*(Emulates or patches code by MELCHIOR FRANZ.)*

Pkg crop

crop is ignored.

**for HTML output:** Discard all options for l warp-crop:

```

1 \LWR@ProvidesPackageDrop{crop}[2003/05/20]

2 \newcommand*{\crop}[1][]{}
3 \newcommand*{\cropdef}[6][]{}

```

---

File 103 **l warp-ctable.sty**

§ 212 Package **ctable**

*(Emulates or patches code by WYBO DEKKER.)*

Pkg ctable

ctable is patched for use by l warp.

⚠ Misplaced alignment tab character & Use \StartDefiningTabulars before one or more \ctables, and \StopDefiningTabulars after. These change the meaning of the ampersand & character.

**for HTML output:** 1 \LWR@ProvidesPackagePass{ctable}[2015/10/17]

The following is in the original:

```

2 \newcommand{\LWR@HTML@ctable}[4][]{%
3   \let\@CTtaborfig \odfltcTtaborfig
4   \let\@CTalign    \odfltcTalign
5   \let\@CTsideways \odfltcTsidesways
6   \let\@CTcontinued \empty
7   \let\@CTpos      \odfltcTpos
8   \let\@CTcaption \empty

```

```
9   \let\@CTcap      \undefined
10  \let\@CTlabel     \empty
11  \let\@CTbotcap    \@dfltcTbotcap
12  \let\@CTstarred   \@dfltcTstarred
13  \let\@CTsuper     \@dfltcTsuper
14  \let\@CTnotespar  \@dfltcTnotespar
15  \let\@CTdoinside   \@dfltcTdoinside
16  \let\@CTbgopacity  \@dfltcTbgopacity
17  \@CTframerule    \@dfltcTframerule
18  \@CTcaptionskip  \@dfltcTcaptionskip
19  \@CTframesep     \@dfltcTframesep
20  \@CTwidth        \@dfltcTwidth
21  \@CTmaxwidth     \@dfltcTmaxwidth
22  \@CTmincapwidth  \@dfltcTmincapwidth
23  \@CTfooterwidth  \@dfltcTfooterwidth
24  \def\@CTfgactual {\@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{l warp-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{l warp-ctable}{\MessageBreak
41          You can, currently, use the sidecap option only with\MessageBreak
42          memoir documents. Use topcap or botcap only}
43    \{}%
44    \fi
45  \fi
46  \ifdim\@CTwidth=0pt\else
47    \ifdim\@CTmaxwidth=0pt\else
48      \PackageError{l warp-ctable}{\MessageBreak
49          You may not use the width and maxwidth options together\MessageBreak
50          Use either width or maxwidth}
51    \{}%
52    \fi
53  \fi
54  \ifx\@CTpos\empty
55    \ifx\@CTsideways\empty\else
56      \PackageError{l warp-ctable}{\MessageBreak
57          You may not use the pos and sideways options together\MessageBreak
58          Rotated tables and figures are always typeset on a separate page}
59    \{}%
60    \fi
61  \fi
62  \ifx\@CTcaption\empty
63    \ifx\@CTlabel\empty\else
64      \PackageError{l warp-ctable}{\MessageBreak
65          You may not label a captionless table\MessageBreak
66          Such a label can't be referenced}
67    \{}%
68    \fi
```

```
69 \fi
```

Some of the original, regarding computing the width of `\CT@t`, is removed here.

```
70 \CTbegin
71   \ifx\CTcontinued\empty\else\addtocounter{\CTtaborfig}{-1}\fi
72   \CTalign
```

`l warp`'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% l warp
78   \begin{BlockClass}[% l warp
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}% l warp
88   \ifx\CTbotcap\CTfalse\@CTCaption\vskip\@CTcaptionskip\fi
89   \ifx\CTbotcap\undefined%
90     \begin{sidecaption}[\@CTcap]{\@CTcaption}[\@CTlabel]
91   \fi
92   \@CTdoinside
93   \begin{tabularx}{\linewidth}{#2}%
94     \#4%
95   \end{tabularx}% l warp
96   \def\@CTfootnotes{#3}%
97   \ifx#3\empty\else% append footnotes, if any
98     \begin{BlockClass}{tnotes}%
99       \#3
100      \end{BlockClass}%
101    }
102    \fi
103    \ifx\CTbotcap\undefined\end{sidecaption}\fi
104    \ifx\CTbotcap\CTtrue\vskip\@CTcaptionskip\@CTCaption\fi
105    \end{BlockClass}
106  \end{center}
107 \CTend
108 }
109 \LWR@formatted{ctable}
```

Required to properly detect the top rule:

```
110 \LetLtxMacro\FL\toprule
```

Table notes are redefined for HTML:

```
111 \newcommand{\LWR@HTML@tmark}[1][a]{%
112   \textsuperscript{\textrm{\textit{#1}}}}
113 }
114 \LWR@formatted{tmark}
115
```

```
116 \newcommand{\LWR@HTML@tnote}[2][a]{%
117     \tmark[#1]\,#2\par
118 }
119 \LWR@formatted{tnote}
```

File 104 **lwarf-cuted.sty**

## § 213 Package cuted

(Emulates or patches code by SIGITAS TOLUŠIS.)

Pkg cuted

cuted is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{cuted}[2021/10/04]

```
2 \newenvironment{strip}{}{}
3 \newskip\stripsep
4 \newtoks\preCutedStrip \preCutedStrip{}
5 \newtoks\postCutedStrip \postCutedStrip{}
6 \def\oldcolsbreak{\#1{}}
```

File 105 **lwarp-cutwin.sty**

§ 214 Package **cutwin**

(Emulates or patches code by PETER WILSON AND ALAN HOENIG.)

Pkg cutwin

**cutwin** is emulated.

**for HTML output:** Discard all options for `\warp-cutwin`:

1 \LWR@ProvidesPackageDrop{cutwin}[2010/09/29]

```

2 \newcommand*\{\opencutleft\}{}{ }
3 \newcommand*\{\opencutright\}{}{ }
4 \newcommand*\{\opencutcenter\}{}{ }
5 \newcommand*\{\cutfuzz\}{}{ }
6
7 \newenvironment{cutout}[4]
8 {\marginpar{\windowpagestuff}}{ }
9 {}
10
11 \newcommand*\{\windowpagestuff\}{}{ }
12
13 \newcommand*\{\pageinwindow\}{%
14 % \begin{minipage}{.3\linewidth}
15 \windowpagestuff
16 % \end{minipage}
17 }
18
19 \newenvironment{shapedcutout}[3]{}
20 {\marginpar{\picinwindow}}
21 {}
22

```

---

```

23 \newcommand*{\putstuffinpic}{}%
24
25 \newcommand*{\picinwindow}{%
26 \begin{picture}(0,0)
27 \putstuffinpic
28 \end{picture}}

```

---

File 106 **l warp-dblfloatfix.sty**

§ 215 Package **dblfloatfix**

Pkg dblfloatfix **dblfloatfix** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dblfloatfix}[2012/12/31]

---

File 107 **l warp-dblfnote.sty**

§ 216 Package **dblfnote**

(Emulates or patches code by HIROSHI NAKASHIMA.)

Pkg dblfnote **dblfnote** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dblfnote}[1999/07/14]

```

2 \newcounter{DFNsloppiness}
3 \newdimen\DFNcolumnsep
4 \newdimen\DFNcolumnwidth
5 \def\DFNallowcbreak{}
6 \def\DFNinhibitcbreak{}
7 \def\DFNtrysingle{}
8 \def\DFNalwaysdouble{}
9 \def\DFNruleboth{}
10 \def\DFNruleleft{}

```

---

File 108 **l warp-dcolumn.sty**

§ 217 Package **dcolumn**

**dcolumn** is used as-is in a *lateximage*, and is emulated by the **l warp** core.

**dcolumn** used to be \LWR@ProvidesPackageDrop in prior versions of **l warp**, but is now supported for print mode.

1 \LWR@ProvidesPackagePass{dcolumn}[2014/10/28]

Due to how the D column is created, cannot use \HTMLnewcolumntype here. An HTML version neutralizes the lower-level macros, leaving a c column type.

2 \newcommand\*{\LWR@HTML@DC@}[3]{}%

```
3 \LWR@formatted{DC@}
4
5 \providecommand*\{\\DC@end}{}
6
7 \newcommand*\{\LWR@HTML@DC@end}{}
8 \LWR@formatted{DC@end}
```

---

**File 109 l warp-decimal.sty****§ 218 Package decimal**

(Emulates or patches code by A. SYROPOULOS AND R. W. D. NICKALLS.)

Pkg decimal

decimal works as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{decimal}[2011/06/03]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\.{\mbox{.}}}
4 \end{warpMathJax}
```

---

**File 110 l warp-decorule.sty****§ 219 Package decorule**

(Emulates or patches code by PETER FLYNN.)

Pkg decorule

decorule is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{decorule}[2020/04/01]

```
2 \xpretocmd{\decorule}
3   {\begin{lateximage}*[decorule]}
4   {}
5   {\LWR@patcherror{decorule}{decorule A}}
6
7 \xapptocmd{\decorule}
8   {\end{lateximage}}
9   {}
10  {\LWR@patcherror{decorule}{decorule B}}
```

---

**File 111 l warp-diagbox.sty****§ 220 Package diagbox**

(Emulates or patches code by LEO LIU.)

Pkg diagbox

diagbox is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{diagbox}[2016/12/28]

To restore print-mode inside a `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`

```

{<E/W>} {<A>} {<E/W>} {<B>}
9 \newcommand{\LWR@diagbox@AB}[4]{%
10 \begingroup%
11 \LetLtxMacro{\\\newline}{%
12 \BlockClassSingle{\diagbox#1}{#2}%
13 \BlockClassSingle{\diagbox#3}{#4}%
14 \endgroup%
15 \LWR@stopars%
16 }
```

`\LWR@diagboxNW`

```

{<A>} {<B>}
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`

```

{<keys>} {<A>} {<B>}
26 \def\diagbox@double#1#2#3{%
27 \setkeys{diagbox}{dir=NW, #1}%
28 \nameuse{\LWR@diagbox\diagbox@dir}{#2}{#3}%
29 }
```

`\LWR@diagboxTNW`

```

{<title>} {<A>} {<B>}
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 112 **l warp-dingbat.sty**

§ 221      Package **dingbat**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg    dingbat

**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@satelitedish}{\LWR@dingbatsymbol{1F4E1}}
21 \newcommand{\LWR@HTML@smallpencil}{\LWR@dingbatsymbol{270E}}
22
23 \LWR@formatted{rightpointright}
24 \LWR@formatted{leftpointright}
25 \LWR@formatted{leftthumbsdown}
26 \LWR@formatted{leftthumbsup}
27 \LWR@formatted{rightpointleft}
28 \LWR@formatted{rightthumbsdown}
29 \LWR@formatted{rightthumbsup}
30 \LWR@formatted{squarewithdots}

```

---

```

31 \LWR@formatted{filledsquarewithdots}
32 \LWR@formatted{Sborder}
33 \LWR@formatted{Zborder}
34 \LWR@formatted{largepencil}
35 \LWR@formatted{anchor}
36 \LWR@formatted{carriagereturn}
37 \LWR@formatted{checkmark}
38 \LWR@formatted{eye}
39 \LWR@formatted{satellitedish}
40 \LWR@formatted{smallpencil}

```

---

File 113 **l warp-DotArrow.sty**

§ 222 Package **DotArrow**

*(Emulates or patches code by SVEN SCHNEIDER.)*

Pkg DotArrow

**for HTML output:** 1 \LWR@ProvidesPackagePass{DotArrow}[2007/02/12]

The width must be recomputed each time, depending on print or HTML output.

```

2 \xpretocmd{\dotarrow}{\settowidth{\oneWidth}{\onePartX}}{}{}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\dotarrow}[1]{\stackrel{#1}{\text{\scriptsize{\texttt{\{\\unicode{x21E2}\\}}}}}}}
6 \end{warpMathJax}

```

---

File 114 **l warp-dotlessi.sty**

§ 223 Package **dotlessi**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg dotlessi

dotlessi is used as-is for SVG math, and is emulated for MATHJAX.

**⚠ HTML \dotlessj** Use \usepackage{cmap} if \dotlessj does not appear in HTML in text mode. See section 7.4.

**⚠ not bold** For MATHJAX, use \boldsymbol instead of \mathbf.

**for HTML output:** 1 \LWR@ProvidesPackagePass{dotlessi}[1999/10/12]

For MATHJAX:

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\dotlessi\imath}
4 \CustomizeMathJax{\let\dotlessj\jmath}
5 \end{warpMathJax}

```

---

**File 115 l warp-dprogress.sty****§ 224 Package dprogress**

Pkg dprogress dprogress is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dprogress}[2008/02/21]

---

**File 116 l warp-draftcopy.sty****§ 225 Package draftcopy**

Pkg draftcopy draftcopy is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{draftcopy}[2002/02/25]

```
2 \newcommand{\draftcopyVersion}[1]{}
3 \newcommand{\draftcopySetGrey}[1]{}
4 \newcommand{\draftcopySetScale}[1]{}
5 \newcommand{\draftcopySetScaleFactor}[1]{}
6 \newcommand{\draftcopyFirstPage}[1]{}
7 \newcommand{\draftcopyLastPage}[1]{}
8 \newcommand{\draftcopyName}[2]{}
9 \newcommand{\draftcopyPageTransform}[1]{}
10 \newcommand{\draftcopyBottomTransform}[1]{}
11 \newcommand{\draftcopyPageX}[1]{}
12 \newcommand{\draftcopyPageY}[1]{}
13 \newcommand{\draftcopyBottomX}[1]{}
14 \newcommand{\draftcopyBottomY}[1]{}
```

---

**File 117 l warp-draftfigure.sty****§ 226 Package draftfigure**

Pkg draftfigure draftfigure is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{draftfigure}[2017/07/19]
2 \RequirePackage{xkeyval}

```
3 \define@key{draftfigure}{code}{}%
4 \define@key{draftfigure}{noframe}[true]{}%
5 \define@key{draftfigure}{filename}[true]{}%
6 \define@key{draftfigure}{content}{}[]{}%
7 \define@key{draftfigure}{style}[normal]{}%
8 \define@key{draftfigure}{position}[left]{}%
9 \define@key{draftfigure}{size}[normal]{}%
10 \newcommand\setdf[1]{\setkeys{draftfigure}{#1}}
```

---

**File 118 l warp-draftwatermark.sty**

§ 227      Package **draftwatermark**

*(Emulates or patches code by SERGIO CALLEGARI.)*

Pkg    draftwatermark

draftwatermark is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{draftwatermark}[2020/03/14]

```
2 \newcommand{\DraftwatermarkOptions}[1]{}
3 \newcommand{\DraftwatermarkStdMark}{}
4 \newcommand{\SetWatermarkAngle}[1]{}
5 \newcommand{\SetWatermarkColor}[1]{}
6 \newcommand{\SetWatermarkLightness}[1]{}
7 \newcommand{\SetWatermarkFontSize}[1]{}
8 \newcommand{\SetWatermarkScale}[1]{}
9 \newcommand{\SetWatermarkHorCenter}[1]{}
10 \newcommand{\SetWatermarkVertCenter}[1]{}
11 \newcommand{\SetWatermarkText}[1]{}
```

---

**File 119 l warp-drftcite.sty**

§ 228      Package **drftcite**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg    drftcite

drftcite is patched for use by l warp.

**for HTML output:**    1 \LWR@ProvidesPackagePass{drftcite}[1995/01/23]

```
2 \def\@lbibitem[#1]{\global\@HighCite\z@\item[
3   \textsuperscript{\@nameuse{DCN@\#2@\extra@b@citeb}}\%      l warp
4   \biblabel{\@ifundefined{DCN@\#2@\extra@b@citeb}{\@warning
5     {Reference '#2' on page \thepage\space was never cited}\{}%
6     \DC@llap{$^{\@nameuse{DCN@\#2@\extra@b@citeb}}$}\ }%\%
7   \citetext{\@nameuse{DCN@\#2@\extra@b@citeb}}\fi\ignorespaces}
```

---

**File 120 l warp-easy-todo.sty**

§ 229      Package **easy-todo**

*(Emulates or patches code by JUAN RADA-VILELA.)*

Pkg    easy-todo

easy-todo is patched for use by l warp.

To remove the “P” heading for HTML:

---

```
\warpHTMLonly{\renewcommand{\todoindexpagetitle}{}}
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{easy-todo}[2014/01/01]

\listoftodos Modified to correct buggy use of \flushright.

```
2 \let\LWR@easytodo@origlistoftodos\listoftodos
3
4 \renewcommand{\listoftodos}{%
5 \begingroup
6 \renewcommand{\flushright}{}
7 \LWR@easytodo@origlistoftodos
8 \endgroup
9 }
```

\todoii Modified to use \textcolor instead of \color.

```
10 \renewcommand{\todoii}[2]{%
11 \ifthenelse{\equal{\@todoobeysfinal}{true}}{%
12     {%
13         \ifoptionfinal{\todoenable{false}}{\todoenable{true}}{%
14     }%
15     {}%
16 \ifthenelse{\equal{\@todoenable}{true}}{%
17     {%
18         \refstepcounter{todos}%
19         \noindent{%
20             \todocolor{%
21                 \LWR@textcurrentcolor{%
22                     \normalfont\scriptsize{\bfseries{\thetodos.\#1}}%
23                 }%
24             }%
25             \addcontentsline{lod}{todos}{\protect{\thetodos.}\LWR@isolate{\#2}}%
26     }%
27     {}%
28 }}
```

---

### File 121 l warp-ebook.sty

§ 230 Package **ebook**

(Emulates or patches code by JØRGEN STEENSGAARD.)

Pkg ebook

ebook is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ebook}

```
2 \setcounter{secnumdepth}{0}
3 \setcounter{tocdepth}{2}
4
5 \providecommand{\pagefill}[1][0.001mm]{\noindent}
6
7 \providecommand{\ebook}{%
8 \setcounter{secnumdepth}{0}
9 \setcounter{tocdepth}{2}
10 }
```

---

**File 122 l warp-econometrics.sty**

§ 231      Package **econometrics**

(Emulates or patches code by ERIK KOLE.)

Pkg    econometrics

econometrics is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```
1 \LWR@ProvidesPackagePass{econometrics}% no date specified in the original
2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{econometrics}
6
7 \CustomizeMathJax{\newcommand{\SC}{\mathbb{C}}}
8 \CustomizeMathJax{\newcommand{\SN}{\mathbb{N}}}
9 \CustomizeMathJax{\newcommand{\SQ}{\mathbb{Q}}}
10 \CustomizeMathJax{\newcommand{\SR}{\mathbb{R}}}
11 \CustomizeMathJax{\newcommand{\SZ}{\mathbb{Z}}}
12
13 \CustomizeMathJax{\newcommand{\calA}{\mathcal{A}}}
14 \CustomizeMathJax{\newcommand{\calB}{\mathcal{B}}}
15 \CustomizeMathJax{\newcommand{\calC}{\mathcal{C}}}
16 \CustomizeMathJax{\newcommand{\calD}{\mathcal{D}}}
17 \CustomizeMathJax{\newcommand{\calE}{\mathcal{E}}}
18 \CustomizeMathJax{\newcommand{\calF}{\mathcal{F}}}
19 \CustomizeMathJax{\newcommand{\calG}{\mathcal{G}}}
20 \CustomizeMathJax{\newcommand{\calH}{\mathcal{H}}}
21 \CustomizeMathJax{\newcommand{\calI}{\mathcal{I}}}
22 \CustomizeMathJax{\newcommand{\calJ}{\mathcal{J}}}
23 \CustomizeMathJax{\newcommand{\calK}{\mathcal{K}}}
24 \CustomizeMathJax{\newcommand{\call}{\mathcal{L}}}
25 \CustomizeMathJax{\newcommand{\calM}{\mathcal{M}}}
26 \CustomizeMathJax{\newcommand{\calN}{\mathcal{N}}}
27 \CustomizeMathJax{\newcommand{\calO}{\mathcal{O}}}
28 \CustomizeMathJax{\newcommand{\calP}{\mathcal{P}}}
29 \CustomizeMathJax{\newcommand{\calQ}{\mathcal{Q}}}
30 \CustomizeMathJax{\newcommand{\calR}{\mathcal{R}}}
31 \CustomizeMathJax{\newcommand{\calS}{\mathcal{S}}}
32 \CustomizeMathJax{\newcommand{\calT}{\mathcal{T}}}
33 \CustomizeMathJax{\newcommand{\calU}{\mathcal{U}}}
34 \CustomizeMathJax{\newcommand{\calV}{\mathcal{V}}}
35 \CustomizeMathJax{\newcommand{\calW}{\mathcal{W}}}
36 \CustomizeMathJax{\newcommand{\calX}{\mathcal{X}}}
37 \CustomizeMathJax{\newcommand{\calY}{\mathcal{Y}}}
38 \CustomizeMathJax{\newcommand{\calZ}{\mathcal{Z}}}
39
40 \LWR@mathjax@addlatin@u@bfit{m}% uppercase Latin, bold italic
41 \LWR@mathjax@addlatin@l@bfit{v}% lowercase Latin, bold italic
42
43 \LWR@mathjax@addgreek@l@bfit{v}{}% lowercase Greek bold italic
44 \LWR@mathjax@addgreek@u@bfit*{m}{}% uppercase Greek bold italic, capitalized macro names
45
46 \CustomizeMathJax{\newcommand{\rb}{\mathrm{b}}}
47 \CustomizeMathJax{\newcommand{\rB}{\mathrm{B}}}
```

```
48 \CustomizeMathJax{\newcommand{\rC}{\mathrm{C}}}
49 \CustomizeMathJax{\newcommand{\rD}{\mathrm{D}}}
50 \CustomizeMathJax{\newcommand{\rf}{\mathrm{f}}}
51 \CustomizeMathJax{\newcommand{\rF}{\mathrm{F}}}
52 \CustomizeMathJax{\newcommand{\rH}{\mathrm{H}}}
53 \CustomizeMathJax{\newcommand{\rL}{\mathrm{L}}}
54 \CustomizeMathJax{\newcommand{\rN}{\mathrm{N}}}
55 \CustomizeMathJax{\newcommand{\rt}{\mathrm{t}}}
56 \CustomizeMathJax{\newcommand{\rU}{\mathrm{U}}}
57 \CustomizeMathJax{\newcommand{\rGam}{\mathrm{Gam}}}
58 \CustomizeMathJax{\newcommand{\rBeta}{\mathrm{Beta}}}
59
60 \CustomizeMathJax{\newcommand{\Bin}{\mathrm{Bin}}}
61 \CustomizeMathJax{\newcommand{\eu}{\mathrm{e}}}
62 \CustomizeMathJax{\newcommand{\iu}{\mathrm{i}}}
63 \CustomizeMathJax{\newcommand{\LN}{\mathrm{LN}}}
64 \CustomizeMathJax{\newcommand{\IN}{\mathrm{IN}}}
65
66 \CustomizeMathJax{\newcommand{\Poi}{\mathrm{Poi}}}
67
68 \CustomizeMathJax{\newcommand{\ped}[1]{\mathrm{\#1}}}
69 \CustomizeMathJax{\newcommand{\ap}[1]{^{\mathrm{\#1}}}}
70 \CustomizeMathJax{\renewcommand{\Re}{\mathrm{Re}}{\mathrm{\nolimits}}}
71 \CustomizeMathJax{\renewcommand{\Im}{\mathrm{Im}}{\mathrm{\nolimits}}}
72
73 \CustomizeMathJax{\newcommand{\deriv}[3]{%
74   \frac{\mathrm{d}^{\mathrm{\#1}}\mathrm{\#2}}{\mathrm{d}\mathrm{\#1}\mathrm{\#3}}%
75 }%
76 \CustomizeMathJax{\newcommand{\pderiv}[3]{%
77   \frac{\partial^{\mathrm{\#1}}\mathrm{\#2}}{\partial \mathrm{\#1}\mathrm{\#3}}%
78 }%
79
80 \CustomizeMathJax{\newcommand{\bias}{\operatorname{bias}}}
81 \CustomizeMathJax{\newcommand{\col}{\operatorname{col}}}
82 \CustomizeMathJax{\newcommand{\corr}{\operatorname{corr}}}
83 \CustomizeMathJax{\newcommand{\cov}{\operatorname{cov}}}
84 \CustomizeMathJax{\newcommand{\dg}{\operatorname{dg}}}
85 \CustomizeMathJax{\newcommand{\diag}{\operatorname{diag}}}
86 \CustomizeMathJax{\newcommand{\E}{\operatorname{E}}}
87 \CustomizeMathJax{\newcommand{\etr}{\operatorname{etr}}}
88 \CustomizeMathJax{\newcommand{\ip}{\mathrm{int}}{\mathrm{\nolimits}}}
89 \CustomizeMathJax{\newcommand{\kur}{\operatorname{kur}}}
90 \CustomizeMathJax{\newcommand{\MSE}{\operatorname{MSE}}}
91 \CustomizeMathJax{\newcommand{\MSFE}{\operatorname{MSFE}}}
92 \CustomizeMathJax{\newcommand{\OLS}{\operatorname{OLS}}}
93 \CustomizeMathJax{\newcommand{\plim}{\operatorname{plim}}}
94 \CustomizeMathJax{\newcommand{\resid}{\operatorname{resid}}}
95 \CustomizeMathJax{\newcommand{\rk}{\operatorname{rk}}}
96 \CustomizeMathJax{\newcommand{\SE}{\operatorname{SE}}}
97 \CustomizeMathJax{\newcommand{\sgn}{\operatorname{sgn}}}
98 \CustomizeMathJax{\newcommand{\tr}{\operatorname{tr}}}
99 \CustomizeMathJax{\newcommand{\var}{\operatorname{var}}}
100 \CustomizeMathJax{\renewcommand{\vec}{\operatorname{vec}}}
101 \CustomizeMathJax{\newcommand{\vech}{\operatorname{vech}}}
102
103 \CustomizeMathJax{\newcommand{\distr}{\mathrm{sim}}}
104 \CustomizeMathJax{\newcommand{\adistr}{\mathrm{stackrel{a}{distr}}}}
105 \CustomizeMathJax{\newcommand{\diff}{\mathrm{Delta}}}
106 \CustomizeMathJax{\newcommand{\fdiff}{\mathrm{diff\_rf}}}
107 \CustomizeMathJax{\newcommand{\bdiff}{\mathrm{diff\_rb}}}}
```

```

108 \CustomizeMathJax{\newcommand{\eps}{\epsilon}}
109 \CustomizeMathJax{\newcommand{\epsi}{\varepsilon}}
110
111 \CustomizeMathJax{\newcommand{\longto}{\longrightarrow}}
112 \CustomizeMathJax{\newcommand{\pto}{\stackrel{p}{\longrightarrow}}}
113 \CustomizeMathJax{\newcommand{\dto}{\stackrel{d}{\longrightarrow}}}
114 \CustomizeMathJax{\newcommand{\wto}{\stackrel{w}{\longrightarrow}}}
115
116 \CustomizeMathJax{\newcommand{\Infmat}{\bm{\cal I}}}
117 \CustomizeMathJax{\newcommand{\Hesmat}{\bm{\cal H}}}
118 \CustomizeMathJax{\newcommand{\bcdot}{\bullet}}
119
120 \CustomizeMathJax{\newcommand{\vones}{\bm{i}}}
121 \CustomizeMathJax{\newcommand{\vzeros}{\boldsymbol{0}}}
122 \CustomizeMathJax{\newcommand{\mZeros}{\mathbf{0}}}
123
124 \CustomizeMathJax{\newcommand{\e}{\mathbf{e}}}
125 \CustomizeMathJax{\newcommand{\mply}{\cdot}}
126 \CustomizeMathJax{\newcommand{\rW}{\mathrm{W}}}
127 \CustomizeMathJax{\newcommand{\mathrm}[1]{\mathrm{#1}}}
128 \end{warpMathJax}

```

---

### File 123 l warp-ed.sty

§ 232 Package **ed**

(Emulates or patches code by MICHAEL KOHLHASE.)

**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}{%
10       #1 is only a provisional stub\\Large
11       the Office document
12       \ifx\ed@stubURI\empty\else\ href{\ed@stubURI}{#2}\fi\
13       contains more text\which will be merged for the final document%
14     }%
15   \end{center}%
16   \BlockClass[color:blue]{edstub}%
17 }
18 {\endBlockClass}

```

---

**File 124 l warp-ellipsis.sty**

§ 233      Package **ellipsis**

(Emulates or patches code by PETER J. HESLIN.)

Pkg ellipsis

ellipsis is emulated.

```
1 \LWR@ProvidesPackageDrop{ellipsis}[2004/09/28]
2
3 \newcommand{\ellipsisgap}{0.1em}
4
5 \newcommand*{\midwordellipsis}{\textellipsis}
```

---

**File 125 l warp-embrac.sty**

§ 234      Package **embrac**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg embrac

embrac is patched for HTML and used as-is for print.

**for HTML output:** 1 \LWR@ProvidesPackagePass{embrac}[2017/07/04]

```
2 \ExplSyntaxOn
3 \RenewDocumentCommand{\embrac_kern:n}{m}{}%
4 \ExplSyntaxOff

5 \LetLtxMacro{\LWR@orig@HTML@emph}{\LWR@HTML@emph}
6 \RenewDocumentCommand{\LWR@HTML@emph}{s m}{\LWR@orig@HTML@emph{#2}}
7
8 \LetLtxMacro{\LWR@orig@HTML@textit}{\LWR@HTML@textit}
9 \RenewDocumentCommand{\LWR@HTML@textit}{s m}{\LWR@orig@HTML@textit{#2}}
10
11 \LetLtxMacro{\LWR@orig@HTML@textsl}{\LWR@HTML@textsl}
12 \RenewDocumentCommand{\LWR@HTML@textsl}{s m}{\LWR@orig@HTML@textsl{#2}}
13
14 \ifxetexorluatex
15     \LetLtxMacro{\LWR@orig@HTML@textsi}{\LWR@HTML@textsi}
16     \RenewDocumentCommand{\LWR@HTML@textsi}{s m}{%
17         \LWR@orig@HTML@textsi{#2}}
18 \fi
19
20 \AtBeginDocument{
21     \LWR@formatted{emph}
22     \LWR@formatted{textit}
23     \LWR@formatted{textsl}
24     \ifxetexorluatex
25         \LWR@formatted{textsi}
26     \fi
27 }
28
```

```
29 \newcommand{\LWR@HTML@EmbracOff}{}
30 \LWR@formatted{EmbracOff}
31
32 \newcommand{\LWR@HTML@EmbracOn}{}
33 \LWR@formatted{EmbracOn}
```

---

File 126 **l warp-emptypage.sty**

§ 235 Package **emptypage**

Pkg **emptypage** **emptypage** is ignored.

**for HTML output:** Discard all options for l warp-emptypage:

```
1 \LWR@ProvidesPackageDrop{emptypage}[2010/05/30]
```

---

File 127 **l warp-endfloat.sty**

§ 236 Package **endfloat**

Pkg **endfloat** **endfloat** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{endfloat}[2019/04/15]

```
2 \newcommand\figureplace{}
3 \newcommand\tableplace{}
4 \newcommand\floatplace[1]{}
5 \newcounter{posttable}
6 \newcounter{postfigure}
7 \newcommand*\theposttbl(){}
8 \newcommand*\thepostfig(){}
9 \newcommand{\AtBeginFigures}[1]{}
10 \newcommand{\AtBeginTables}[1]{}
11 \newcommand{\AtBeginDelayedFloats}[1]{}
12 \newcommand*\processdelayedfloats(){}
13 \newcommand*\efloatseparator(){}
14 \def\efloatattype{}
15 \providecommand\efloatatheading[1]{}
16 \providecommand\efloatpreamble{}
17 \providecommand\efloatpostamble{}
18 \NewDocumentCommand{\addtodelayedfloat}{s m m}{}
19 \providecommand{\efloatbegin}{}
20 \providecommand{\efloatend}{}
21 \providecommand{\efloatbeginlist}{}
22 \providecommand{\efloatendlist}{}
```

---

File 128 **l warp-endheads.sty**

§ 237 Package **endheads**

Pkg **endheads** **endheads** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{endheads}[2017/04/06]

---

```

2 \newcommand{\changesinglepageabbrev}[1]{}
3 \newcommand{\changemultiplepageabbrev}[1]{}
4 \newcommand{\changetitlesname}[1]{}
5 \newcommand{\changetitlesheader}[1]{}
6 \newcommand{\changetitlescontentsname}[1]{}
7 \newcommand{\changechaptertitlesline}[1]{}
8 \newcommand{\checknoteheaders}(){}
9 \newif\ifnotesincontentson \notesincontentsonfalse
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}{\notesbychaptertrue}

```

---

File 129 **l warp-endnotes.sty**

§ 238 Package **endnotes**

*(Emulates or patches code by JOHN LAVAGNINO.)*

Pkg endnotes

Patched for HTML.

**table of contents** To place the endnotes in the TOC, use:

```
\usepackage{endnotes}
\appto\enoteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*{\notesname}{Endnotes} % optional
```

**HTML page** To additionally have the endnotes on their own HTML page, if `FileDepth` allows:

```
\ForceHTMLPage
\theendnotes
```

⚠ **\endnotemark** If using MATHJAX, see section 8.5.4 regarding the use of `\endnotemark` and `\endnotetext`.

**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}
```

To nullify the endnotes:

```

13 \apptocmd{\LWR@nullifyfootnotes}{%
14     \renewcommand{\endnote}[2][]{\%}
15     \renewcommand{\endnotemark}[1]{\%}
16 }{\}}
```

For MATHJAX:

```

17 \begin{warpMathJax}
18 \def\endnotename{endnote}
19 \appto{\LWR@syncnotenumbers{\LWR@synconenotenumber{\LWRendnote}{\theendnote}}}
20 \appto{\LWR@syncnotenames{\LWR@synconenotename{\LWRendnote}{\endnotename}}}
21 \CustomizeMathJax{\def\LWRendnote{1}}
22 \CustomizeMathJax{\newcommand{\endnote}[2][\LWRendnote]{\{}^{\mathrm{#1}}\}}
23 \CustomizeMathJax{\newcommand{\endnotemark}[1][\LWRendnote]{\{}^{\mathrm{#1}}\}}
24 \end{warpMathJax}
```

---

File 130 **lwarf-engtlc.sty**

§ 239 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{\varianzaramore}{\frac{N_0}{2}}}
112 %
113 \CustomizeMathJax{\newcommand{\etsymbolbracearg}[2]{%
114     #1\mathopen{}\left.\!\! \left\{ \right.\!\! \right\} \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]{\I\left.\!\! \right( #1\right)}}
121 \CustomizeMathJax{\newcommand{\versore}[1]{\hat{#1}}}
122 \CustomizeMathJax{\newcommand{\vettore}[1]{\overrightarrow{#1}}}
123 \CustomizeMathJax{\newcommand{\coseno}[1]{\cos\left(2\pi#1\right)}}
124 \CustomizeMathJax{\newcommand{\seno}[1]{\sin\left(2\pi#1\right)}}
125 \CustomizeMathJax{\newcommand{\energia}[1]{\mathcal{E}_{#1}}}
126 \CustomizeMathJax{\newcommand{\moduloexp}[2]{\left.\!\! \left( \right.\!\! \right)^{#2}}}
127 \CustomizeMathJax{\newcommand{\modulo}[1]{\left.\!\! \left( \right.\!\! \right)\left.\!\! \right)^{#1}}}
128 \CustomizeMathJax{\newcommand{\indB}[1]{%
129     \mathopen{}\left.\!\! \left( \right.\!\! \right) \mathclose{}}
130 \CustomizeMathJax{\newcommand{\for}[2]{\left.\!\! \left( \right.\!\! \right)^{#2}}}
131 \CustomizeMathJax{\newcommand{\massimo}[1]{\etsymbolbracearg{\max}{#1}}}
132 \CustomizeMathJax{\newcommand{\minimo}[1]{\etsymbolbracearg{\min}{#1}}}
133 \CustomizeMathJax{\newcommand{\valc}{\cdot 10^8}}
134 \CustomizeMathJax{\newcommand{\loga}[2]{\log_{#1}^{#2}}}
135 \CustomizeMathJax{\newcommand{\analytic}[1]{\mathring{#1}}}
136 \CustomizeMathJax{\newcommand{\diff}{\mathop{}\mathopen{}\mathop{\mathrm{d}}\nolimits}}
137 \CustomizeMathJax{\newcommand{\intinf}[1]{\int_{-\infty}^{+\infty}{#1}}}
138 \CustomizeMathJax{\newcommand{\deltain}[1]{\delta\left.\!\! \left( \right.\!\! \right)^{#1}}}
139 \CustomizeMathJax{\newcommand{\iu}{\mathrm{i}}}
140 \CustomizeMathJax{\newcommand{\ex}[1]{\mathrm{e}^{#1}}}
141 %
142 \CustomizeMathJax{\newcommand{\gammatens}{\Gamma^{(\mathrm{V})}}}
```

```
143 \CustomizeMathJax{\newcommand{\gammacorr}{{}^{\mathrm{I}}\Gamma}}
144 \CustomizeMathJax{\newcommand{\gammatensin}[1]{{}^{\mathrm{V}}\Gamma_{\mathrm{#1}}}}
145 \CustomizeMathJax{\newcommand{\gammacorrin}[1]{{}^{\mathrm{I}}\Gamma_{\mathrm{#1}}}}
146 \CustomizeMathJax{\newcommand{\gammain}[1]{\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}[1]{P_{\mathrm{#1}}}}
154 \CustomizeMathJax{\newcommand{\potdisp}[1]{P_{\mathrm{#1}}^{\mathrm{disp}}}}
155 \CustomizeMathJax{\newcommand{\potDC}[1]{P_{\mathrm{#1}}^{\mathrm{DC}}}}
156 \CustomizeMathJax{\newcommand{\potCC}[1]{P_{\mathrm{#1}}^{\mathrm{CC}}}}
157 \CustomizeMathJax{\newcommand{\potirr}[1]{P_{\mathrm{#1}}^{\mathrm{irr}}}}
158 \CustomizeMathJax{\newcommand{\potdiss}[1]{P_{\mathrm{#1}}^{\mathrm{diss}}}}
159 \CustomizeMathJax{\newcommand{\potinc}[1]{P_{\mathrm{#1}}^{\mathrm{inc}}}}
160 %
161 \CustomizeMathJax{\newcommand{\z}[1]{Z_{\mathrm{#1}}}}
162 \CustomizeMathJax{\newcommand{\znorm}[1]{z_{\mathrm{#1}}}}
163 \CustomizeMathJax{\newcommand{\y}[1]{Y_{\mathrm{#1}}}}
164 \CustomizeMathJax{\newcommand{\ynorm}[1]{y_{\mathrm{#1}}}}
165 \CustomizeMathJax{\newcommand{\zinf}[1]{Z_{\mathrm{infty}\mathbf{#1}}}}
166 \CustomizeMathJax{\newcommand{\zinfn}[1]{z_{\mathrm{infty}\mathbf{#1}}}}
167 \CustomizeMathJax{\newcommand{\yinf}[1]{Y_{\mathrm{infty}\mathbf{#1}}}}
168 \CustomizeMathJax{\newcommand{\yinfn}[1]{y_{\mathrm{infty}\mathbf{#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{\sight}[1]{\#1(t)}}
178 \CustomizeMathJax{\newcommand{\signf}[1]{\#1(f)}}
179 \CustomizeMathJax{\newcommand{\signn}[1]{\#1(n)}}
180 \CustomizeMathJax{\newcommand{\signz}[1]{\#1(z)}}
181 %
182 \CustomizeMathJax{\newcommand{\prob}[1]{\mathcal{P}\left(\#1\right)}}
183 \CustomizeMathJax{\newcommand{\valatt}[1]{\mathbb{E}\left(\#1\right)}}
184 \CustomizeMathJax{\newcommand{\var}[1]{\mathrm{Var}\left(\#1\right)}}
185 \CustomizeMathJax{\newcommand{\comma}{\text{, } , \text{, }}}
186 \CustomizeMathJax{\newcommand{\dato}{\text{\textbackslash}, \text{\textbackslash}, \text{\textbackslash}}}
187 %
188 \CustomizeMathJax{\let\bfRe\partereale}
189 \CustomizeMathJax{\let\bfIm\parteimm}
190 \CustomizeMathJax{\let\noisevar\varianzarumore}
191 % \CustomizeMathJax{\let\exerend\finees}
192 \CustomizeMathJax{\let\Spimplies\frecciadex}
193 \CustomizeMathJax{\let\Downimplies\frecciadown}
194 \CustomizeMathJax{\let\unitvec\versore}
195 \CustomizeMathJax{\let\vector\vettore}
196 \CustomizeMathJax{\let\cosine\coseno}
197 \CustomizeMathJax{\let\sine\seno}
198 \CustomizeMathJax{\let\energy\energia}
199 \CustomizeMathJax{\let\Abs\modulo}
200 \CustomizeMathJax{\let\AbsPow\moduloexp}
201 \CustomizeMathJax{\let\Max\massimo}
202 \CustomizeMathJax{\let\Min\minimo}
```

---

```

203 \CustomizeMathJax{\let\clight\valc}
204 \CustomizeMathJax{\let\Log\loga}
205 \CustomizeMathJax{\let\analytic\analytic}
206 \CustomizeMathJax{\let\infint\intinf}
207 \CustomizeMathJax{\let\deltaimp\deltatain}
208 \CustomizeMathJax{\let\Vgamma\gammatens}
209 \CustomizeMathJax{\let\Cgamma\gammacorr}
210 \CustomizeMathJax{\let\Vgammain\gammatensin}
211 \CustomizeMathJax{\let\Cgammaint\gammacorrin}
212 \CustomizeMathJax{\let\Kgamma\gammak}
213 \CustomizeMathJax{\let\powerin\potin}
214 \CustomizeMathJax{\let\availpow\potdisp}
215 \CustomizeMathJax{\let\irrpow\potirr}
216 \CustomizeMathJax{\let\disspow\potdiss}
217 \CustomizeMathJax{\let\incpow\potinc}
218 \CustomizeMathJax{\let\potalim\potCC}
219 \CustomizeMathJax{\let\potDC\potCC}
220 \CustomizeMathJax{\let\Efield\campoe}
221 \CustomizeMathJax{\let\Hfield\campoh}
222 \CustomizeMathJax{\let\phasorEfield\campoefas}
223 \CustomizeMathJax{\let\phasorHfiled\campohfas}
224 \CustomizeMathJax{\let\given\data}
225 \CustomizeMathJax{\let\expval\valatt}
226 \CustomizeMathJax{\let\rmexp\ex}
227 \end{warpMathJax}

```

---

### File 131 **l warp-enotez.sty**

§ 240 Package **enotez**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg enotez

enotez is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{enotez}[2020/12/13]

Hyperref is emulated by l warp, 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     { \enotezritemark { \enmarkstyle #2 } }
24   }
25 \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:nnTF {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@synconenotenumber{\LWRendnote}{\theendnote}}
99 \appto{\LWR@syncnotenames}{\LWR@synconenotename{\LWRendnote}{\endnotename}}
100 \CustomizeMathJax{\def\LWRendnote{1}}
101 \CustomizeMathJax{\newcommand{\endnote}[2][\LWRendnote]{\{}^{\mathrm{#1}}\}}
102 \CustomizeMathJax{\newcommand{\endnotemark}[1][\LWRendnote]{\{}^{\mathrm{#1}}\}}
103 \end{warpMathJax}

```

File 132 **lwarf-enumerate.sty**

§ 241 Package **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 lwarf and thus must no longer be dropped.

**for HTML output:** 1 \LWR@ProvidesPackagePass{enumerate}[2015/07/23]

File 133 **lwarf-enumitem.sty**

§ 242 Package **enumitem**

(Emulates or patches code by JAVIER BEZOS.)

Pkg enumitem

enumitem is supported with minor adjustments.

**for HTML output:** 1 \LWR@ProvidesPackagePass{enumitem}[2018/11/30]

```
\newlist {⟨name⟩} {⟨type⟩} {⟨maxdepth⟩}
\renewlist {⟨name⟩} {⟨type⟩} {⟨maxdepth⟩}
```

For enumitem lists, new lists must have the start and end actions assigned to the new environment. Renewed lists already have their actions assigned, and thus need no changes.

```
2 \let\LWR@enumitem@orignewlist\newlist
3
4 \renewcommand*{\newlist}[3]{%
5 \LWR@enumitem@orignewlist{#1}{#2}{#3}%
6 \AtBeginEnvironment{#1}{\@nameuse{\LWR@#2start}}%
7 \AtEndEnvironment{#1}{\@nameuse{\LWR@#2end}}%
8 }
9
10 \def\DrawEnumitemLabel{}
```

#### File 134 l warp-epigraph.sty

### § 243 Package **epigraph**

(Emulates or patches code by PETER WILSON.)

Pkg epigraph

epigraph is emulated for HTML, and used as-is for print output.

Use css to format epigraphs.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epigraph}[2020/01/02]

```
2 \DeclareDocumentCommand{\LWR@HTML@qitem}{m m}
3 {%
4   \begin{BlockClass}{qitem}%
5   #1%
6   \LWR@stoppars%
7   \ifbool{FormatWP}%
8     {\begin{BlockClass}[border-top:1px solid gray]{epigraphsource}}{%
9     \begin{BlockClass}{epigraphsource}}%
10  #2%
11  \end{BlockClass}%
12  \end{BlockClass}%
13 }
14 \LWR@formatted{qitem}
```

epigraph: Added ARIA role.

```
15 \DeclareDocumentCommand{\LWR@HTML@epigraph}{m m}
16 {%
17   \begin{LWR@BlockClassWP}{\LWR@print@mbox{text-align:right}}{}{note}{epigraph}%
18   \qitem{#1}{#2}%
19   \end{LWR@BlockClassWP}%
20 }
21 \LWR@formatted{epigraph}
```

---

```

22
23 \DeclareDocumentEnvironment{LWR@HTML@epigraphs}{}%
24   {\LWR@BlockClassWP{\LWR@print@mbox{text-align:right}}{}(note){epigraph}}%
25   {\endLWR@BlockClassWP}
26 \LWR@formattedenv{epigraphs}
```

The following cannot be used in print mode while generating HTML:

```

27 \renewcommand{\epigraphhead}[2][0]{#2}
28 \renewcommand{\dropchapter}[1]{}
29 \renewcommand*{\undodrop}{}
```

---

### File 135 **l warp-epsf.sty**

§ 244      Package **epsf**

*(Emulates or patches code by Tom ROKICKI.)*

Pkg    epsf

epsf is patched for use by l warp.

**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 136 **l warp-epsfig.sty**

§ 245      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 137 **l warp-epstopdf.sty**

#### § 246 Package **epstopdf**

Pkg epstopdf

Previous versions of `l warp` had a nullified version, but now `epstopdf-base` is supported. `l warp-epstopdf` becomes a placeholder to overwrite previous versions.

See package `epstopdf-base` for details.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epstopdf}[2020-01-24]

---

### File 138 **l warp-epstopdf-base.sty**

#### § 247 Package **epstopdf-base**

Pkg epstopdf-base

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 139 **l warp-eqlist.sty**

#### § 248 Package **eqlist**

Pkg `eqlist` `eqlist` is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{eqlist}[2002/08/15]

```

2 \newenvironment{eqlist}[1][]{{\description}{\enddescription}%
3 \newenvironment{eqlist*}[1][]{{\description}{\enddescription}%
4 \newenvironment{EqList}[2][]{{\description}{\enddescription}%
5 \newenvironment{EqList*}[2][]{{\description}{\enddescription}%
6 \newcommand*{\longitem}[1][]{\item[#1]}%
7 \newcommand*{\eqlistinit}{}%
8 \newcommand*{\eqliststarinit}{}%
9 \newcommand*{\eqlistinitpar}{}%
10 \def\eqlistlabel#1{#1}%
11 \newcommand{\eqlistauto}[1]{}%
12 \newcommand{\eqlistnoauto}{}%

```

---

### File 140 **l warp-eqparbox.sty**

#### § 249 Package **eqparbox**

(Emulates or patches code by SCOTT PAKIN.)

Pkg `eqparbox` `eqparbox` is patched for use by `l warp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{eqparbox}[2017/09/03]

```

2 \NewDocumentCommand{\LWR@HTML@eqparbox}{O{t} O{} O{t} m +m}{%

```

```

3      {%
4          \minipage{fullwidth}%
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     \begin{group}%
23     \minipage{fullwidth}%
24     \minipage[#1][#2][#3]{\linewidth}%
25 }%
26 {%
27     \endminipage%
28     \endgroup%
29 }
30
31 \newcommand*{\LWR@HTML@eqboxwidth}[1]{.25\linewidth}%
32 \LWR@formatted{eqboxwidth}%
33
34 \newcommand*{\LWR@HTML@eqsetminwidth}[2]{}%
35 \newcommand*{\LWR@HTML@eqsetmaxwidth}[2]{}%
36
37 \newcommand*{\LWR@HTML@eqsetminwidthto}[2]{}%
38 \newcommand*{\LWR@HTML@eqsetmaxwidthto}[2]{}%

```

File 141 **l warp-errata.sty**

§ 250 Package **errata**

*(Emulates or patches code by MICHAEL KOHLHASE.)*

Pkg errata

errata is patched for use by l warp.

This is for v0.3 of errata. A newer version of errata with more features is under development, at which time the l warp version will have to be updated.

**for HTML output:** Macros are being defined with the math dollar, so enable the HTML version during package loading:

```
1 \StartDefiningMath
```

Now load the package:

```
2 \LWR@ProvidesPackagePass{errata}[2006/11/12]
```

Patches for dynamic inline math:

```

3 \xpatchcmd{\erratumAdd}
4   {$_a^{\arabic{erratum}}$}
5 %   {\inlinemathother$_a^{\arabic{erratum}}$\inlinemathnormal}
6   {\textsubscript{a}\textsuperscript{\arabic{erratum}}}
7   {}
8   {\LWR@patcherror{erratum}{erratumAdd}}
9
10 \xpatchcmd{\erratumDelete}
11   {$_d^{\arabic{erratum}}$}
12 %   {\inlinemathother$_d^{\arabic{erratum}}$\inlinemathnormal}
13   {\textsubscript{d}\textsuperscript{\arabic{erratum}}}
14   {}
15   {\LWR@patcherror{erratum}{erratumDelete}}
16
17 \xpatchcmd{\erratumReplace}
18   {$_r^{\arabic{erratum}}$}
19 %   {\inlinemathother$_r^{\arabic{erratum}}$\inlinemathnormal}
20   {\textsubscript{r}\textsuperscript{\arabic{erratum}}}
21   {}
22   {\LWR@patcherror{erratum}{erratumReplace}}
23
24 \xpatchcmd{\erratum}
25   {$_a$}
26 %   {\inlinemathother$_a$\inlinemathnormal}
27   {\textsubscript{a}}
28   {}
29   {\LWR@patcherror{erratum}{erratumDelete}}
30
31 \xpatchcmd{\erratum}
32   {$_d^{\@thefnmark}$}
33 %   {\inlinemathother$_d^{\@thefnmark} $\inlinemathnormal}
34   {\textsubscript{d}\textsuperscript{\@thefnmark}}
35   {}
36   {\LWR@patcherror{erratum}{eDelete}}
37
38 \xpatchcmd{\erratum}
39   {$_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 142 **lwarf-eso-pic.sty**

§ 251 Package **eso-pic**

(Emulates or patches code by ROLF NIEPRASCHK.)

Pkg eso-pic

eso-pic is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{eso-pic}[2018/04/12]

2 \newcommand*\LenToUnit(){}
3 \newcommand{\AtPageUpperLeft}[1]{}
4 \newcommand{\AtPageLowerLeft}[1]{}
5 \newcommand{\AtPageCenter}[1]{}
6 \newcommand{\AtStockLowerLeft}[1]{}
7 \newcommand{\AtStockUpperLeft}[1]{}
8 \newcommand{\AtStockCenter}[1]{}
9 \newcommand{\AtTextUpperLeft}[1]{}
10 \newcommand{\AtTextLowerLeft}[1]{}
11 \newcommand{\AtTextCenter}[1]{}
12 \NewDocumentCommand{\AddToShipoutPictureBG}{s +m} {}

13 \newcommand{\AddToShipoutPicture}{\AddToShipoutPictureBG}
14 \NewDocumentCommand{\AddToShipoutPictureFG}{s +m} {}
15 \newcommand*\ClearShipoutPictureBG(){}
16 \newcommand*\ClearShipoutPicture(){}
17 \newcommand*\ClearShipoutPictureFG(){}
18 \newcommand{\gridSetup}[6]{}{}
```

#### File 143 l warp-esvect.sty

§ 252 Package **esvect**

(Emulates or patches code by EDDIE SAUDRAIS.)

Pkg esvect

esvect is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{esvect} no date given

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\LWResvectvv}[1]{\overrightarrow{\#1}}}
4 \CustomizeMathJax{\newcommand{\LWResvectvvstar}[2]{\overrightarrow{\#1}\!\_!\_{\#2}}}
5 \CustomizeMathJax{\newcommand{\vv}{\ifstar\!LWResvectvvstar\!LWResvectvv}}
6 \end{warpMathJax}
```

#### File 144 l warp-etoc.sty

§ 253 Package **etoc**

Pkg etoc

etoc is ignored. All commands are nullified.

⚠ **\tableofcontents with \ref** The etoc package uses a non-standard syntax which looks ahead after a \tableofcontents for a following \ref. These \refs appear in the HTML result unless they are removed. Where a \tableofcontents is followed by \ref, and perhaps also \label as well, enclose all of them inside \warpprintonly:

|   |                            |
|---|----------------------------|
| <code>\warpprintonly{\tableofcontents<br/>  \label{toc:abc}}</code> | <code>\ref{toc:abc}</code> |
|---|----------------------------|

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\etothenumber \@empty
6 \let\etocthepage \@empty
7 \let\etocthealink  \@empty % prior to 1.08j its was \let to \@empty
8 \DeclareRobustCommand*\etocname  {}
9 \DeclareRobustCommand*\etocnumber(){}
10 \DeclareRobustCommand*\etocpage  {}
11 \DeclareRobustCommand*\etoclink  {\@firstofone}
12 \DeclareRobustCommand*\etocifnumbered{\@firstoftwo}
13 \DeclareRobustCommand*\etociffirst{\@firstoftwo}
14 \DeclareRobustCommand*\etocifwasempty{\@firstoftwo}
15 \let\etocaftertitlehook  \@empty
16 \let\etocaftercontentshook \@empty
17 \def\etocableofcontents{}
18 \newcommand*\localtableofcontents{}
19 \newcommand*\localtableofcontentswithrelativedepth[1]{}
20 \newcommand*\etocsettocstyle[2]({})
21 \long\def\etocsetstyle#1#2#3#4#5{}
22 \def\etocfontminustwo {\normalfont \LARGE \bfseries}
23 \def\etocfontminusone {\normalfont \large \bfseries}
24 \def\etocfontzero   {\normalfont \large \bfseries}
25 \def\etocfontone   {\normalfont \normalsize \bfseries}
26 \def\etocfonttwo   {\normalfont \normalsize}
27 \def\etocfontthree {\normalfont \footnotesize}
28 \def\etocsepminustwo {4ex \@plus .5ex \@minus .5ex}
29 \def\etocsepminusone {4ex \@plus .5ex \@minus .5ex}
30 \def\etocsepzero   {2.5ex \@plus .4ex \@minus .4ex}
31 \def\etocsepone    {1.5ex \@plus .3ex \@minus .3ex}
32 \def\etocseptwo    {.5ex \@plus .1ex \@minus .1ex}
33 \def\etocsepthree  {.25ex \@plus .05ex \@minus .05ex}
34 \def\etocbaselinepreadminustwo {1}
35 \def\etocbaselinepreadminusone {1}
36 \def\etocbaselinepreadzero   {1}
37 \def\etocbaselinepreadone   {1}
38 \def\etocbaselinepreadtwo  {1}
39 \def\etocbaselinepreadthree {.9}
40 \def\etocminustwoleftmargin {1.5em plus 0.5fil}
41 \def\etocminustworightmargin{1.5em plus -0.5fil}
42 \def\etocminusoneleftmargin {1em}
43 \def\etocminusonerightmargin{1em}
44 \def\etococlineleaders   {\hbox{\normalfont\normalsize\hb@xt@2ex {\hss.\hss}}}
45 \def\etocabrevpagename {p.~}
46 \def\etocpartname      {Part}% modified 1.08b
47 \def\etocbookname      {Book}
48 \def\etocdefaultlines{ }
49 \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\etoctoprule{\hrule}
66 \def\etocleftrule{\vrule}
67 \def\etocrightrule{\vrule}
68 \def\etocbottomrule{\hrule}
69 \def\etoctoprulecolor{\relax}
70 \def\etocbottomrulecolor{\relax}
71 \def\etocleftrulecolor{\relax}
72 \def\etocrightrulecolor{\relax}
73 \newcommand*\etocruledstyle[2][]{}
74 \def\etocframedmphook{\relax}
75 \long\def\etocbkgcolor{\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\etocreportstyle\etocbookstyle
88 \let\etocreportstylenomarks\etocbookstylenomarks
89 \def\etocmemoirtoctocfmt #1#2{}
90 \def\etocmemoirstyle{}
91 \def\etocscrartclstyle{}
92 \let\etocscrbookstyle\etocscrartclstyle
93 \let\etocscrreprtstyle\etocscrartclstyle
94 \def\etocstandarddisplaystyle{\etocarticlestyle}
95 \newcommand*\etocmarkboth[1]({})
96 \newcommand*\etocmarkbothonouc[1]({})
97 \newcommand\etoc tocstyle[3][section]({})
98 \newcommand\etoc tocstylewithmarks[4][section]({})
99 \newcommand\etoc tocstylewithmarksnouc[4][section]({})
100 \def\etocignoretoctocdepth{}
101 \def\etocsettocdepth[1]({})
102 \def\etocdepthtag #1{\Etoc@depthtag }
103 \def\Etoc@depthtag #1{}
104 \def\etocignoredepthtags {}
105 \def\etocbeydepthtags {}
106 \def\etocsettagdepth #1#2{}
107 \def\invisibletableofcontents {}
108 \def\invisiblelocaltableofcontents{}
109 \def\etocsetnexttocdepth #1{}
110 \def\etocsetlocaltop #1{\Etoc@set@localtop}
111 \def\Etoc@set@localtop #1{}
112 \def\etocstandardlines {}
113 \def\etocclines {}
```

```
114 \let\etocaftertohook    \@empty
115 \let\etocbeforetitlehook \@empty
116 \appto\tableofcontents{\def\tableofcontents{}}
```

---

**File 145 l warp-eurosym.sty****§ 254 Package eurosym**

(Emulates or patches code by HENRIK THEILING.)

Pkg eurosym

eurosym is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{eurosym}[1998/08/06]

```
2 \renewrobustcmd\official euro{\HTMLentity{euro}}
3 \let\geneuro\official euro
4 \let\geneuronarrow\official euro
5 \let\geneurowide\official euro
6 \let\ euro\official euro
7 \renewrobustcmd\ eurobars{}
8 \renewrobustcmd\ eurobarsnarrow{}
9 \renewrobustcmd\ eurobarswide{}
```

---

**File 146 l warp-everypage.sty****§ 255 Package everypage**

(Emulates or patches code by SERGIO CALLEGARI.)

Pkg everypage

everypage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{everypage}[2007/06/20]

```
2 \newcommand*\AddEverypageHook[1]{}
3 \newcommand*\AddThispageHook[1]{}
```

---

**File 147 l warp-everyshi.sty****§ 256 Package everyshi**

(Emulates or patches code by MARTIN SCHRÖDER.)

Pkg everyshi

ignored.

**for HTML output:** Discard all options for l warp-everyshi:

```
1 \LWR@ProvidesPackageDrop{everyshi}[2001/05/15]
2 \let\EveryShipout\relax
3 \newcommand*\EveryShipout[1]{}
4
5 \let\AtNextShipout\relax
6 \newcommand*\AtNextShipout[1]{}
```

---

**File 148 l warp-extarrows.sty**

§ 257 Package **extarrows**

(Emulates or patches code by HUYNH KY ANH.)

Pkg extarrows extarrows is used as-is for SVG math, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{extarrows}[2008/05/15]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\Newextarrow\xLongleftarrow{10,10}{0x21D0}}
4 \CustomizeMathJax{\Newextarrow\xLongrightarrow{10,10}{0x21D2}}
5 \CustomizeMathJax{\Newextarrow\xLongleftrightarrow{10,10}{0x21D4}}
6 \CustomizeMathJax{\Newextarrow\xLeftrightarrow{10,10}{0x21D4}}
7 \CustomizeMathJax{\Newextarrow\xlongleftrightarrow{10,10}{0x2194}}
8 \CustomizeMathJax{\Newextarrow\xleftrightarrow{10,10}{0x2194}}
9 \CustomizeMathJax{\let\xlongleftarrow\xleftarrow}
10 \CustomizeMathJax{\let\xlongrightarrow\xrightarrow}
11 \end{warpMathJax}
```

---

**File 149 l warp-extremarks.sty**

§ 258 Package **extremarks**

(Emulates or patches code by PIET VAN OOSTRUM.)

Pkg extremarks extremarks is ignored.

for HTML output: Discard all options for l warp-extremarks:

1 \LWR@ProvidesPackageDrop{extremarks}[2019/01/31]

```
2 \newcommand*\{extremarks}[2]{}
3 \newcommand*\{firstleftxmark\}{}%
4 \newcommand*\{lastleftxmark\}{}%
5 \newcommand*\{firstrightxmark\}{}%
6 \newcommand*\{lastrightxmark\}{}%
7 \newcommand*\{firstxmark\}{}%
8 \newcommand*\{lastxmark\}{}%
9 \newcommand*\{topxmark\}{}%
10 \newcommand*\{topleftxmark\}{}%
11 \newcommand*\{toprightxmark\}{}%
12 \newcommand*\{firstleftmark\}{}%
13 \newcommand*\{lastrightmark\}{}%
14 \newcommand*\{firstrightmark\}{}%
15 \newcommand*\{lastleftmark\}{}%
```

---

File 150 **l warp-fancybox.sty**

§ 259 Package **fancybox**

*(Emulates or patches code by TIMOTHY VAN ZANDT.)*

Pkg fancybox

**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+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 \LWR@ProvidesPackagePass{fancybox}[2010/05/15]

After the preamble is loaded, after any patches to Verbatim:

2 \AfterEndPreamble{  
3 \LWR@traceinfo{Patching fancybox.}}

\VerbatimFootnotes

Patched to use the new version.

4 \def\VerbatimFootnotes{  
5 \let\@footnotetext\V@footnotetext  
6 \let\LWR@footnotetext\V@footnotetext l warp  
7 }

\V@footnotetext Patches in a subset of l warp'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\bgroun%

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 \LWR@htmlltagc{\LWR@tagregularparagraph}\LWR@orignewline%



\VerbatimFootnotes

⚠ sectioning or displaymath

Append the footnote to the list:

```
18     \@makefnlist{}
```

The footnote text will follow after \V@@@footnotetext has completed.

```
19     \bgroup%
20     \aftergroup\V@@@footnotetext%
```

Do not generate autopages inside the footnotes, since they are accumulated at the moment before finally being used perhaps on a later page.

```
21     \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
```

```
22     \ignorespaces%
23 }%
```

\V@@@footnotetext

```
24 \def\V@@@footnotetext{%
25   \LWR@origtilde\LWR@orignewline%
26   \LWR@htmltagc{/ \LWR@tagregularparagraph}\LWR@orignewline%
27   \strut\egroup%
28 }
```

```
29 }% AfterEndPreamble
```

```
30 \renewcommand*\@shadowbox}[1]{%
31 \ifbool{FormatWP}{%
32 {\InlineClass[border:1px solid black]{shadowbox}{#1}}%
33 {\InlineClass{shadowbox}{#1}}%
34 }
35
36 \renewcommand*\@doublebox}[1]{%
37 \ifbool{FormatWP}{%
38 {\InlineClass[border:1px double black]{doublebox}{#1}}%
39 {\InlineClass{doublebox}{#1}}%
40 }
41
42 \renewcommand*\@ovalbox}[2]{%
43 \ifbool{FormatWP}{%
44 {\InlineClass[border:1px solid black; border-radius:1ex]{ovalbox}{#2}}%
45 }%
46 \ifthenelse{\isequivalentto{#1}{\thinspace}}{%
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}
```

`\begin{Beqnarray}` is adapted for MATHJAX or enclosed inside a `teximage`:

```
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 {<l/c/r>} [<t/c/b>]
68 \RenewDocumentEnvironment{Btrivlist}{m o}
69 {%
70     \LWR@stoppars{%
71     \begin{BlockClass}{Btrivlist}{%
72     \tabular{#1}{%
73 }}{%
74     \endtabular{%
75     \end{BlockClass}{%
76     \LWR@startpars{%
77 }}}}}{%
78 }}
```

`\Btrivlist` is also neutralized when used inside a span:

```
79 \AtBeginEnvironment{\LWR@nestspan}{%
80     \RenewDocumentEnvironment{Btrivlist}{m o}{}{}{%
81 }}
```

`lwarp`'s handling of `\item` is patched to accept `fancybox`'s optional arguments:

```
82 \let\LWRFB@origitemizeitem\LWR@itemizeitem
83 \let\LWRFB@origdescitem\LWR@descitem
84
85 \RenewDocumentCommand{\LWR@itemizeitem}{d()o}{%
86     \IfValueTF{#2}{%
87         \LWRFB@origitemizeitem[#2]{%
88     }{%
89         \LWRFB@origitemizeitem{%
90     }}}{%
91 }
92
93 \RenewDocumentCommand{\LWR@descitem}{d()o}{%
94     \IfValueTF{#2}{%
95         \LWRFB@origdescitem[#2]~{%
96     }{%
97         \LWRFB@origdescitem{%
98     }}}{%
99 }}
```

```

100 \RenewDocumentCommand{\LWR@nestspanitem}{d()}{%
101     \if@newlist\else{%
102         \LWR@htmltagc{br /}%
103         \LWR@orignewline%
104     }\fi%
105     \LWR@origitem%
106 }

```

The various boxed lists become regular lists:

```

107 \renewenvironment{Bitemize}[1][]{%
108     {%
109         \LWR@spanwarnformat{Bitemize}%
110         \booltrue{\LWR@starting@fancybox}%
111         \begin{itemize}%
112             \boolfalse{\LWR@starting@fancybox}%
113         }%
114     \end{itemize}%
115 }
116 \renewenvironment{B enumerate}[1][]{%
117     {%
118         \LWR@spanwarnformat{B enumerate}%
119         \booltrue{\LWR@starting@fancybox}%
120         \begin{enumerate}%
121             \boolfalse{\LWR@starting@fancybox}%
122         }%
123     \end{enumerate}%
124 }
125 \renewenvironment{B description}[1][]{%
126     {%
127         \LWR@spanwarnformat{B description}%
128         \booltrue{\LWR@starting@fancybox}%
129         \begin{description}%
130             \boolfalse{\LWR@starting@fancybox}%
131         }%
132     \end{description}%

```

\boxput simply prints one then the other argument, side-by-side instead of above and behind:

```

133 \RenewDocumentCommand{\boxput}{s d() m m}{%
134     \IfBooleanTF{#1}{#3\quad#4}{#4\quad#3}%
135 }

```

Neutralized commands:

```

136 \RenewDocumentCommand{\fancyput}{s d() m}{}
137 \RenewDocumentCommand{\thisfancyput}{s d() m}{}
138
139 \RenewDocumentCommand{\fancypage}{m m}{}
140 \RenewDocumentCommand{\thisfancypage}{m m}{}
141
142 \def\LandScape#1{}%
143 \def\endLandScape{}%
144 \def\@Landscape#1#2#3{}%
145 \def\endLandscape{}%

```

Low-level patches for `\UseVerbatim` and friends:

```

146 \let\LWRFB@UseVerbatim\UseVerbatim
147 \renewcommand*\UseVerbatim[1]{%
148     \LWR@atbeginverbatim{Verbatim}%
149     \LWRFB@UseVerbatim{#1}%
150     \LWR@afterendverbatim%
151 }
152
153 \let\LWRFB@LUseVerbatim\LUseVerbatim
154
155 \renewcommand*\LUseVerbatim[1]{%
156     \LWR@atbeginverbatim{LVerbatim}%
157     \noindent%
158     \LWRFB@LUseVerbatim{#1}%
159     \LWR@afterendverbatim%
160 }
161
162 \def@\BUseVerbatim[#1]{%
163     \LWR@atbeginverbatim{BVerbatim}%
164     \LWRFB@UseVerbatim{#2}%
165     \LWR@afterendverbatim%
166 }
```

File 151 **`l warp-fancyhdr.sty`**

§ 260 Package **fancyhdr**

(Emulates or patches code by PIET VAN OOSTRUM.)

Pkg fancyhdr

fancyhdr is ignored.

**for HTML output:** Discard all options for `l warp-fancyhdr`:

```

1 \LWR@ProvidesPackageDrop{fancyhdr}[2021/01/04]

2 \newcommand*\fancyhead[2][]{}
3 \newcommand*\fancyfoot[2][]{}
4 \newcommand*\fancyhf[2][]{}
5
6 \newcommand*\lhead[2][]{}
7 \newcommand*\chead[2][]{}
8 \newcommand*\rhead[2][]{}
9 \newcommand*\lfoot[2][]{}
10 \newcommand*\cfoot[2][]{}
11 \newcommand*\rfoot[2][]{}
12 \newcommand*\headrulewidth(){}
13 \newcommand*\footrulewidth(){}
14 \providecommand{\headruleskip}{0pt}
15 \providecommand{\footruleskip}{0pt}
16 \newcommand{\plainheadrulewidth}{0pt}
17 \newcommand{\plainfootrulewidth}{0pt}
18 \def\fancyplain#1#2{#1}
19 \newcommand*\headrule(){}
20 \newcommand*\footrule){}
21 \newlength{\headwidth}
22 \newcommand*\fancycenter[1][1em]{}
```

---

```

23 \newcommand*\fancyheadoffset}[2][]{}
24 \newcommand*\fancyfootoffset}[2][]{}
25 \newcommand*\fancyhfoffset}[2][]{}
26 \newcommand{\fancyheadinit}[1]{}
27 \newcommand{\fancyfootinit}[1]{}
28 \newcommand{\fancyhfinit}[1]{}
29 \newcommand*\iffloatpage}[2]{#2}
30 \newcommand*\ifftopfloat}[2]{#2}
31 \newcommand*\iffbotfloat}[2]{#2}
32 \newcommand*\ifffootnote}[2]{#2}
33
34 \newcommand{\fancypagestyle}[1]{%
35   \ifnextchar[\f@nch@pagestyle{#1}]{\f@nch@pagestyle{#1}[]}{%
36 }
37 \long\def\f@nch@pagestyle#1[#2]#3{%

```

---

### File 152 **l warp-fancypar.sty**

§ 261      Package **fancypar**

*(Emulates or patches code by GONZALO MEDINA.)*

Pkg    fancypar

fancypar is used as-is for print output, and emulated for HTML.

⚠ **css classes** \NotebookPar and related are used as-is inside a `\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 153 **l warp-fancyref.sty**

§ 262      Package **fancyref**

*(Emulates or patches code by AXEL REICHERT.)*

Pkg    fancyref                        fancyref is modified for HTML output.

**for HTML output:**    1 \LWR@ProvidesPackagePass{fancyref}[1999/02/03]

Hook [fancyref] \fancyrefhook        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 \ifdefstrelqual{\fancyrefhook}{\LWRfref@parenfancyrefhook}
5 {}{
6     \renewcommand*\fancyrefhook[1]{#1}%
7 }

```

---

### File 154 **l warp-fancytabs.sty**

§ 263      Package **fancytabs**

Pkg    fancytabs                        fancytabs is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{fancytabs}[2016/03/29]

---

```

2 \newcommand{\fancytab}[3][RIGHT]{}
3 \newcommand{\fancytabsStyle}[1]{}
4 \newcommand{\fancytabsHeight}[1]{}
5 \newcommand{\fancytabsWidth}[1]{}
6 \newcommand{\fancytabsCount}[1]{}
7 \newcommand{\fancytabsLeftColor}[1]{}
8 \newcommand{\fancytabsRightColor}[1]{}
9 \newcommand{\fancytabsTop}[1]{}
10 \newcommand{\fancytabsTextVPos}[1]{}
11 \newcommand{\fancytabsTextHPos}[1]{}
12 \newcommand{\fancytabsGap}[1]{}
13 \newcommand{\fancytabsFloor}[1]{}
14 \newcommand{\fancytabsRotate}[1]{}

```

---

File 155 **l warp-fancyvrb.sty**

§ 264 Package **fancyvrb**

*(Emulates or patches code by TIMOTHY VAN ZANDT.)*

Pkg fancyvrb

**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**

⚠ **sectioning 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\@footnote%
10     \let\LWR@footnotetext\@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 \LWR@htmlltagc{\LWR@tagregularparagraph}\LWR@orignewline%
```

Append the footnote mark to the list:

```
22 \@makefnlist{}%
```

The footnote text will follow after \V@@@footnotetext has completed.

```

23 \bgroup%
24 \aftergroup\V@@@footnotetext%

```

Do not generate autopages inside the footnotes, since they are accumulated at the moment before finally being used perhaps on a later page.

```

25 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
26 \ignorespaces%
27 }%

```

\V@@@footnotetext

```

28 \def\V@@@footnotetext{%
29   \LWR@origtilde\LWR@orignewline%
30   \LWR@htmlltagc{/}\LWR@tagregularparagraph}\LWR@orignewline%
31   \strut\egroup%
32 }%

```

```

33 \preto\FVB@Verbatim{\LWR@forcenewpage}
34 \preto\FVB@LVerbatim{\LWR@forcenewpage}
35 % \preto\FVB@BVerbatim{\LWR@forcenewpage}% Fails, so done below.

```

Simplified to remove PDF formatting:

```

36 \def\FV@BeginListFrame@Single{%
37   \FV@SingleFrameLine{\z@}%
38 }
39
40 \def\FV@EndListFrame@Single{%
41   \FV@SingleFrameLine{\@ne}%
42 }
43
44 \def\FV@BeginListFrame@Lines{%
45   \FV@SingleFrameLine{\z@}%
46 }
47
48 \def\FV@EndListFrame@Lines{%
49   \FV@SingleFrameLine{\@ne}%
50 }
51
52 \renewcommand*{\FV@SingleFrameSep}{}

```

Adds HTML formatting:

```

53 \def\FV@BUseVerbatim#1{%
54   \FV@BVerbatimBegin#1\FV@BVerbatimEnd%
55 }

```

\LWR@FVstyle Holds the style of the verbatim.

```
56 \newcommand*{\LWR@FVstyle}{}%
```

The following patches to `Verbatim` are executed at the start and end of the environment, depending on the choice of frame. Original code is from the `fancyvrb` package.

```

57 \newcommand*{\LWR@fvstartnone}{%
58 \LWR@traceinfo{fvstartnone}%
59 % \hbox to\z@{%
60 \BlockClass[\LWR@FVstyle]{fancyvrb}%
61 \LWR@stoppars%
62 \ifx\FV@LabelPositionTopLine\relax\else%
63   \ifx\FV@LabelBegin\relax\else%
64     \FancyVerbRuleColor{\LWR@FVfindbordercolor}%
65     \LWR@htmlltagc{%
66       div class=\textquotedbl{}fancyvrblabel\textquotedbl\ % space%
67       style=\textquotedbl{}color: \LWR@origpound\LWR@tempcolor\textquotedbl%
68     }%
69     \LWR@print@textrm{\FV@LabelBegin}%
70     \LWR@htmlltagc{/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@texrm{\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@fvstartsingle%
151 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
152 \let\FV@RightListFrame\FV@RightListFrame@Single%
153 \let\FV@EndListFrame\LWR@fvendsingle}
154
155 \def\FV@Frame@lines{%
156 \renewcommand*{\LWR@FVstyle}{%
157   \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
158   \LWR@FVborderstyle{-top}%
159   \LWR@indentHTMLtwo%
160   \LWR@FVborderstyle{-bottom}%
161 }%
162 \let\FV@BeginListFrame\LWR@fvstartline%
163 \let\FV@LeftListFrame\relax%
164 \let\FV@RightListFrame\relax%
165 \let\FV@EndListFrame\LWR@fvendline}
166
167 \def\FV@Frame@topline{%
168 \renewcommand*{\LWR@FVstyle}{%
169   \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
170   \LWR@FVborderstyle{-top}%
171 }%
172 \let\FV@BeginListFrame\LWR@fvstartline%
173 \let\FV@LeftListFrame\relax%
174 \let\FV@RightListFrame\relax%
175 \let\FV@EndListFrame\LWR@fvendnone}
176
177 \def\FV@Frame@bottomline{%
178 \renewcommand*{\LWR@FVstyle}{%
179   \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
180   \LWR@FVborderstyle{-bottom}%
181 }%
182 \let\FV@BeginListFrame\LWR@fvstartnone%
183 \let\FV@LeftListFrame\relax%
184 \let\FV@RightListFrame\relax%
185 \let\FV@EndListFrame\LWR@fvendline}

```

Seems to be required in some situations:

```

186 \def\FV@FrameFillLine{}%
187 \def\FV@Frame@Leftline{%
188 \renewcommand*{\LWR@FVstyle}{%
189   \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
190   \LWR@FVborderstyle{-left}%
191 }%
192 % To define the \FV@FrameFillLine macro (from \FV@BeginListFrame)

```

```

193 \ifx\FancyVerbFillColor\relax%
194 \let\FV@FrameFillLine\relax%
195 \else%
196 \tempdima\FV@FrameRule\relax%
197 \multiply\tempdima-\tw@%
198 \edef\FV@FrameFillLine{%
199 {\noexpand\FancyVerbFillColor{\vrule\@width\number\tempdima sp}}%
200 \kern-\number\tempdima sp}}}%
201 \fi%
202 \let\FV@BeginListFrame\LWR@fvstartnone%
203 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
204 \let\FV@RightListFrame\relax%
205 \let\FV@EndListFrame\LWR@fvendnone}

```

Adds the optional label to the top and bottom edges. Original code is from the **fancyvrb** package.

```

206 \def\FV@SingleFrameLine#1{%
207 %   \hbox to\z@{%
208 %     \kern\leftmargin
209 %     \ifnum#1=\z@\relax
210 %       \let\FV@Label\FV@LabelBegin
211 %     \else
212 %       \let\FV@Label\FV@LabelEnd
213 %     \fi
214 %     \ifx\FV@Label\relax
215 %       \FancyVerbRuleColor{\vrule \@width\ linewidth \@height\ FV@FrameRule}%
216 %     \else
217 %       \ifnum#1=\z@
218 %         \setbox\z@\hbox{\strut\enspace\FV@LabelBegin\enspace\strut}%
219 %         \ifx\FV@LabelPositionTopLine\relax
220 %           \else
221 %             \fi
222 %         \else
223 %           \setbox\z@\hbox{\strut\enspace\FV@LabelEnd\enspace\strut}%
224 %           \ifx\FV@LabelPositionBottomLine\relax
225 %             \else
226 %               \fi
227 %             \fi
228 %           \fi
229 %         \hss
230 %       }
231 }

```

Processes each line, adding optional line numbers. Original code is from the **fancyvrb** package.

```

232 \def\FV@ListProcessLine#1{%
233   \hbox to \hsize{%
234 %     \kern\leftmargin
235   \hbox to \VerbatimHTMLWidth {%
236     \ifcsvvoid{\FV@LeftListNumber}{}{\kern 2.5em}%
237     \FV@LeftListNumber%
238 %     \FV@LeftListFrame
239     \FancyVerbFormatLine{#1}%
240     \hss%
241 %     \FV@RightListFrame
242     \FV@RightListNumber%
243   }%

```

```

244      \hss% required to avoid underfull hboxes
245 }
246 }

247 \def\FV@ListProcessLine@i#1{%
248 %   \hbox{%
249 %     \ifvoid\@labels\else
250 %       \hbox to \z@\kern\@totallleftmargin\box\@labels\hss}%
251 %     \fi
252 %   \FV@ListProcessLine{#1}%
253 % }%
254 % \let\FV@ProcessLine\FV@ListProcessLine@ii%
255 }

256 \def\FV@ListProcessLastLine{}
```

Env **BVerbatim**

```

257
258 \xpretocmd{\FV@BeginVBox}
259 {%
260 %   \LWR@forcenewpage% instead of \preto
261 %   \LWR@atbeginverbatim{bverbatim}%
262 % }
263 {%
264 %   \LWR@patcherror{fancyvrb}{FV@BeginVBox}%
265
266 \xapptocmd{\FV@EndVBox}
267 {%
268 %   \LWR@afterendverbatim%
269 % }
270 {%
271 %   \LWR@patcherror{fancyvrb}{FV@EndVBox}}}
```

End of the modifications to make at the end of the preamble:

```
272 } % \AfterEndPreamble
```

### File 156 **l warp-fbox.sty**

§ 265 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}[2022/02/20]

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

{&lt;1: top/bottom/left/right&gt;} {&lt;2: t/b/l/r&gt;} {&lt;3: padding, or empty&gt;}

Accumulates HTML styles for border, and padding if given:

```

4 \newcommand*{\LWR@fboxpkg@border}[3]{%
5   \colorlet{\LWR@border@color}{\csuse{fbox@#2color}}%
6   \protect\convertcolorspec[named]{\LWR@border@color}{HTML}\LWR@tempbordercolor\relax%
7   \appto{\LWR@tempone}{%
8     border-#1: % space
9     \LWR@printlength{\LWR@atleastonept} % space
10    solid \LWR@origpound%
11  }%
12 \expandafter\appto\expandafter{\LWR@tempone}\expandafter{\LWR@tempbordercolor}%
13 \appto{\LWR@tempone}{ ;\LWR@indentHTML}%
14 \ifblank{#3}{ }{%
15   \appto{\LWR@tempone}{%
16     padding-#1: \LWR@printlength{#3} ;\LWR@indentHTML
17   }%
18 }%
19 }
```

A hack to reuse the same code for inline and blocks:

```

20 \newbool{\LWR@fboxpkg@ispar}
21 \boolfalse{\LWR@fboxpkg@ispar}
```

Accumulate HTML styles for left and right padding, depending on \if@fbox@space@left, \if@fbox@space@right:

```

22 \newcommand{\LWR@fboxpkg@lrpadding}[1]{%
23   \csuse{\if@fbox@space@#1}{%
24     \appto{\LWR@tempone}{%
25       padding-#1: \LWR@printlength{\fbox@@sep};\LWR@indentHTML
26     }%
27   \else%
28     \appto{\LWR@tempone}{%
29       padding-#1: 0pt;\LWR@indentHTML
30     }%
31   \fi%
32 }
```

The HTML version, modified to use HTML styles and either an \InlineClass or BlockClass:

```
33 \newcommand{\LWR@HTML@FBox@iii}[1]{%
```

Find and set the text color, rule width, margin:

```

34   \LWR@forceminwidth{\fbox@@rule}%
35   \LWR@findcurrenttextcolor%
36   \def{\LWR@tempone}{%
37     color: \LWR@origpound\LWR@tempcolor ; \LWR@indentHTML
38     margin: 1ex ; \LWR@indentHTML
39   }%
```

Add left/right padding:

```

40   \LWR@fboxpkg@lrpadding{left}%
41   \LWR@fboxpkg@lrpadding{right}%
```

Per the original to decode the borders, in a new way:

```

42 \ifnum\the\@tempcntb>8\relax
43     \advance\@tempcntb by -8\relax
44     \LWR@fboxpkg@border{top}{t}{\fbox@@sep}%
45 \fi
46 \ifnum\@tempcntb>3
47     \advance\@tempcntb by -4\relax
48     \LWR@fboxpkg@border{left}{l}{}
49 \fi
50 \ifnum\@tempcntb>1\relax
51     \LWR@fboxpkg@border{right}{r}{}
52 \fi
53 \ifodd\@tempcntb
54     \LWR@fboxpkg@border{bottom}{b}{\fbox@@sep}%
55 \fi

```

Generate a `BlockClass` or `\InlineClass` with the contents:

```

56 \color@begingroup
57 \ifbool{\LWR@fboxpkg@ispar}{%
58     {%
59         \begin{BlockClass}[\LWR@tempone]{fboxpkg}%
60             #1%
61         \end{BlockClass}%
62     }%
63     {%
64         \begin{InlineClass}[\LWR@tempone]{fboxpkg}%
65             #1%
66         \end{InlineClass}%
67     }%
68 \color@endgroup
69 \boolfalse{\LWR@fboxpkg@ispar}{} globally
70 }
71 \LWR@formatted{FBox@iii}

```

For `\fparbox`, set the use of `BlockClass`, then reuse the above:

```

72 \long\def\LWR@HTML@FParBox@i[#1]#2{%
73     \booltrue{\LWR@fboxpkg@ispar}%
74     \FBox@i[#1]{#2}%
75 }
76 \LWR@formatted{FParBox@i}
77
78 \long\def\LWR@HTML@FParBox@ii#1{%
79     \booltrue{\LWR@fboxpkg@ispar}%
80     \FBox@i[tblr]{#1}%
81 }
82 \LWR@formatted{FParBox@ii}

```

For `MATHJAX`, absorb and ignore star and optional arguments:

```

83 \CustomizeMathJax{\let\LWRorigfbox\fbox}
84 \CustomizeMathJax{\newcommand{\LWRfboxpkgtwo}[2][]{\LWRorigfbox{#2}}}
85 \CustomizeMathJax{\renewcommand{\fbox}{\ifstar\LWRfboxpkgtwo\LWRfboxpkgtwo}}
86 \CustomizeMathJax{\newcommand{\fparbox}{\fbox}}

```

---

**File 157 l warp-fewerfloatpages.sty**

§ 266      Package **fewerfloatpages**

Pkg    fewerfloatpages      fewerfloatpages is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{fewerfloatpages}[2020/02/14]  
                          2 \newcommand\floatpagekeepfraction{\textfraction}  
                          3 \newcounter{floatpagedeferlimit}  
                          4 \newcounter{floatpagekeeplimit}

---

---

**File 158 l warp-figcaps.sty**

§ 267      Package **figcaps**

(Emulates or patches code by PATRICK W. DALY.)

Pkg    figcaps      figcaps is ignored.

**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 159 l warp-figsize.sty**

§ 268      Package **figsize**

(Emulates or patches code by ANTHONY A. TANBAKUCHI.)

Pkg    figsize      figsize is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{figsize}[2002/03/18]

Emulates a virtual 6×9 inch textsize.

2 \newlength\figwidth  
3 \newlength\figheight  
4  
5 \newcommand\SetFigLayout[3][0]{%

---

```

6 \setlength{\figheight}{8in}%
7 \setlength{\figheight}{\figheight / #2}%
8 %
9 \setlength{\figwidth}{5.5in}%
10 \setlength{\figwidth}{\figwidth / #3}%
11 }

```

---

File 160 **l warp-fitbox.sty**

§ 269 Package **fitbox**

Pkg fitbox fitbox is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fitbox}[2019/02/20]

```

2 \NewDocumentCommand{\fitbox}{s o m}{%
3   \begin{BlockClass}{fitbox}
4     #3
5   \end{BlockClass}
6 }
7
8 \newcommand*\fitboxset[1]{}%
9
10 \newdimen\fitboxnateight
11 \newdimen\fitboxnatwidth
12
13 \newcommand\SetFitboxLayout[3][]{}

```

---

File 161 **l warp-fix2col.sty**

§ 270 Package **fix2col**

Pkg fix2col fix2col is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fix2col}[2015/11/13]

---

File 162 **l warp-fixmath.sty**

§ 271 Package **fixmath**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg fixmath fixmath is used as-is for SVG math, and emulated for MATHJAX.

**⚠ limitations** MATHJAX does not have full font support for bold italic Greek.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fixmath}[2000/04/11]

```

2 \LWR@origRequirePackage{l warp-common-mathjax-letters}%
3
4 \begin{warpMathJax}

```

---

```

5 \LWR@mathjax@addgreek@u@it*{}{}
6 \LWR@mathjax@addletter{\BooleanTrue}{up}{}{\delta}{\delta}
7 \LWR@mathjax@addletter{\BooleanTrue}{up}{}{\omega}{\omega}
8 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
9 \end{warpMathJax}
```

---

File 163 **lwarf-fixme.sty**

§ 272 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 164 **l warp-fixmetodonotes.sty**

§ 273 Package **fixmetodonotes**

*(Emulates or patches code by GIOELE BARABUCCI.)*

Pkg fixmetodonotes fixmetodonotes is patched for use by l warp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{fixmetodonotes}[2013/04/28]

2 \renewcommand{\NOTES@addtolist}[2]{%
3     \refstepcounter{NOTES@note}%
4 %    \phantomsection% REMOVED
5     \addcontentsline{notes}{NOTES@note}{%
6         \protect\numberline{\theNOTES@note}{\#1}: \#2}%
7 }
8
9
10 \renewcommand{\NOTES@marker}[2]{\fbox{%
11     \textcolor{\#2}{% WAS \color
12         \textbf{\#1}}%
13 }}%
14
15 \renewcommand{\NOTES@colorline}[2]{%

```

---

```

16 \bgroup%
17   \ULon{\LWR@backgroundcolor{#1}{#2}}%
18 }

```

---

File 165 **l warp-flafter.sty**

§ 274 Package **flafter**

Pkg flafter flafter is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{flafter}[2018/01/08]  
2 \providecommand\fl@trace[1]{}  

---

File 166 **l warp-flippdf.sty**

§ 275 Package **flippdf**

Pkg flippdf flippdf is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{flippdf}[2006/06/30]  
2 \newcommand\FlipPDF{}  
3 \newcommand\UnFlipPDF{}  

---

File 167 **l warp-float.sty**

§ 276 Package **float**

(Emulates or patches code by ANSELM LINGNAU.)

Pkg float float is emulated.

Float styles boxed and ruled are emulated by css and a float class according to style.

The HTML <figure> class is set to the float type, so css may also be used to format the float and its caption, according to float type. Furthermore, an additional class is set to the float style: plain, plaintop, boxed, or ruled, so css may be used to format by float style as well. Default formatting by css is provided for ruled and boxed styles.

**⚠ not seem to be a floating environment**  
**for HTML output:** Always declare a \newfloat before modifying it with \floatname, etc.  
1 \LWR@ProvidesPackageDrop{float}[2001/11/08]

\LWR@floatstyle The default float style.

2 \newcommand\*\{\LWR@floatstyle\}{plain}

\newfloat

{*1: type*} {*2: placement*} {*3: ext*} [*4: within*] 

Emulates the \newfloat command from the float package.

“placement” is ignored.

```

3 \NewDocumentCommand{\newfloat}{m m m o}{%
4   \IfValueTF{#4}{%
5     {\DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}}{%
6       {\DeclareFloatingEnvironment[fileext=#3]{#1}}{%

```

Remember the float style:

```
7   \csedef{\LWR@floatstyle@#1}{\LWR@floatstyle}{%
```

newfloat package automatically creates the \listof command for new floats, but float does not, so remove \listof here in case it is manually created later.

```

8   \cslet{\listof#1s}\relax{%
9   \cslet{\listof#1es}\relax{%
```

Likesize, newfloat also creates \l@&lt;type&gt;, but float does not, so remove it here:

```

10  \cslet{\l@#1}\relax{%
11 }{}
```

\floatname

{*type*} {*name*} Sets the text name of the float, such as “Figure”. Avoids trying to set a recursive name, from trivfloat.

```

12 \NewDocumentCommand{\floatname}{m +m}{%
13   \def{\LWR@tempone}{#2}{%
14   \def{\LWR@temptwo}{\@nameuse{#1name}}{%
15   \ifdefequal{\LWR@tempone}{\LWR@temptwo}{%
16     \SetupFloatingEnvironment{#1}{name=#2}{%
17   }{%
18 }{}}
```

\floatplacement

{*type*} {*placement*}

Float placement is ignored.

```

19 \newcommand*{\floatplacement}[2]{%
20   \SetupFloatingEnvironment{#1}{placement=#2}{%
21 }{}}
```

\floatstyle

{*style*}

Remember the style for future floats:

```

22 \newcommand{\floatstyle}[1]{%
23   \def{\LWR@floatstyle}{#1}{%
24 }{}}
```

\restylefloat

\* {*type*}

Remember the style for this float:

```

25 \NewDocumentCommand{\restylefloat}{s m}{%
26   \csedef{\LWR@floatstyle@#2}{\LWR@floatstyle}{%
27 }{}}
```

\listof

See section 78.2 for the \LWR@listof command in the l warp core.

28 \newcommand{\listof}{\LWR@listof}

File 168 **l warp-floatflt.sty**§ 277      Package **floatflt**

(Emulates or patches code by MATS DAHLGREN.)

Pkg floatflt

floatflt is emulated.

**for HTML output:** Discard all options for l warp-floatflt:

1 \LWR@ProvidesPackageDrop{floatflt}[1997/07/16]

Env [⟨⟩]

offset {⟨type⟩} {⟨width⟩} Borrowed from the l warp version of keyfloat:

```

2 \NewDocumentEnvironment{KFLTfloatflt@marginfloat}{O{-1.2ex} m m}
3 {%
4     \begin{LWR@setvirtualpage}%
5     \ifblank{#3}{%
6         \LWR@BlockClassWP{%
7             float:right; %
8             width: 1.5in; % reasonable dummy width for word processor
9             margin:10pt%
10        }%
11        (note)%
12        {marginblock}%
13    }%
14    \setlength{\LWR@templengthone}{#3}%
15    \LWR@BlockClassWP{%
16        float:right; %
17        width:\LWR@printlength{\LWR@templengthone}; % extra space
18        margin:10pt%
19    }%
20    width:\LWR@printlength{\LWR@templengthone}%
21    }%
22    (note)%
23    {marginblock}%
24 }%
25 \renewcommand*\@capttype{#2}%
26 }
27 {%
28     \endLWR@BlockClassWP%
29     \end{LWR@setvirtualpage}%
30 }
```

Env floatingfigure

[⟨placement⟩] {⟨width⟩}

```

31 \DeclareDocumentEnvironment{floatingfigure}{o m}
32 { \begin{KFLTfloatflt@marginfloat}{figure}{#2} }
33 { \end{KFLTfloatflt@marginfloat} }
```

Env floatingtable

[⟨placement⟩]

34 \DeclareDocumentEnvironment{floatingtable}{o}

---

```
35 {\begin{KFLTfloatfl@marginfloat}{table}{}}
36 {\end{KFLTfloatfl@marginfloat}}
```

---

File 169 **l warp-floatpag.sty**

§ 278 Package **floatpag**

*(Emulates or patches code by VYTAΣ STATULEVIČIUS AND SIGITAS TOLUŠIS.)*

Pkg floatpag

floatpag is ignored.

Discard all options for l warp-floatpag:

```
1 \LWR@ProvidesPackageDrop{floatpag}[2012/05/29]
2 \newcommand*\{\floatpagestyle}[1]{}
3 \newcommand*\{\rotfloatpagestyle}[1]{}
4 \newcommand*\{\thisfloatpagestyle}[1]{}
```

---

File 170 **l warp-floatrow.sty**

§ 279 Package **floatrow**

*(Emulates or patches code by OLGA LAPKO.)*

Pkg floatrow

floatrow is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{floatrow}[2008/08/02]

⚠ Misplaced alignment tab character &

Use \StartDefiningTabulars and \StopDefiningTabulars before and after defining macros using \ttabbox with a tabular inside. See section 8.10.1.

⚠ 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. 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.

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 \IfPackageLoadedTF{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 +m +m}{%
10 \ifbool{LWR@subcaptionloaded}{%
11 {%
12   \ifbool{LWR@insubfloatrow}{%
13     {%
14       \IfValueTF{#3}{%
15         {\@nameuse{sub#2}{#3}}{%
16           {\@nameuse{sub#2}{\linewidth}}{%
17             }{%
18               }{%
19                 \@nameuse{#2}{%
20                   }{%
21                     #6{%
22                     }{%
23                     #7{%
24           \ifbool{LWR@insubfloatrow}{%
25             {\@nameuse{endsub#2}}{%
26               {\@nameuse{end#2}}{%
27             }{%
28             {%
29               \ifbool{LWR@insubfloatrow}{%
30                 {%
31                   \begingroup{%
32                     \let\caption\@firstofone{%
33                     \subfloat[#6]{#7}}{%
34                     \endgroup{%
35                   }{%
36                 }{%
37               }{%
38             }{%
39           }{%
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```

\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}{}  
57 }

\newfloatcommand

{*1 command*} {*2 captype*} [*3 preamble*] [*4 default width*]

Preamble and default width are ignored.

57 \NewDocumentCommand{\newfloatcommand}{m m o o}{%  
58 \@namedef{#1}{  
59 \floatbox{#2}  
60 }  
61 }

\renewfloatcommand

{*1 command*} {*2 captype*} [*3 preamble*] [*4 default width*]

Preamble and default width are ignored.

62 \NewDocumentCommand{\renewfloatcommand}{m m o o}{%  
63 \@namedef{#1}{%  
64 \floatbox{#2}  
65 }  
66 }

\ffigbox

[*width*] [*height*] [*vposn*] {*caption commands*} {*contents*}

67 \newfloatcommand{ffigbox}{figure}[\nocapbeside][]

\ttabbox

[*width*] [*height*] [*vposn*] {*caption commands*} {*contents*}

68 \newfloatcommand{ttabbox}{table}[\captop][\FBwidth]

\fcapside

[*width*] [*height*] [*vposn*] {*caption commands*} {*contents*}

69 \newfloatcommand{fcapside}{figure}[\capbeside][]

Env floatrow

[*<numfloats>*]

The row of floats is placed into a <div> of class floatrow.

```
70 \newenvironment*{floatrow}[1][2]
71 {%
72     \begin{LWR@setvirtualpage}%
73     \BlockClass{floatrow}%
74 }
75 {
76     \endBlockClass%
77     \end{LWR@setvirtualpage}%
78 }
```

Keys for \DeclareNewFloatType:

```
79 \newcommand*{\LWR@frowkeyplacement}{}%
80 \newcommand*{\LWR@frowkeyname}{}%
81 \newcommand*{\LWR@frowkeyfileext}{}%
82 \newcommand*{\LWR@frowkeywithin}{}%
83 \newcommand*{\LWR@frowkeycapstyle}{}%
84
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 }%
113 \LWR@traceinfo{finished newfloat #1}%
114 }
```

```
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}
```

[<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     \endgroup%
```

```
146     \endBlockClass%
147     \boolfalse{LWR@insubfloatrow}%
148 }
```

---

**File 171 l warp-fltrace.sty****§ 280 Package fltrace**

Pkg fltrace fltrace is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fltrace}[2018/01/08]

```
2 \def\tracefloats{}
3 \def\tracefloatsoff{}
4 \def\tracefloatvals{}
```

---

**File 172 l warp-flushend.sty****§ 281 Package flushend**

(Emulates or patches code by SIGITAS TOLUŠIS.)

Pkg flushend flushend is ignored.

**for HTML output:** Discard all options for l warp-flushend:

```
1 \LWR@ProvidesPackageDrop{flushend}[2021/10/04]
2 \newcommand*\flushend(){}
3 \newcommand*\raggedend(){}
4 \newcommand*\flushcsend(){}
5 \newcommand*\raggedcsend(){}
6 \newtoks\atColsBreak \atColsBreak={}
7 \newtoks\atColsEnd \atColsEnd={}
8 \newcommand*\showcsendrule{}
```

---

**File 173 l warp-fnbreak.sty****§ 282 Package fnbreak**

Pkg fnbreak fnbreak is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnbreak}[2012/01/01]

```
2 \newcommand*\fnbreakverbose{}
3 \newcommand*\fnbreaknonverbose){}
4 \newcommand*\fnbreaklabel(){}
5 \newcommand*\fnbreaknolabel{}
```

---

File 174 **l warp-fncychap.sty**

§ 283 Package **fncychap**

(Emulates or patches code by ULF A. LINDGREN.)

Pkg fncychap

fncychap is ignored.

for HTML output: Discard all options for l warp-fncychap:

```
1 \LWR@ProvidesPackageDrop{fncychap}[2007/07/30]

2 \def\mghrulefill#1{}
3 \def\ChNameLowerCase{}
4 \def\ChNameUpperCase{}
5 \def\ChNameAsIs{}
6 \def\ChTitleLowerCase{}
7 \def\ChTitleUpperCase{}
8 \def\ChTitleAsIs{}
9 \newcommand{\ChRuleWidth}[1]{}
10 \newcommand{\ChNameVar}[1]{}
11 \newcommand{\ChNumVar}[1]{}
12 \newcommand{\ChTitleVar}[1]{}
13 \newcommand{\TheAlphaChapter}{}
14 \newcommand{\DOCH}{}
15 \newcommand{\DOTI}[1]{}
16 \newcommand{\DOTIS}[1]{}
17 \newlength{\mylen}
18 \newlength{\myhi}
19 \newlength{\px}
20 \newlength{\py}
21 \newlength{\ppy}
22 \newlength{\pxx}
23 \newlength{\RW}
24 \newcommand{\FmN}[1]{#1}
25 \newcommand{\FmTi}[1]{#1}
```

---

File 175 **l warp-fnlineno.sty**

§ 284 Package **fnlineno**

Pkg fnlineno

fnlineno is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fnlineno}[2011/01/07]

---

File 176 **l warp-fnpara.sty**

§ 285 Package **fnpara**

Pkg fnpara

fnpara is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnpara}

---

File 177 **l warp-fnpos.sty**

§ 286 Package **fnpos**

(Emulates or patches code by HIROSHI NAKASHIMA.)

Pkg fnpos

fnpos is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnpos}[1999/07/14]

```
2 \newcommand*{\makeFNbottom}{}  
3 \newcommand*{\makeFNmid}{}  
4 \newcommand*{\makeFNbelow}{}  
5 \newcommand*{\makeFNabove}{}  
6  
7
```

---

File 178 **l warp-fontawesome.sty**

§ 287 Package **fontawesome**

(Emulates or patches code by XAVIER DANAUX.)

Pkg fontawesome

fontawesome is patched for use by l warp.

Hashed inline images are used, as there may not be Unicode support for all icons.

⚠ **poppler syntax warning**

If using PDF LATEX, *poppler* may issue a syntax warning regarding parsing a ligature component. XELATEX or LuaLATEX may be used to avoid this warning.

In the following, the general strategy is to intercept \symbol and embed it inside a lateximage. These changes are done inside a local group.

For PDF LATEX, the alt tag includes the icon (symbol) number. For XELATEX and LuaLATEX, the alt tag is generic.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fontawesome}[2016/05/15]

```
2 \LetLtxMacro\LWR@orig@\symbol\symbol  
3  
4 \ifxetexorluatex  
5  
6 \newfontfamily{\LWR@orig@FA}{FontAwesome}  
7  
8 \newcommand*{\LWR@fontawesome@xelatex@symbol}[1]{%  
9     \LWR@findcurrenttextcolor%  
10    \begin{lateximage}*[icon][fontawesomexetex#1SZ\LWR@font@size{}CL\LWR@tempcolor]%11    \csuse{\LWR@font@size}%  
12    \LWR@orig@FA%  
13    \LWR@orig@symbol{#1}%  
14    \end{lateximage}%  
15 }  
16  
17 \RenewDocumentCommand{\FA}{}{%
```

---

```

18     \LetLtxMacro\symbol\LWR@fontawesome@xelatex@symbol%
19 }
20
21 \else
22
23 \newcommand*{\LWR@fontawesome@symbolX}[2]{%
24     \LWR@findcurrenttextcolor%
25     \begin{lateximage}*[icon #1][fontawesome#2#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
26     \csuse{\LWR@font@size}%
27     \fontencoding{U}\fontfamily{fontawesome#2}\selectfont%
28     \LWR@orig@symbol{#1}%
29     \end{lateximage}%
30 }
31
32 \newcommand*{\LWR@fontawesome@symbolone}[1]{%
33     \LWR@fontawesome@symbolX{#1}{one}%
34 }
35
36 \newcommand*{\LWR@fontawesome@symboltwo}[1]{%
37     \LWR@fontawesome@symbolX{#1}{two}%
38 }
39
40 \newcommand*{\LWR@fontawesome@symbolthree}[1]{%
41     \LWR@fontawesome@symbolX{#1}{three}%
42 }
43
44 \renewrobustcmd\FAone{%
45     \LetLtxMacro\symbol\LWR@fontawesome@symbolone%
46 }
47
48 \renewrobustcmd\FAtwo{%
49     \LetLtxMacro\symbol\LWR@fontawesome@symboltwo%
50 }
51
52 \renewrobustcmd\FAthree{%
53     \LetLtxMacro\symbol\LWR@fontawesome@symbolthree%
54 }
55 \fi

```

---

### File 179 lwarf-fontawesome5.sty

§ 288      Package **fontawesome5**

*(Emulates or patches code by MARCEL KRÜGER.)*

Pkg fontawesome5

fontawesome5 is patched for use by lwarf.

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:n{%
4     \LWR@findcurrenttextcolor%
5     \cs_if_exist:cTF{c__fontawesome_slot_#2_tl}{%

```

---

```

6   \begin{lateximage}*[#2][fontawesome5#1SZ\LWR@font@size{}CL\LWR@tempcolor]
7     \csuse{\LWR@font@size}
8     \exp_last_unbraced:Nv
9       \__fontawesome_icon_at:nnnn
10      {c__fontawesome_slot_#2_tl}
11      {#1}{#2}
12    \end{lateximage}
13  }{
14    \msg_error:nnnx{fontawesome5}{icon-not-found}{#2}{#1}
15  }
16 }
17 \ExplSyntaxOff

```

---

File 180 **l warp–fontaxes.sty**

§ 289 Package **fontaxes**

(Emulates or patches code by ANDREAS BÜHMANN, MICHAEL UMMELS.)

**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}{}{\% duplicated by nfssext-cfr
3   \newcommand{\LWR@HTML@swshape}{}%
4   \LWR@formatted{swshape}%
5
6   \newrobustcmd{\LWR@HTML@textsw}[1]{#1}%
7   \LWR@formatted{textsw}%
8
9   \FilenameNullify{%
10     \LetLtxMacro\swshape\empty%
11     \LetLtxMacro\textsw\firstofone%
12   }%
13 }

```

---

File 181 **l warp–fontenc.sty**

§ 290 Package **fontenc**

If using PDF L<sup>A</sup>T<sub>E</sub>X, **l warp** used to require **fontenc** be loaded before **l warp**, but now **l warp** itself loads \fontenc with T1 encoding, which **l warp** requires. **fontenc** is now allowed to be loaded with another encoding after **l warp**.

**l warp–fontenc** is no longer necessary, but is still provided to overwrite older versions.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fontenc}[2017/04/05]

---

File 182 **l warp-footmisc.sty**

§ 291 Package **footmisc**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

footmisc is emulated.

l warp incidentally happens to emulate the stable option.

```
1 \LWR@ProvidesPackageDrop{footmisc}[2011/06/06]
```

Some nullified commands:

```
2 \newcommand{\footnotelayout}{}%
3 \newcommand{\setfnsymbol}[1]{}%
4 \NewDocumentCommand{\DefineFNsymbols}{s m o m}{}%
5
6 \newdimen\footnotemargin
7 \footnotemargin1.8em\relax
8
9 \newcommand*\hangfootparskip{0.5\baselineskip}
10 \newcommand*\hangfootparindent{0em}%
11
12 \let\pagefootnoterule\footnoterule
13 \let\mpfootnoterule\footnoterule
14 \def\splitfootnoterule{\kern-3\p@\hspace{0pt}\kern2.6\p@}%
15
16 \providecommand*\multiplefootnotemarker{3sp}
17 \providecommand*\multfootsep{,}
```

Using cleveref. \labelcref only prints the number of the object, not its type.

```
18 \providecommand*\footref[1]{\labelcref{#1}}
```

The following work as-is:

```
19 \newcommand\mpfootnotemark{%
20   \@ifnextchar[%%
21     \@xmpfootnotemark%
22   {%
23     \stepcounter\@mpfn%
24     \protected@edef\@thefnmark{\thempfn}%
25     \@footnotemark%
26   }%
27 }
28 \def\@xmpfootnotemark[#1]{%
29   \begingroup%
30   \csname c@\@mpfn\endcsname #1\relax%
31   \unrestored@protected@edef\@thefnmark{\thempfn}%
32   \endgroup%
33   \@footnotemark%
34 }
```

---

File 183 **l warp-footnote.sty**

§ 292 Package **footnote**

(Emulates or patches code by MARK WOODING.)

Pkg footnote

footnote is used with minor patches.

**for HTML output:** footnote patches \makefntext in a strange way. It must be restored to the expected definition before loading footnote, then replaced again after.

```

1 \long\def\@makefntext#1{\textsuperscript{\@thefnmark}~#1}
2
3 \LWR@ProvidesPackagePass{footnote}[1997/01/28]
4
5 \long\def\@makefntext#1{\textsuperscript{\@thefnmark}~{#1}}


6 \def\spewnotes{%
7   \endgroup%
8   \if@savingnotes\else\ifvoid\fn@notes\else\begingroup%
9     \let\@makefntext\empty%
10    \let\finalstrut\gobble%
11    \let\rule\gobbletwo%
12    \booltrue{\LWR@spewingnotes}%           l warp
13    \footnotetext{\unvbox\fn@notes}%
14  \endgroup\fi\fi%
15 }
16 \let\endsavenotes\spewnotes
17
18
19 \def\fn@fntext#1{%
20   \ifx\ifmeasuring@\@@undefined%
21     \expandafter\@secondoftwo\else\expandafter\@iden%
22   \fi%
23   {\ifmeasuring@\expandafter\@gobble\else\expandafter\@iden\fi}%
24   {%
25     \global\setbox\fn@notes\vbox{%
26       \unvbox\fn@notes%
27       \LWR@htmltagc{\LWR@tagregularparagraph}%
28       \LWR@orignewline%                   l warp
29       \fn@startnote%
30       \@makefntext{%
31         \rule{z}{\footnotesep}%
32         \ignorespaces%
33         #1%
34         \finalstrut\strutbox%
35       }%
36       \fn@endnote%
37     }%
38   }%
39 }
```

Removed print-version formatting:

```
40 \def\fn@startnote{%
```

```

41 %   \@parboxrestore%
42 \protected@edef\@currentlabel{\csname p@\@mpfn\endcsname\@thefnmark}%
43 %   \color@begingroup% *** conflicts with l warp
44 }
45
46 % \let\fn@endnote\color@endgroup% *** conflicts with l warp
47 \def\fn@endnote{%
48     \LWR@origtilde\LWR@newline%
49     \LWR@htmltagc{/ \LWR@tagregularparagraph}\LWR@newline%
50     \LWR@origtilde\LWR@newline%
51 }

```

Removed print-version formatting:

```

52 \def\fn@startfntext{%
53   \setbox\z@\vbox\bgroup%
54     \LWR@htmltagc{\LWR@tagregularparagraph}% l warp
55     \LWR@newline% l warp
56   \fn@startnote%
57   \fn@prefntext% Req'd for numbering.
58 %   \rule\z@\footnotesep%
59   \ignorespaces%
60 }
61

```

Removed print-version formatting, added closing paragraph tag:

```

62 \def\fn@endfntext{%
63   \fn@postfntext%
64   \LWR@origtilde\LWR@newline%
65   \LWR@htmltagc{/ \LWR@tagregularparagraph}%
66   \LWR@newline%
67   \egroup%
68   \begingroup%
69   \let\@makefntext\@empty%
70   \let\@finalstrut\@gobble%
71
71   \LetLtxMacro\rule\@gobbletwo%
72   \booltrue{\LWR@spewingnotes}% l warp
73   \footnotetext{\unvbox\z@}%
74   \endgroup%
75 }

```

These have been redefined, so re-\let them again:

```

76 \let\endfootnote\fn@endfntext
77 \let\endfootnotetext\endfootnote

```

File 184 **l warp-footnotebackref.sty**

§ 293      Package **footnotebackref**

Pkg    footnotebackref      footnotebackref is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{footnotebackref}[2012/07/01]

---

**File 185 l warp-footnotehyper.sty****§ 294 Package footnotehyper**

Pkg footnotehyper  
footnotehyper is a hyperref-safe version of footnote. For l warp, footnotehyper is emulated.

**for HTML output:** Discard all options for l warp-footnotehyper:

```
1 \RequirePackage{footnote}
2
3 \LWR@ProvidesPackageDrop{footnotehyper}[2018/01/23]
```

---

**File 186 l warp-footnoterange.sty****§ 295 Package footnoterange**

(Emulates or patches code by H.-MARTIN MÜNCH.)

Pkg footnoterange  
footnoterange is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{footnoterange}[2012/02/17]  
2 \csletcs{footnoterange}{footnoterange\*}  
3 \csletcs{endfootnoterange}{endfootnoterange\*}

---

**File 187 l warp-footnpag.sty****§ 296 Package footnpag**

Pkg footnpag  
footnpag is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{footnpag}

---

**File 188 l warp-foreign.sty****§ 297 Package foreign**

(Emulates or patches code by PHILIP G. RATCLIFFE.)

Pkg foreign  
foreign is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{foreign}[2012/09/25]  
2 \renewcommand\foreignabbrfont{\emph{}}

---

**File 189 l warp-forest.sty****§ 298 Package forest***(Emulates or patches code by SAŠO ŽIVANOVIC.)*

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 } l warp
20 } l warp
```

---

**File 190 l warp-fouridx.sty****§ 299 Package fouridx***(Emulates or patches code by STEFAN KARRMANN.)*

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}^{(\vphantom{#2}\hphantom{#1})}\phantom{#2}_{(\hphantom{#1}\hphantom{#2})}^{#5}_{#3}_{#4}%
6   }%
7 }%
8 \end{warpMathJax}
```

---

File 191 **l warp-fourier.sty**

§ 300 Package **fourier**

(Emulates or patches code by MICHEL BOVANI.)

Pkg fourier

fourier is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `sloped` and `upright` are honored for Greek characters, but MATHJAX cannot yet honor these for Latin characters.

The dedicated macros for upright and italic Greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fourier}[2020/03/03]

2

3 \LWR@infoprocessingmathjax{fourier}

4 \LWR@origRequirePackage{l warp-common-mathjax-letters}

5

6 \LWR@origRequirePackage{l warp-common-mathjax-overlaysymbols}

7

8 \begin{warpMathJax}

9

10 \IfPackageLoadedWithOptionsTF{fourier}{sloped}

11 {

12 \LWR@mathjax@addgreek@l@up{other}{}{}

13 \LWR@mathjax@addgreek@u@it\*{other}{}{}

14 }% sloped

15 {%- not sloped

16 \IfPackageLoadedWithOptionsTF{fourier}{upright}

17 {%- upright option

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 {%- neither sloped nor upright

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\varpartialdiff\partial}

`l warp_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{\unicodex{02AFD}}}}
43 \CustomizeMathJax{\newcommand{\thething}{\mathord{\unicodex{1F60E}}}}
44 \CustomizeMathJax{\newcommand{\nparallelslant}{%
45   \mathrel{\LWRoverlaysymbols{-}\unicodex{02AFD}}%}}
46 }
47 \CustomizeMathJax{\newcommand{\xswordsup}{\mathord{\unicodex{2694}}}}
48 \CustomizeMathJax{\newcommand{\xswordsdown}{\mathord{\unicodex{2694}}}}% up
49 \CustomizeMathJax{\newcommand{\notowns}{\mathrel{\unicodex{220C}}}}
50
51 \CustomizeMathJax{\newcommand{\iintop}{\mathop{\unicodex{222C}}\limits}}
52 \CustomizeMathJax{\newcommand{\iiintop}{\mathop{\unicodex{222D}}\limits}}
53 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicodex{222F}}\limits}}
54 \CustomizeMathJax{\let\oiintop\oiint}
55 \CustomizeMathJax{\newcommand{\oioint}{\mathop{\unicodex{2230}}\limits}}
56 \CustomizeMathJax{\let\oiintop\oioint}
57 \CustomizeMathJax{\newcommand{\slashint}{\mathop{\unicodex{2A0D}}\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{\scriptstyle\longrightarrow}{\stackrel{\scriptstyle\longleftarrow}{#1}}}}
65
66 \end{warpMathJax}
```

---

### File 192 **l warp-framed.sty**

§ 301      Package **framed**

*(Emulates or patches code by DONALD ARSENEAU.)*

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
3 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec

4 \renewenvironment{framed}
5 {%
6   \LWR@forcenewpage
7   \BlockClass{framed}%
8 }
9 {\endBlockClass}
10
11 \renewenvironment{oframed}
12 {%
13   \LWR@forcenewpage
14   \BlockClass{framed}%
15 }
```

```
16 {\endBlockClass}
17
18
19 \renewenvironment{shaded}
20 {%
21     \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
22     \LWR@forcenewpage
23     \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
24 }
25 {\endBlockClass}
26
27 \renewenvironment{shaded*}
28 {%
29     \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
30     \LWR@forcenewpage
31     \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
32 }
33 {\endBlockClass}
34
35
36 \renewenvironment{leftbar}{%
37     \LWR@forcenewpage
38     \BlockClass{framedleftbar}
39     \def\FrameCommand{}%
40     \MakeFramed {}
41 }%
42 {\endMakeFramed\endBlockClass}
43
44
45 \renewenvironment{snugshade}
46 {%
47     \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
48     \LWR@forcenewpage
49     \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
50 }
51 {\endBlockClass}
52
53 \renewenvironment{snugshade*}
54 {%
55     \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
56     \LWR@forcenewpage
57     \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
58 }
59 {\endBlockClass}
60
61 \let\oframed\framed
62 \let\endoframed\endframed
63
64
65 \RenewEnviron{titled-frame}[1]{%
66     \CustomFBox{\#1}{}{0pt}{0pt}{0pt}{0pt}{\BODY}%
67 }
```

*{<toptitle>} {<bottitle>} {<thickness top>} {<bottom>} {<left>} {<right>} {<text contents>}*

```
68 \renewcommand{\CustomFBox}[7]{%
69     \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
70     \LWR@forcenewpage
```

```

71  \begin{BlockClass}[border: 3px solid \LWR@origpound\LWR@tempcolor]{framed}%
72  \ifthenelse{\isempty{\#1}}{}{\% not empty
73    \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
74      \textcolor{TFTTitleColor}{\textbf{\#1}}%
75    \end{BlockClass}%
76  }% not empty
77
78  #7
79
80  \ifthenelse{\isempty{\#2}}{}{\% not empty
81    \convertcolorspec[named]{TFFrameColor}{HTML}\LWR@tempcolor%
82    \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
83      \textcolor{TFTTitleColor}{\textbf{\#2}}%
84    \end{BlockClass}%
85  }% not empty
86  \end{BlockClass}%
87 }

\TitleBarFrame
[⟨marker⟩] {⟨title⟩} {⟨contents⟩}
88 \renewcommand\TitleBarFrame[3][]{%
89   \CustomFBox%
90   {#2}{%
91     \fboxrule\fboxrule\fboxrule\fboxrule%
92   }{#3}%
93 }

94 \renewcommand{\TF@Title}[1]{#1}


```

Env MakeFramed

```

{⟨settings⟩}
95 \let\MakeFramed\relax
96 \let\endMakeFramed\relax
97
98 \NewEnviron{MakeFramed}[1]{%
99   \FrameCommand{\begin{minipage}{\linewidth}\BODY\end{minipage}}%
100 }


```

\fb@put@frame

```

{⟨frame cmd no split⟩} {⟨frame cmd split⟩}
101 \renewcommand*{\fb@put@frame}[2]{%
102   \relax%
103   \tempboxa%
104 }


```

File 193 **lwarf-froufrou.sty**

§ 302 Package **froufrou**

(Emulates or patches code by NELSON LAGO.)

Pkg froufrou

froufrou is patched for use by lwarf.

**for HTML output:** 1 \ProvidesPackage{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   \ifvoid{\setstretch}{\setstretch{\setspace@singlespace}}% normally 1
20   \setlength{\parskip}{0pt}
21   \noindent\centering\bgroup%
22     \begin{center}%
23       \begin{lateximage}*[\froufrou][\LWR@latestfroufrou]%
24         \@froufrouOrnament%
25       \end{lateximage}%
26     \end{center}%
27   \egroup\par
28 \egroup
29
30 \nopagebreak[4]\@froufrouspaceafter\nopagebreak[4]
31
32 \@froufrouFixSpacingAfter
33
34 \nopagebreak[3]
35
36 \@afterheading
37 }

```

---

File 194 **l warp-ftcap.sty**

§ 303 Package **ftcap**

Pkg ftcap ftcap is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ftcap}

---

File 195 **l warp-ftnright.sty**

§ 304 Package **ftnright**

Pkg ftnright ftnright is ignored.

**for HTML output:** Discard all options for l warp-ftnright:

1 \LWR@ProvidesPackageDrop{ftnright}[2014/10/28]

---

File 196 **l warp-fullminipage.sty**

§ 305 Package **fullminipage**

Pkg fullminipage **fullminipage** is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{fullminipage}[2014/07/06]
2 \newenvironment{fullminipage}[1][]{\{}{\}}
```

---

File 197 **l warp-fullpage.sty**

§ 306 Package **fullpage**

Pkg fullpage **fullpage** is ignored.

**for HTML output:** Discard all options for **l warp-fullpage**:

```
1 \LWR@ProvidesPackageDrop{fullpage}[1994/06/01]
```

---

File 198 **l warp-fullwidth.sty**

§ 307 Package **fullwidth**

(Emulates or patches code by MARCO DANIEL.)

Pkg fullwidth **fullwidth** is emulated.

A minipage is used, of no HTML width.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{fullwidth}[2011/11/18]
2 \newenvironment*{fullwidth}[1][]{\%
3 \minipage{fullwidth}%
4 \minipage{\linewidth}%
5 }%
6 {%
7 \endminipage%
8 }
```

---

File 199 **l warp-fvextra.sty**

§ 308 Package **fvextra**

(Emulates or patches code by GEOFFREY M. POORE.)

Pkg fvextra **fvextra** is patched for use by **l warp**.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{fvextra}[2019/02/04]
```

Ignored are `highlight`, `showtabs`, `obeytabs`, `tab`, `tabcolor`. Also ignored are all options regarding line breaking except `breaklines`, which is emulated as true.

`tabsize` is honored.

If line numbers on the right side are used along with `breaklines`, the line numbers will not be aligned.

```

2
3 \define@booleankey{FV}{obeytabs}%
4 %   {\let\fv@ObeyTabsInit\fv@@ObeyTabsInit}%
5   {\let\fv@ObeyTabsInit\relax}
6   {\let\fv@ObeyTabsInit\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%                      l warp
70 }
71
72
73 \newcommand*{\LWR@FV@linethensep}{%
74   \ifbool{\LWR@FV@breaklines}{%
75     {\theFancyVerbLine\kern\FV@NumberSep}%
76     {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}%
77 }
78
79 \newcommand*{\LWR@FV@septhenline}{%
80   \ifbool{\LWR@FV@breaklines}{%
81     {\kern\FV@NumberSep\theFancyVerbLine}%
82     {\hbox to\z@\{\kern\FV@NumberSep\theFancyVerbLine\hss\}}%
83 }
84
85 \xpatchcmd{\FV@Numbers@left}{%
86   {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}%
87   {\LWR@FV@linethensep}%
88   {}%
89   {\LWR@patcherror{fvextra}{FV@Numbers@left A}}%
90
91 \xpatchcmd{\FV@Numbers@left}{%
92   {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}%
93   {\LWR@FV@linethensep}%
94   {}%
95   {\LWR@patcherror{fvextra}{FV@Numbers@left B}}%
96
97 \xpatchcmd{\FV@Numbers@left}{%
98   {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}%
99   {\LWR@FV@linethensep}%
100  {}%
101  {\LWR@patcherror{fvextra}{FV@Numbers@left C}}%
102
103 \xpatchcmd{\FV@Numbers@right}{%
104   {\hbox to\z@\{\kern\FV@NumberSep\theFancyVerbLine\hss\}}%
105   {\LWR@FV@septhenline}%
106   {}%
107   {\LWR@patcherror{fvextra}{FV@Numbers@right A}}%
108
109 \xpatchcmd{\FV@Numbers@right}{%
110   {\hbox to\z@\{\kern\FV@NumberSep\theFancyVerbLine\hss\}}%
111   {\LWR@FV@septhenline}%
112   {}%
113   {\LWR@patcherror{fvextra}{FV@Numbers@right B}}}
```

```

114
115 \xpatchcmd{\FV@Numbers@right}
116   {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}
117   {\LWR@FV@linethensep}
118   {}
119   {\LWR@patcherror{fvextra}{FV@Numbers@right C}}
120
121 \xpatchcmd{\FV@Numbers@both}
122   {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}
123   {\LWR@FV@linethensep}
124   {}
125   {\LWR@patcherror{fvextra}{FV@Numbers@both A}}
126
127 \xpatchcmd{\FV@Numbers@both}
128   {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}
129   {\LWR@FV@linethensep}
130   {}
131   {\LWR@patcherror{fvextra}{FV@Numbers@both B}}
132
133 \xpatchcmd{\FV@Numbers@both}
134   {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}
135   {\LWR@FV@linethensep}
136   {}
137   {\LWR@patcherror{fvextra}{FV@Numbers@both C}}
138
139 \xpatchcmd{\FV@Numbers@both}
140   {\hbox to\z@\{\kern\FV@NumberSep\theFancyVerbLine\hss\}}
141   {\LWR@FV@septhenline}
142   {}
143   {\LWR@patcherror{fvextra}{FV@Numbers@both D}}
144
145 \xpatchcmd{\FV@Numbers@both}
146   {\hbox to\z@\{\kern\FV@NumberSep\theFancyVerbLine\hss\}}
147   {\LWR@FV@septhenline}
148   {}
149   {\LWR@patcherror{fvextra}{FV@Numbers@both E}}
150
151 \xpatchcmd{\FV@Numbers@both}
152   {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}
153   {\LWR@FV@linethensep}
154   {}
155   {\LWR@patcherror{fvextra}{FV@Numbers@both F}}

```

File 200 **l warp-fwlw.sty**§ 309 Package **fwlw**

Pkg fwlw

fwlw is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fwlw}

```

2 \newbox\FirstWordBox    \global\setbox\FirstWordBox\hbox{}
3 \newbox\NextWordBox     \global\setbox\NextWordBox\hbox{}
4 \newbox\LastWordBox     \global\setbox\LastWordBox\hbox{}
5 \def\ps@fwlwhead{}
6 \def\ps@NextWordFoot{}

```

---

**File 201 l warp-gensymb.sty****§ 310 Package gensymb**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg gensymb

gensymb works as-is for SVG math, and uses the MATHJAX package.

**for HTML output:** 1 \LWR@ProvidesPackagePass{gensymb}[2003/07/02]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{gensymb}}
4 \end{warpMathJax}
```

---

**File 202 l warp-gentombow.sty****§ 311 Package gentombow**

Pkg gentombow

gentombow is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{gentombow}[2018/05/17]

```
2 \newcommand{\settombowbanner}[1]{}
3 \newcommand{\settombowbannerfont}[1]{}
4 \newcommand{\settombowwidth}[1]{}
5 \newcommand{\settombowbleed}[1]{}
6 \newcommand{\settombowcolor}[1]{}
```

---

**File 203 l warp-geometry.sty****§ 312 Package geometry**

(Emulates or patches code by HIDEO UMEKI.)

Pkg geometry

geometry is preloaded by l warp, but must be nullified as seen by the user's source code.

**for HTML output:** Discard all options for l warp-geometry:

```
1 \LWR@ProvidesPackageDropA{geometry}[2018/04/16]
```

If geometry is never loaded by the user, it will be loaded by l warp \AtBeginDocument. If this is the case, the page layout should not be changed but the user macros should still be nullified.

```
2 \ifbool{\LWR@allowanothergeometry}{%
```

Assign and set the selected geometry with `reset` prepended. `\AtEndPreamble` `l warp` will save this, then set its own geometry.

```
3   \edef\LWR@tempone{reset,\@optionlist{\@currname.\@currext}}%
4   \expandafter\lWR@origgeometry\expandafter{\lWR@tempone}%
5 }{}% LWR@allowanothergeometry
```

The user-level commands are nullified:

```
6 \renewcommand*\{\geometry}[1]{}
7 \renewcommand*\{\newgeometry}[1]{}
8 \renewcommand*\{\restoregeometry}{}
9 \renewcommand*\{\savegeometry}[1]{}
10 \renewcommand*\{\loadgeometry}[1]{}
```

#### File 204 **l warp-ghsystem.sty**

### § 313 Package **ghsystem**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

Pkg **ghsystem**

**ghsystem** is patched for use by `l warp`.

⚠ **\ghspic images** Images must be provided in SVG format, unless `JPG` is specified. It is recommended to create a local `images` directory, copy into it the relevant PDF `ghsystem` images, and then convert them with

Enter ⇒ **l warpmk pdftosvg images/\*.pdf**

**for HTML output:** 1 \LWR@ProvidesPackagePass{ghsystem}[2020/02/17]

```
2 \ExplSyntaxOn
3
4 \cs_set_protected:Npn \ghsystem_filler:n #1
5 { \emph { \textless#1 \textgreater } }
6
7 \cs_set_protected:Npn \ghsystem_pic:n #1
8 {
9   \__ghsystem_includegraphics:xn
10  {
11    scale = \fp_to_tl:N \l__ghsystem_picture_scale_fp
12    width = 1.25cm
13    \exp_not:V \l__ghsystem_picture_includegraphics_tl
14  }
15  { ghsystem_ #1 . \l__ghsystem_picture_type_tl }
16 }
17
18 \ExplSyntaxOff
```

#### File 205 **l warp-gindex.sty**

### § 314 Package **gindex**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg gindex

gindex is patched for use by l warp.

See section 8.6.15.

**for HTML output:** 1 \LWR@ProvidesPackagePass{gindex}[2019/10/07]

Set the index page and range separators. These are set \AtBeginDocument to allow the user to change them. They are then protected so that the l warp core looks for the tokens instead of their expanded contents, since the \*.ind files will contain \indexpagessep and \indexrangesep instead of their literal contents. Finally, l warp is told of the gindex macros.

```
2 \AtBeginDocument{
3   \robustify{\indexpagessep}
4   \robustify{\indexrangesep}
5   \renewcommand*\{\IndexPageSeparator\}{\indexpagessep}
6   \renewcommand*\{\IndexRangeSeparator\}{\indexrangesep}
7 }
```

\hyperindexref is added:

```
8 \def\addindexitem#1#2{%
9   \indexflushitem
10  \gix@getspecial#1\indexspecial\indexspecial\@@\indexitem{\hyperindexref{#2}}}
11
12 \def\addindexsubitem#1#2{%
13   \stepcounter{indexsubitems}%
14   \gix@getspecial#1\indexspecial\indexspecial\@@\indexsubitem{\hyperindexref{#2}}}
15
16 \def\addindexsubsubitem#1#2{%
17   \gix@getspecial#1\indexspecial\indexspecial\@@\indexsubsubitem{\hyperindexref{#2}}}
```

Uses a <div> of class indexheading:

```
18 \renewcommand\indexheading[1]{%
19   \begin{BlockClass}{indexheading}
20   \MakeUppercase{#1}%
21   \end{BlockClass}
22 }
```

#### File 206 l warp-gloss.sty

§ 315 Package **gloss**

(Emulates or patches code by JOSE LUIS DÍAZ, JAVIER BEZOS.)

gloss is patched for use by l warp.

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}
3   {\thepage}
4   {\theLWR@previousautopagelabel}
5   {}
6   {\LWR@patcherror{gloss}{gls@gloss@iii}}
7
8 \def\gls@page@i#1#2{%
9   \endgroup%
10 \global\@namedef{glsp@#1}{\nameref{\BaseJobname-autopage-#2}}}%
```

---

File 207 **l warp-glossaries.sty**§ 316 Package **glossaries**

(Emulates or patches code by NICOLA L.C. TALBOT.)

Pkg **glossaries**  
processing glossaries  
Opt **GlossaryCmd**  
Default: **makeglossaries**  
Opt [**l warpmk**] **printglossary**  
Opt [**l warpmk**] **htmlglossary**

*l warpmk* has the commands **l warpmk printglossary** and **l warpmk 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 **l warp** 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},
] {l warp}
```

**xindy** language To set the language to use for processing glossaries with **xindy**:

```
\usepackage[
  GlossaryCmd={makeglossaries -L english},
] {l warp}
```

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 `\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.

```
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*{\@p@glossarysection}[2]{%
8   \glsclearpage
9   \LWR@phantomsection
10  \ifdef\empty\@glossarysecstar
11  {%
12    \csname\@@glossarysec\endcsname{#2}%
13  }%
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@glosssymbolsgroupname}{\translate{Symbols (glossaries)}}
35
36 \ifdefstrelqual{\glosssymbolsgroupname}{\LWR@comp@glosssymbolsgroupname}{%
37   \translatelet{\LWR@translatetemp}{Symbols (glossaries)}
38   \edef\glosssymbolsgroupname{\LWR@translatetemp}
39 }{%
40 }
41 \newcommand*{\LWR@comp@glsnrnumbersgroupname}{\translate{Numbers (glossaries)}}
42
43 \ifdefstrelqual{\glsnrnumbersgroupname}{\LWR@comp@glsnrnumbersgroupname}{%
44   \translatelet{\LWR@translatetemp}{Numbers (glossaries)}
45   \edef\glsnrnumbersgroupname{\LWR@translatetemp}
46 }{%

```

---

File 208 **l warp-gmeometric.sty**

§ 317 Package **gmeometric**

Pkg gmeometric gmeometric is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{gmeometric}[2008/11/22]  
2 \RequirePackageWithOptions{geometry}

---

File 209 **l warp-graphics.sty**

§ 318 Package **graphics**

(Emulates or patches code by D. P. CARLISLE.)

Pkg graphics graphics is emulated.

**for HTML output:** 1 \LWR@ProvidesPackagePass{graphics}[2020/08/30]

### § 318.1 Graphics extensions

\DeclareGraphicsExtensions {\langle list\rangle}

\AtBeginDocument allow SVG files instead of PDF:

```

2 \AtBeginDocument{%
3 \DeclareGraphicsExtensions{.svg,.SVG,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
4 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
5 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
6 }%

```

Inside a `lateximage`, allow PDF instead of SVG:

```

7 \ifpdf
8 \appto\LWR@restoreorigformatting{%
9 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
10 }%
11 \else% \ifpdf%
12   \ifXeTeX

```

```

13 \appto\LWR@restoreorigformatting{%
14 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
15 }
16         \else
17 \appto\LWR@restoreorigformatting{%
18 \DeclareGraphicsExtensions{.eps,.EPS,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
19 }
20         \fi
21 \fi

```

## § 318.2 Length conversions and graphics options

 **whitespace** A scaled image in L<sup>A</sup>T<sub>E</sub>X by default takes only as much space on the page as it requires, but HTML browsers use as much space as the original unscaled image would have taken, with the scaled image over- or under-flowing the area.

Used to store the user's selected dimensions and HTML class.

The class defaults to "inlineimage" unless changed by a `class=xyx` option.

```

22 \newlength{\LWR@igwidth}
23 \newlength{\LWR@igheight}
24 \newcommand*{\LWR@igwidthstyle}{}
25 \newcommand*{\LWR@igheightstyle}{}
26 \newcommand*{\LWR@igorigin}{}
27 \newcommand*{\LWR@igangle}{}
28 \newcommand*{\LWR@igxscale}{1}
29 \newcommand*{\LWR@igyscale}{1}
30
31 \newbool{\LWR@igkeepaspectratio}
32 \boolfalse{\LWR@igkeepaspectratio}
33
34 \newcommand*{\LWR@igclass}{inlineimage}

35 \newcommand*{\LWR@igalt}{\ImageAltText}

```

Set the actions of each of the key/value combinations for `\includegraphics`. Many are ignored.

If an optional width was given, set an HTML style:

```

36 \define@key{igraph}{width}{%
37 \setlength{\LWR@igwidth}{#1}%
38 \ifthenelse{\lengthtest{\LWR@igwidth > 0pt}}{%
39 {%

```

Default to use the converted fixed length given:

```
40 \renewcommand*{\LWR@igwidthstyle}[width:\LWR@printlength{\LWR@igwidth}]%
```

If ex or em dimensions were given, use those instead:

```

41 \IfEndWith{#1}{ex}{%
42 {\renewcommand*{\LWR@igwidthstyle}[width:#1]}% yes ex
43 {}% not ex
44 \IfEndWith{#1}{em}{%
45 {\renewcommand*{\LWR@igwidthstyle}[width:#1]}% yes em
46 {}% not em

```

---

```

47  \IfEndWith{#1}{\%}%
48  {\renewcommand*\{\LWR@igwidthstyle}{width:#1}}% yes percent
49  {}% not percent
50  \IfEndWith{#1}{px}%
51  {\renewcommand*\{\LWR@igwidthstyle}{width:#1}}% yes px
52  {}% not px
53 }{} end of length > 0pt
54 }

```

If an optional height was given, set an HTML style:

```

55 \define@key{igraph}{height}{%
56 \setlength{\LWR@igheight}{#1}%
57 \ifthenelse{\lengthtest{\LWR@igheight > 0pt}}{%
58 {%

```

Default to use the converted fixed length given:

```

59  \renewcommand*\{\LWR@igheightstyle}{%
60  height:\LWR@printlength{\LWR@igheight} % extra space
61  }%

```

If ex or em dimensions were given, use those instead:

```

62  \IfEndWith{#1}{ex}%
63  {\renewcommand*\{\LWR@igheightstyle}{height:#1}}% yes ex
64  {}% not ex
65  \IfEndWith{#1}{em}%
66  {\renewcommand*\{\LWR@igheightstyle}{height:#1}}% yes em
67  {}% not em
68  \IfEndWith{#1}{\%}%
69  {\renewcommand*\{\LWR@igheightstyle}{height:#1}}% yes percent
70  {}% not percent
71  \IfEndWith{#1}{px}%
72  {\renewcommand*\{\LWR@igheightstyle}{height:#1}}% yes px
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     \PackageNote{l warp}{%
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}{natheight}{}%
102 \define@key{igraph}{hiresbb}[true]{}%
103 \define@key{igraph}{viewport}{}%
104 \define@key{igraph}{trim}{}%
105 \define@key{igraph}{totalheight}{}%
106 \define@key{igraph}{clip}[true]{}%
107 \define@key{igraph}{draft}[true]{}%
108 \define@key{igraph}{type}{}%
109 \define@key{igraph}{ext}{}%
110 \define@key{igraph}{read}{}%
111 \define@key{igraph}{command}{}%
```

New in v1.1a:

```
112 \define@key{igraph}{quite}{}%
113 \define@key{igraph}{page}{}%
114 \define@key{igraph}{pagebox}{}%
115 \define@key{igraph}{interpolate}[true]{}%
```

New in v1.1b:

```
116 \define@key{igraph}{decodearray}{}%
```

### § 318.3 Printing HTML styles

\LWR@rotstyle

*{<prefix>} {<degrees>}*

Prints the rotate style with the given prefix.

prefix is -ms- or -webkit- or nothing, and is used to generate three versions of the transform:rotate style.

```
117 \newcommand*{\LWR@rotstyle}[2]{%
118     \edef\LWR@tempone{#2}%
119     \setcounter{LWR@tempcountone}{-1*\real{\LWR@tempone}} % space
120     #1transform:rotate(\arabic{LWR@tempcountone}deg); % space
121 }
```

\LWR@scalestyle

*{<prefix>} {<xscale>} {<yscale>}*

Prints the scale style with the given prefix.

prefix is -ms- or -webkit- or nothing, and is used to generate three versions of the transform:scale style.

```
122 \newcommand*{\LWR@scalestyle}[3]{%
123     #1transform:scale(#2,#3);
124 }
```

### § 318.4 \includegraphics

\LWR@opacity

For HTML, used only for \includegraphics.

\LWR@opacity may be set by the transparent package.

```
125 \def\LWR@opacity{1}
```

\LWR@imagesizebox

Used to determine the actual image size if needed.

```
126 \newsavebox{\LWR@imagesizebox}
```

\LWR@HTML@Gin@setfile

*{<w>} {<h>} {<filename>}* Sets the parsed filename for HTML output.

```
127 \newcommand*{\LWR@HTML@Gin@setfile}[3]{%
128     \xdef\LWR@parsedfilename{#3}%
129 }
```

Key [Gin] class

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 }
```

\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.

```
133 \AtBeginDocument{
134 \IfPackageLoadedTF{epstopdf}%
135 {
136     \newcommand*{\LWR@replaceEPSSVG}{}%
137 }{%
```

```

138      \newcommand*{\LWR@replaceEPSSVG}{%
139          \StrSubstitute{\LWR@tempone}{.eps}{.svg}[\LWR@tempone]%
140          \StrSubstitute{\LWR@tempone}{.EPS}{.SVG}[\LWR@tempone]%
141      }%
142 }%
143 }

```

\* [*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:

```

144 \newcommand*{\LWR@ig@useactualimagesize}[4]{%
145     \begingroup%
146     \LWR@restoreorigformatting%
147     \ifpdf%
148         \appto\LWR@restoreorigformatting{%
149             \DeclareGraphicsExtensions{%
150                 .pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
151             }%
152         }%
153     \else% \ifpdf
154         \ifXeTeX%
155             \appto\LWR@restoreorigformatting{%
156                 \DeclareGraphicsExtensions{%
157                     .pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
158                 }%
159             }%
160         \else%
161             \appto\LWR@restoreorigformatting{%
162                 \DeclareGraphicsExtensions{%
163                     .eps,.EPS,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
164                 }%
165             }%
166         \fi%
167     \fi% \ifpdf

```

For a word processor, do not use rotation:

```

168     \ifbool{FormatWP}{\define@key{Gin}{angle}{}{}}{%
169     \IfBooleanTF{#1}{%
170         \% starred
171         \IfValueTF{#3}{%
172             \%
173             \global\sbox{\LWR@imagesizebox}{%
174                 \LWR@originincludegraphics*[#2][#3][#4]%
175             }%
176         }%
177         \%
178         \IfValueTF{#2}{%
179             \%
180             \global\sbox{\LWR@imagesizebox}{%
181                 \LWR@originincludegraphics*[#2][#4]%
182             }%
183         }%
184         \global\sbox{\LWR@imagesizebox}{%
185             \LWR@originincludegraphics*[#4]%
186         }%
187     }%
188     }%
189 }% starred

```

```

190  {%
191      \IfValueTF{#3}%
192      {%
193          \global\sbox{\LWR@imagesizebox}{%
194              \LWR@originincludegraphics[#2][#3]{#4}%
195          }%
196      }%
197      {%
198          \IfValueTF{#2}%
199          {%
200              \global\sbox{\LWR@imagesizebox}{%
201                  \LWR@originincludegraphics[#2]{#4}%
202              }%
203          }{%
204              \global\sbox{\LWR@imagesizebox}{%
205                  \LWR@originincludegraphics{#4}%
206              }%
207          }%
208      }%
209  }% not starred
210 \endgroup%
211 \settowidth{\LWR@igwidth}{\usebox{\LWR@imagesizebox}}%
212 \global\renewcommand*{\LWR@igwidthstyle}{%
213     width:\LWR@printlength{\LWR@igwidth}}%
214 }%
215 \settoheight{\LWR@igheight}{\usebox{\LWR@imagesizebox}}%
216 \global\renewcommand*{\LWR@igheightstyle}{%
217     height:\LWR@printlength{\LWR@igheight}}%
218 }%
219 }

```

\LWR@ig@htmltag

For the HTML reference, add the graphicspath, filename, extension, alt tag, style, and class.

```

220 \newcommand*{\LWR@ig@htmltag}{%
221     img\LWR@indentHTML%
222     src=\textquotedbl%
223     \detokenize\expandafter{\LWR@parsedfilename}%
224     \textquotedbl\LWR@indentHTML%

```

Only include a style tag if a width, height, angle, or scale was given:

```

225 \ifthenelse{%
226     \NOT\equal{\LWR@igwidthstyle}{} \OR
227     \NOT\equal{\LWR@igheightstyle}{} \OR
228     \NOT\equal{\LWR@igorigin}{} \OR
229     \NOT\equal{\LWR@igangle}{} \OR
230     \NOT\equal{\LWR@igxscale}{1} \OR
231     \NOT\equal{\LWR@igyscale}{1}%
232 }%
233 {%
234     style=\textquotedbl\LWR@indentHTML
235     \ifthenelse{\NOT\equal{\LWR@igwidthstyle}{} }{%
236         {\LWR@igwidthstyle;\LWR@indentHTML}{}%
237     }%
238     \ifthenelse{\NOT\equal{\LWR@igheightstyle}{} }{%
239         {\LWR@igheightstyle;\LWR@indentHTML}{}%
240     }%
241     \ifthenelse{\NOT\equal{\LWR@igorigin}{} }{%
242         transform-origin: \LWR@originnames{\LWR@igorigin};%
243     }%

```

```

242           \LWR@indentHTML%
243       }{ }%
244   \ifthenelse{\NOT\equal{\LWR@igangle}{} }{%
245   {%
246       \LWR@rotstyle{-ms-}{\LWR@igangle}\LWR@indentHTML
247       \LWR@rotstyle{-webkit-}{\LWR@igangle}\LWR@indentHTML
248       \LWR@rotstyle{}{\LWR@igangle }\LWR@indentHTML
249   }{ }%
250   \ifthenelse{%
251       \NOT\equal{\LWR@igxscale}{1}\OR%
252       \NOT\equal{\LWR@igyscale}{1}%
253   }{ }%
254   {%
255       \LWR@scalestyle{-ms-}{\LWR@igxscale}{\LWR@igyscale}%
256       \LWR@indentHTML
257       \LWR@scalestyle{-webkit-}{\LWR@igxscale}{\LWR@igyscale}%
258       \LWR@indentHTML
259       \LWR@scalestyle{}{\LWR@igxscale}{\LWR@igyscale}%
260       \LWR@indentHTML
261   }{ }%
262   %
263   \ifthenelse{\NOT\equal{\LWR@opacity}{1}}{%
264       {opacity:\LWR@opacity;\LWR@indentHTML}{}%
265   }{ }%
266   \textquotedbl\LWR@indentHTML
267 }{ }%

```

Set the class and alt tag:

```

268     class=\textquotedbl\LWR@igclass\textquotedbl\LWR@indentHTML%
269     alt=\textquotedbl\AltTextOpen\LWR@igalt\AltTextClose\textquotedbl\ \LWR@newline%
270 }% end of image tags

```

\* [*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.

```

271 \NewDocumentCommand{\LWR@includegraphicsb}{s o o m}
272 {%

```

Start the image tag on a new line, allow PDF output word wrap:

```

273     \LWR@origtilde \LWR@newline%

```

Temporarily compute \ linewidth, \ textwidth, \ textheight arguments with a 6x9 inch size until the next \endgroup.

```

274     \begin{LWR@setvirtualpage}%

```

For correct em sizing during the width and height conversions:

```

275     \large%

```

Temporarily prevent underfull \hbox warnings.

```

276     \hbadness=10000\relax%

```

Reset some defaults, possibly will be changed below if options were given:

```

277   \setlength{\LWR@igwidth}{0pt}%
278   \setlength{\LWR@igheight}{0pt}%
279   \renewcommand*\LWR@igwidthstyle{}%
280   \renewcommand*\LWR@igheightstyle{}%
281   \renewcommand*\LWR@igorigin{}%
282   \renewcommand*\LWR@igangle{}%
283   \renewcommand*\LWR@igxscale{1}%
284   \renewcommand*\LWR@igyscale{1}%
285   \renewcommand*\LWR@igclass{inlineimage}%
286   \boolfalse{LWR@igkeepaspectratio}%

287   \ifdefvoid{\LWR@ThisAltText}{%
288     \edef\LWR@igalt{\ImageAltText}%
289   }{%
290     \edef\LWR@igalt{\LWR@ThisAltText}%
291   }%

```

If #3 is empty, only one optional argument was given, thus `graphicx` syntax:

```

292   \IfValueF{#3}{%
293     \IfValueTF{#2}{%
294       {\setkeys{igraph}{#2}}%
295       {\setkeys{igraph}{}}
296     }%

```

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 `l warp` can only report to the browser lowercase extensions, so all images must have lowercase file extensions.

```

297   \begingroup%
298   \LetLtxMacro\Gin@setfile\LWR@HTML@Gin@setfile%
299   \edef\LWR@tempone{#4}%

```

PDF extensions are removed to allow a search for another graphics format such as SVG or PNG.

```

300   \StrSubstitute{\LWR@tempone}{.pdf}{}[\LWR@tempone]%
301   \StrSubstitute{\LWR@tempone}{.PDF}{}[\LWR@tempone]%

302   \LWR@replaceEPSSVG%
303   \xdef\LWR@parsedfilename{\LWR@tempone}%
304   \Ginclusion@graphics{\detokenize\expandafter{\LWR@parsedfilename}}%
305   \endgroup%
306   \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.

```

307   \StrSubstitute{\LWR@parsedfilename}{//}{/}[\LWR@parsedfilename]%
308   \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:

```

309   \ifboolexpr{
310     bool {FormatWP} or
311     bool {LWR@igkeepaspectratio}
312   }{\LWR@ig@useactualimagesize{#1}{#2}{#3}{#4}}%

```

Create the HTML reference with the graphicspath, filename, extension, alt tag, style, and class:

```
313   \LWR@traceinfo{\LWR@includegraphicsb: about to create href}%
314   \LWR@href{\LWR@parsedfilename}%
315   {%
316     \LWR@traceinfo{\LWR@includegraphicsb: about to \LWR@htmlltag}%
317     \LWR@htmlltag{\LWR@ig@htmlltag}%
318   }%
319 }
```

Return to original page size and font size:

```
319   \end{\LWR@setvirtualpage}%
```

Clear the single-use alt text:

```
320   \gdef\LWR@ThisAltText{}%
321   \LWR@traceinfo{\LWR@includegraphicsb done}%
322 }
```

\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.

```
323 \AtBeginDocument{%
324 %
325 \LWR@traceinfo{Patching \includegraphics.}%
326 %
327 \LetLtxMacro{\LWR@origincludegraphics}{\includegraphics}%
328 %
329 {%
```

This graphic should trigger an HTML paragraph even if alone, so ensure that are doing paragraph handling:

```
330 \LWR@traceinfo{\includegraphics}%
331 \LWR@ensuredoingapar%
332 \LWR@includegraphicsb%
333 }%
334 }%
335 \AtBeginDocument{%
```

### § 318.5 Boxes

\LWR@rotboxorigin

Holds the origin key letters.

```
335 \newcommand*{\LWR@rotboxorigin}{}%
```

\LWR@originname

{*letter*}

Given one LATEX origin key value, translate into an HTML origin word:

```
336 \newcommand*{\LWR@originname}[1]{%
337   \ifthenelse{\equal{#1}{t}}{top}{}%
338   \ifthenelse{\equal{#1}{b}}{bottom}{}%
339   \ifthenelse{\equal{#1}{c}}{center}{}%
340   \ifthenelse{\equal{#1}{l}}{left}{}%
341   \ifthenelse{\equal{#1}{r}}{right}{}%
342 }
```

\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:

```

343 \newcommand*{\LWR@originnames}[1]{%
344 \StrChar{#1}{1}[\LWR@strresult]%
345 \LWR@originname{\LWR@strresult}%
346 \StrChar{#1}{2}[\LWR@strresult]%
347 \LWR@originname{\LWR@strresult}%
348 }
```

Handle the origin key for \rotatebox:

```

349 \define@key{krotbox}{origin}{%
350 \renewcommand*{\LWR@rotboxorigin}{#1}%
351 }
```

These keys are ignored:

```

352 \define@key{krotbox}{x}{}
353 \define@key{krotbox}{y}{}
354 \define@key{krotbox}{units}{}
```

\rotatebox [⟨keyval list⟩] {⟨angle⟩} {⟨text⟩}

355 \AtBeginDocument{

The HTML version:

356 \NewDocumentCommand{\LWR@HTML@rotatebox}{O{} m +m}{%

Reset the origin to “none-given”:

357 \renewcommand\*{\LWR@rotboxorigin}{}

Process the optional keys, which may set \LWR@rotateboxorigin:

358 \setkeys{krotbox}{#1}%

Select inline-block so that HTML will transform this span:

```

359 \LWR@htmltagc{%
360   span\LWR@indentHTML
361   style=\textquotedbl\LWR@indentHTML
362   display: inline-block;\LWR@indentHTML
```

If an origin was given, translate and print the origin information:

```

363   \ifthenelse{\NOT\equal{\LWR@rotboxorigin}{}{}}{%
364     {transform-origin: \LWR@originnames{\LWR@rotboxorigin};\LWR@indentHTML}%
365   }{}
```

Print the rotation information:

```

366   \LWR@rotstyle{-ms-}{{#2}}\LWR@indentHTML
367   \LWR@rotstyle{-webkit-}{{#2}}\LWR@indentHTML
368   \LWR@rotstyle{{}}{{#2}}\textquotedbl\LWR@orignewline%
369 }\LWR@orignewline%
```

Print the text to be rotated:

```
370 \begin{LWR@nestspan}%
371 #3%
```

Close the span:

```
372 \LWR@htmltagc{/span}%
373 \end{LWR@nestspan}%
374 }
```

The high-level interface:

```
375 \LWR@formatted{rotatebox}%
376
377 }% AtBeginDocument
```

```
\scalebox {<h-scale>} [<v-scale>] {<text>}
```

```
378 \AtBeginDocument{
```

The HTML version:

```
379 \NewDocumentCommand{\LWR@HTML@scalebox}{m o m}{%
```

Select inline-block so that HTML will transform this span:

```
380 \LWR@htmltagc{%
381     span\LWR@indentHTML
382     style=\textquotedbl\LWR@indentHTML
383     display: inline-block;\LWR@indentHTML
```

Print the scaling information:

```
384     \LWR@scalestyle{-ms-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
385     \LWR@scalestyle{-webkit-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
386     \LWR@scalestyle{}{#1}{\IfNoValueTF{#2}{#1}{#2}}
387     \textquotedbl\LWR@orignewline
388 }\LWR@orignewline%
```

Print the text to be scaled:

```
389 \begin{LWR@nestspan}%
390 #3%
```

Close the span:

```
391 \LWR@htmltagc{/span}%
392 \end{LWR@nestspan}%
393 }
```

The high-level interface:

```
394 \LWR@formatted{scalebox}%
395
396 }% AtBeginDocument
```

---

```
\reflectbox {\text{}}  
  
397 \AtBeginDocument{  
398  
399 \newcommand{\LWR@HTML@reflectbox}[1]{%  
400     \scalebox{-1}[1]{\#1}%  
401 }% \reflectbox  
402  
403 \LWR@formatted{reflectbox}  
404  
405 }% AtBeginDocument
```

\resizebox {\text{}} {\text{}} {\text{}}

Simply prints its text argument.

```
406 \AtBeginDocument{  
407  
408 \NewDocumentCommand{\LWR@HTML@resizebox}{s m m m}{%  
409     #4%  
410 }  
411  
412 \LWR@formatted{resizebox}  
413  
414 }% AtBeginDocument
```

---

#### File 210 **l warp-graphicx.sty**

#### § 319 Package **graphicx**

Pkg **graphicx** **graphicx** is emulated.

**graphicx** loads **graphics**, which also loads **l warp-graphics**, which remembers the original graphics definitions for use inside a **lateximage**, and then patches them **\AtBeginDocument** for HTML output.

**l warp-graphics** handles the syntax of either **graphics** or **graphicx**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{graphicx}[2020/09/09]

---

#### File 211 **l warp-grffile.sty**

#### § 320 Package **grffile**

Pkg **grffile** **grffile** is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.

**l warp-grffile** now exists as a placeholder since **grffile** used to be emulated by **l warp**, and thus older versions of **l warp-grffile** may exist and should be overwritten by this newer version.

**for HTML output:** 1 \LWR@ProvidesPackagePass{grffile}[2017/06/30]

---

**File 212 l warp-grid.sty****§ 321 Package grid**

Pkg grid grid is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{grid}[2009/06/16]

2 \newenvironment\*{gridenv}{}{}

---

**File 213 l warp-grid-system.sty****§ 322 Package grid-system**

(Emulates or patches code by MARCUS BITZL.)

Pkg grid-system grid-system is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{grid-system}[2014/02/16]

(\ifdef is in case the older syntax is removed.)

2 \AtBeginEnvironment{Row}{\setlength{\ linewidth}{6in}}  
3  
4 \ifdef{\endrow}{  
5 \AtBeginEnvironment{row}{\setlength{\ linewidth}{6in}}  
6 }{}  
7  
8 \renewcommand{\gridsystem@finishcell}{\hspace{\gridsystem@cellsep}}

---

**File 214 l warp-gridset.sty****§ 323 Package gridset**

Pkg gridset gridset is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{gridset}[2020-02-12]

2 \newcommand\*{\gridbase}{}  
3 \newcommand\*{\gridinterval}{}  
4 \newcommand\*{\SavePos}[1]{}  
5 \ifLuaTeX  
6 \else  
7 \let\savepos\SavePos  
8 \fi  
9 \newcommand\*{\vskipnextgrid}{}  
10 \newcommand\*{\thegridinfo}[1]{(thegridinfo)}  
11 \newcommand\*{\theposinfo}[1]{(theposinfo)}  
12 \newcommand\*{\theypos}[1]{(theypos)}

---

**File 215 l warp-hang.sty**

§ 324      Package **hang**

*(Emulates or patches code by ANDREAS NOLDA.)*

Pkg    hang

hang is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{hang}[2017/02/18]

2 \newlength{\hangingindent}
3 \setlength{\hangingindent}{1em}
4 \newlength{\hangingleftmargin}
5 \setlength{\hangingleftmargin}{0em}
6
7 \newcommand*\LWR@findhangingleftmargin{%
8   \setlength{\LWR@templengthone}{\hangingleftmargin}%
9   \addtolength{\LWR@templengthone}{\hangingindent}%
10 }
11
12 \newenvironment{hangingpar}{%
13   \LWR@findhangingleftmargin%
14   \BlockClass[%%
15     \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
16     \LWR@print@mbox{text-indent:-\LWR@printlength{\hangingindent}}%%
17   ]%
18   {hangingpar}%
19 }
20
21 {\endBlockClass}
22
23 \newenvironment{hanginglist}{%
24   \renewcommand*\LWR@printcloselist{\LWR@printcloseitemize}%
25   \renewcommand*\LWR@printopenlist{%
26     \LWR@findhangingleftmargin%
27     \ul style=\textquotedbl%
28       \LWR@print@mbox{list-style-type:none;} % extra space
29       \LWR@print@mbox{%
30         margin-left:\LWR@printlength{\LWR@templengthone}%
31       } ; % extra space
32       \LWR@print@mbox{%
33         text-indent:-\LWR@printlength{\hangingindent}%
34       }%
35     }%
36     \textquotedbl%
37   }%
38   \LetLtxMacro{\item}{\LWR@itemizeitem}%
39   \list{}{%
40 }
41 {\endlist}
42
43 \newenvironment{compacthang}{%
44   \hanginglist
45   \endhanginglist
46
47 \newlength{\labeledleftmargin}
```

---

```

48 \setlength{\labeledleftmargin}{0em}
49
50 \newenvironment{labeledpar}[2]
51 {%
52     \BlockClass[% 
53         \LWR@findhangingleftmargin%
54         \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
55         \LWR@print@mbox{text-indent:-\LWR@printlength{\hangingindent}}%
56     ]{\labeledpar}#2%
57 }
58 {\endBlockClass}
59
60 \newenvironment{labeledlist}[1]
61 {\hanginglist}
62 {\endhanginglist}
63
64 \newenvironment{compactlabel}[1]
65 {\hanginglist}
66 {\endhanginglist}

```

---

File 216 **l warp-hanging.sty**

§ 325      Package **hanging**

Pkg    hanging                  hanging is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{hanging}[2009/09/02]

```

2 \IfClassLoadedTF{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{\nqlq}{`}
24 \newcommand{\nhrq}{`}

```

---

File 217 **l warp-hepunits.sty**

§ 326      Package **hepunits**

*(Emulates or patches code by ANDY BUCKLEY.)*

Pkg    hepunits      hepunits is used as-is, and emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{hepunits}[2020/04/10]

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{hepunits}
4
5 \ifx\@HEPopt@sicmds\@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{\electronvoltcsq}{\electronvolt\per\mathit{c}\squared}}
44 \CustomizeMathJax{\let\evc\electronvoltc}
45 \CustomizeMathJax{\let\evcsq\electronvoltcsq}
46
47 \ifx\@HEPopt@noprefixcmds\empty
48 \CustomizeMathJax{\newcommand{\meV}{\milli\ev}}
49 \CustomizeMathJax{\newcommand{\keV}{\kilo\ev}}
50 \CustomizeMathJax{\newcommand{\MeV}{\mega\ev}}
51 \CustomizeMathJax{\newcommand{\GeV}{\giga\ev}}
52 \CustomizeMathJax{\newcommand{\TeV}{\tera\ev}}
53 \CustomizeMathJax{\newcommand{\meVc}{\milli\evc}}
54 \CustomizeMathJax{\newcommand{\keVc}{\kilo\evc}}
55 \CustomizeMathJax{\newcommand{\MeVc}{\mega\evc}}
56 \CustomizeMathJax{\newcommand{\GeVc}{\giga\evc}}
57 \CustomizeMathJax{\newcommand{\TeVc}{\tera\evc}}
58 \CustomizeMathJax{\newcommand{\meVcsq}{\milli\evcsq}}
59 \CustomizeMathJax{\newcommand{\keVcsq}{\kilo\evcsq}}
60 \CustomizeMathJax{\newcommand{\MeVcsq}{\mega\evcsq}}
61 \CustomizeMathJax{\newcommand{\GeVcsq}{\giga\evcsq}}
62 \CustomizeMathJax{\newcommand{\TeVcsq}{\tera\evcsq}}
63 \fi
64 \end{warpMathJax}

```

### File 218 **l warp-hhline.sty**

§ 327      Package **hhline**

(Emulates or patches code by DAVID CARLISLE.)

Pkg hhline

**hhline** is patched for use by **l warp**.

Only a rudimentary emulation is provided so far. If the argument contains any = characters, the result is a double \hline. If none, the result is a single \hline.

**for HTML output:** 1 \LWR@ProvidesPackagePass{hhline}[2014/10/28]

```

2 \newrobustcmd*\{ \LWR@HTML@hhline}[1]{%
3   \edef\LWR@tempone{\detokenize\expandafter{\#1}}%
4   \IfSubStr[1]{\LWR@tempone}{=}{\hline\hline}{\hline}%
5 }
6% ^^A or:
7% ^^A \newrobustcmd*\{ \LWR@HTML@hhline}[1]{\LWR@getmynexttoken}%
8
9 \AtBeginDocument{\LWR@expandableformatted{hhline}}

```

For MATHJAX. A simple \hline is used.

```

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\hhline}[1]{\hline}}
12 \end{warpMathJax}

```

---

**File 219 l warp-hhtensor.sty****§ 328 Package hhtensor***(Emulates or patches code by HARALD HARDERS.)***hhtensor** is used as-is, and emulated for MATHJAX.**for HTML output:** 1 \LWR@ProvidesPackagePass{hhtensor}[2011/12/29]

```
2 \begin{warpMathJax}
3 \iftensor@bold
4   \CustomizeMathJax{\newcommand{\vec}[1]{\boldsymbol{#1}}}
5   \CustomizeMathJax{\newcommand{\matr}[1]{\boldsymbol{#1}}}
6   \CustomizeMathJax{\newcommand{\tens}[2]{\boldsymbol{#1}}}
7 \else
8   \iftensor@underline
9     \CustomizeMathJax{\newcommand{\vec}[1]{\text{\textnormal{\textbf{#1}}}}}
10    \CustomizeMathJax{\newcommand{\matr}[1]{\text{\textnormal{\textbf{#1}}}}}
11    \CustomizeMathJax{\newcommand{\tens}[2]{\text{\textnormal{\textbf{#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{\#1}{\raise{.5ex}{\sim}}}
20      {\#1}}
21    }
22  }
23 \fi
24 \fi
25 \CustomizeMathJax{\newcommand{\dcdot}{\mathrel{\cdot\mkern 0.0mu\cdot}}}
26 \CustomizeMathJax{\newcommand{\trans}{{}^{\mathrm{T}}}}
27 \end{warpMathJax}
```

---

**File 220 l warp-hypbmsec.sty****§ 329 Package hypbmsec****hypbmsec** is emulated by the **l warp** core.**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypbmsec}[2016/05/16]

---

**File 221 l warp-hypcap.sty****§ 330 Package hypcap****hypcap** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypcap}[2016/05/16]

```
2 \newcommand*{\capstart}{}  
3 \newcommand*{\hypcapspace}{}  
4 \newcommand*{\hypcapredef}[1]{}  
5 \newcommand*{\capstartfalse}{}  
6 \newcommand*{\capstartrue}{}  


---


```

File 222 **l warp-hypdestopt.sty**

§ 331 Package **hypdestopt**

Pkg hypdestopt hypdestopt is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypdestopt}[2016/05/21]

---

File 223 **l warp-hypernat.sty**

§ 332 Package **hypernat**

Pkg hypernat hypernat is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypernat}[2001/07/09]

---

File 224 **l warp-hyperref.sty**

§ 333 Package **hyperref**

(Emulates or patches code by SEBASTIAN RAHTZ, HEIKO OBERDIEK, THE LATEX3 PROJECT.)

Pkg hyperref hyperref is emulated.

**for HTML output:**

```
1 % \LWR@ProvidesPackageDrop{hyperref}% not allowed  
2 % \ProvidesPackage{l warp-#1-#2}% not allowed  
3 \PackageInfo{l warp}{%  
4 Using the l warp HTML version of package 'hyperref', \MessageBreak  
5 and discarding options except backref, pagebackref.\MessageBreak  
6 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak  
7 do not attempt to patch l warp'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}{typxml}{}{}  
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}{driverv fallback}{}{}  
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}{pdfpageduration}{}{}  
77 \define@key{LWR@hyperref}{pdfpagehidden}{}{}  
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}{pdflang}{}{}  
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}{luatex}{}{}  
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}{vtex}{}{}  
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}{typxml}{}{}  
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}{vtex}{}{}  
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}{pdfpagescrop}{}{}  
194 \define@key{LWR@hyperref}{pdfpagemode}{}{}  
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}{pdffpicktraybypdfsize}{}{}{}
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]{}

```

No application for l warp:

```

259 \newcommand*\HyperDestNameFilter}[1]{#1}
260 \newcommand*\HyperDestLabelReplace}[1]{#1}
261 \newcommand*\HyperDestRename}[2]{}

```

No application for l warp:

```
262 \newcommand*\hyperget}[2]{}
```

\hyperimage

{<URL>} {<alt text>}

Insert an image with alt text:

```

263 \NewDocumentCommand{\hyperimageb}{m +m}{%
264     \LWR@ensuredoingapar%
265     \def\LWR@templink{#1}%
266     \onelevel@sanitize\LWR@templink%
267     \LWR@htmltag{%
268         img src=\textquotedbl\LWR@templink\textquotedbl\ %
269         alt=\textquotedbl#2\textquotedbl\ %
270         class=\textquotedbl{}hyperimage\textquotedbl%
271     }%
272     \LWR@ensuredoingapar%
273     \endgroup%
274 }
275
276 \newrobustcmd*\hyperimage{%
277     \begingroup%
278     \LWR@linkcatcodes%
279     \LWR@hyperimageb%
280 }
281

```

\hyperdef

{<1: category>} {<2: name>} {<3: text>}

Creates an HTML anchor to category.name with the given text.

```

282 \NewDocumentCommand{\hyperdefb}{m m +m}{%
283     \LWR@ensuredoingapar%
284     \LWR@label@createtag{#1.#2}%
285     #3%
286     \endgroup%
287 }
288
289 \newcommand*\hyperdef{%
290     \begingroup%
291     \LWR@linkcatcodes%
292     \LWR@hyperdefb%
293 }
294

```

\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.

```

295 \newcommand{\LWR@hyperreffinish}[1]{%
296   \begingroup%
297   \RenewDocumentCommand{\ref}{s m}{\LWR@print@ref{##2}}%
298   #1%
299   \endgroup%
300   \LWR@htmltag{/a}%
301 }
302
303 \newcommand*{\LWR@hyperrefbb}[3]{%
304   \LWR@htmltag{%
305     a href=\textquotedbl{%
306       \detokenize\expandafter{\#1}\LWR@hashmark%
307       \detokenize\expandafter{\#2}. \detokenize\expandafter{\#3}%
308       \textquotedbl{%
309         \LWR@addlinktitle%
310       }%
311     \endgroup%
312   }\LWR@hyperreffinish%
313 }
314
315 \newrobustcmd*{\LWR@hyperrefb}{%
316   \begingroup%
317   \LWR@linkcatcodes%
318   \LWR@hyperrefbb%
319 }
```

\LWR@hyperrefc

[⟨label⟩] {⟨text⟩}

Creates text as an **HTML** link to the **LATEX** label.

```

320
321 \NewDocumentCommand{\LWR@hyperrefcb}{O{label}}{%
322   \LWR@startref{#1}%
323   \endgroup%
324   \LWR@hyperreffinish%
325 }
326
327 \newcommand*{\LWR@hyperrefc}{%
328   \begingroup%
329   \LWR@linkcatcodes%
330   \LWR@hyperrefcb%
331 }
```

\hyperref

{⟨1: URL⟩} {⟨2: category⟩} {⟨3: name⟩} {⟨4: text⟩} — or —

[⟨1: label⟩] {⟨2: text⟩}

```

332 \DeclareRobustCommand*{\hyperref}{%
333   \LWR@ensuredoingapar%
334   \@ifnextchar[\LWR@hyperrefc\LWR@hyperrefb%
335 }
```

\hypertarget

{⟨name⟩} {⟨text⟩}

Creates an anchor to name with the given text.

```
336 \NewDocumentCommand{\LWR@hypertargetb}{m +m}{%
```

```

337     \label{LWR-ht-#1}%
338     #2%
339     \endgroup%
340 }
341
342 \newcommand*{\hypertarget}{%
343     \LWR@ensuredoingapar%
344     \begingroup%
345     \LWR@linkcatcodes%
346     \LWR@hypertargetb%
347 }

```

\hyperlink {⟨name⟩} {⟨text⟩}

Creates a link to the anchor created by hypertarget, with the given link text.

Declared because also defined by memoir.

```

348 \DeclareDocumentCommand{\hyperlinkb}{m}{%
349     \ifbool{\LWR@insidemathcomment}{%
350         {\endgroup}%
351         {\LWR@hyperrefcb[\LWR-ht-#1]}%
352     }%
353
354 \DeclareDocumentCommand{\hyperlink}{}{%
355     \LWR@ensuredoingapar%
356     \begingroup%
357     \LWR@linkcatcodes%
358     \LWR@hyperlinkb%
359 }

```

\autoref \*

For HTML, \cleveref is used instead.

```

360 \NewDocumentCommand{\autoref}{s m}{%
361     \IfBooleanTF{#1}{\ref{#2}}{\cref{#2}}%
362 }

```

\autopageref {⟨label⟩}

For HTML, \cleveref is used instead.

```

363 \NewDocumentCommand{\autopageref}{s m}{%
364     \IfBooleanTF{#1}{\pageref{#2}}{\cref{#2}}%
365 }

```

Default names:

```

366 \def\equationautorefname{Equation}%
367 \def\footnoteautorefname{footnote}%
368 \def\itemautorefname{item}%
369 \def\figureautorefname{Figure}%
370 \def\tableautorefname{Table}%
371 \def\partautorefname{Part}%
372 \def\appendixautorefname{Appendix}%
373 \def\chapterautorefname{chapter}%
374 \def\sectionautorefname{section}%
375 \def\subsectionautorefname{subsection}%
376 \def\subsubsectionautorefname{subsubsection}%
377 \def\paragraphautorefname{paragraph}%

```

```
378 \def\subparagraphautorefname{subparagraph}%
379 \def\FancyVerbLineautorefname{line}%
380 \def\theoremautorefname{Theorem}%
381 \def\pageautorefname{page}%

\pdfstringdef {⟨macroname⟩} {⟨TEXstring⟩}
382 \newcommand{\pdfstringdef}[2]{} 

\pdfbookmark [⟨level⟩] {⟨text⟩} {⟨name⟩}
383 \newcommand{\pdfbookmark}[3]{} 

\currentpdfbookmark {⟨text⟩} {⟨name⟩}
384 \newcommand{\currentpdfbookmark}[2]{} 

\subpdfbookmark {⟨text⟩} {⟨name⟩}
385 \newcommand{\subpdfbookmark}[2]{} 

\belowpdfbookmark {⟨text⟩} {⟨name⟩}
386 \newcommand{\belowpdfbookmark}[2]{} 

\texorpdfstring {⟨TEXstring⟩} {⟨PDFstring⟩}
387 \let\texorpdfstring\relax
388 \newcommand{\texorpdfstring}[2]{#1}

\pdfstringdefDisableCommands {⟨commands⟩}
389 \newcommand{\pdfstringdefDisableCommands}[1]{} 

\hypercalcbp {⟨dimen⟩} From hyperref.
390 \def\hypercalcbp#1{%
391   \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
392 }% 

\Acrobatmenu {⟨menuoption⟩} {⟨text⟩}
393 \newcommand{\Acrobatmenu}[2]{} 

\TextField [⟨parameters⟩] {⟨label⟩}
394 \DeclareRobustCommand{\TextField}[2]{} 

\CheckBox [⟨parameters⟩] {⟨label⟩}
395 \DeclareRobustCommand{\CheckBox}[2]{} 

\ChoiceMenu [⟨parameters⟩] {⟨label⟩} {⟨choices⟩}
396 \DeclareRobustCommand{\ChoiceMenu}[3]{} 
```

```
\PushButton [⟨parameters⟩] {⟨label⟩}
397 \DeclareRobustCommand{\PushButton}[2][]{}

\Submit [⟨parameters⟩] {⟨label⟩}
398 \DeclareRobustCommand{\Submit}[2][]{}

\Reset [⟨parameters⟩] {⟨label⟩}
399 \DeclareRobustCommand{\Reset}[2][]{}

\Gauge [⟨parameters⟩] {⟨label⟩}
400 \DeclareRobustCommand{\Gauge}[2][]{}

\LayoutTextField {⟨label⟩} {⟨field⟩}
401 \newcommand*{\LayoutTextField}[2]{}

\LayoutChoiceField {⟨label⟩} {⟨field⟩}
402 \newcommand*{\LayoutChoiceField}[2]{}

\LayoutCheckField {⟨label⟩} {⟨field⟩}
403 \newcommand*{\LayoutCheckField}[2]{}

\MakeRadioField {⟨width⟩} {⟨height⟩}
404 \newcommand*{\MakeRadioField}[2]{}

\MakeCheckField {⟨width⟩} {⟨height⟩}
405 \newcommand*{\MakeCheckField}[2]{}

\MakeTextField {⟨width⟩} {⟨height⟩}
406 \newcommand*{\MakeTextField}[2]{}

\MakeChoiceField {⟨width⟩} {⟨height⟩}
407 \newcommand*{\MakeChoiceField}[2]{}

\MakeFieldButton {⟨text⟩}
408 \newcommand{\MakeFieldButton}[1]{}
```

---

File 225 **l warp-hyperxmp.sty**

§ 334 Package **hyperxmp**

Pkg hyperxmp      hyperxmp is ignored.

**for HTML output:** Discard all options for l warp-hyperxmp:

```

1 \LWR@ProvidesPackageDrop{hyperxmp}[2018/11/27]
2
3 \define@key{LWR@hyperref}{pdfdate}{}{}}
4 \define@key{LWR@hyperref}{pdfmetadate}{}{}}
5 \define@key{LWR@hyperref}{pdfcopyright}{}{}}
6 \define@key{LWR@hyperref}{pdftype}{}{}}
7 \define@key{LWR@hyperref}{pdflicenseurl}{}{}}
8 \define@key{LWR@hyperref}{pdfauthortitle}{}{}}
9 \define@key{LWR@hyperref}{pdfcaptionwriter}{}{}}
10 \define@key{LWR@hyperref}{pdfmetalang}{}{}}
11 \define@key{LWR@hyperref}{pdfapart}{}{}}
12 \define@key{LWR@hyperref}{pdfaconformance}{}{}}
13 \define@key{LWR@hyperref}{pdfuapart}{}{}}
14 \define@key{LWR@hyperref}{pdfxstandard}{}{}}
15 \define@key{LWR@hyperref}{pdfsource}{}{}}
16 \define@key{LWR@hyperref}{pdfdocumentid}{}{}}
17 \define@key{LWR@hyperref}{pdfinstanceid}{}{}}
18 \define@key{LWR@hyperref}{pdfversionid}{}{}}
19 \define@key{LWR@hyperref}{pdfrendition}{}{}}
20 \define@key{LWR@hyperref}{pdfpublication}{}{}}
21 \define@key{LWR@hyperref}{pdfpubtype}{}{}}
22 \define@key{LWR@hyperref}{pdfbytes}{}{}}
23 \define@key{LWR@hyperref}{pdfnumpages}{}{}}
24 \define@key{LWR@hyperref}{pdfissn}{}{}}
25 \define@key{LWR@hyperref}{pdfeissn}{}{}}
26 \define@key{LWR@hyperref}{pdfisbn}{}{}}
27 \define@key{LWR@hyperref}{pdfbookedition}{}{}}
28 \define@key{LWR@hyperref}{pdfpublisher}{}{}}
29 \define@key{LWR@hyperref}{pdfvolumenum}{}{}}
30 \define@key{LWR@hyperref}{pdfissuenum}{}{}}
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}{pdfsubtitle}{}{}}
36 \define@key{LWR@hyperref}{pdfpubstatus}{}{}}
37 \define@key{LWR@hyperref}{pdfcontactaddress}{}{}}
38 \define@key{LWR@hyperref}{pdfcontactcity}{}{}}
39 \define@key{LWR@hyperref}{pdfcontactregion}{}{}}
40 \define@key{LWR@hyperref}{pdfcontactpostcode}{}{}}
41 \define@key{LWR@hyperref}{pdfcontactcountry}{}{}}
42 \define@key{LWR@hyperref}{pdfcontactphone}{}{}}
43 \define@key{LWR@hyperref}{pdfcontactemail}{}{}}
44 \define@key{LWR@hyperref}{pdfcontacturl}{}{}}
45 \define@key{LWR@hyperref}{keeppdfinfo}{}{}}
46 \define@key{LWR@hyperref}{pdfauthor}{}{}}
47 \define@key{LWR@hyperref}{pdfkeywords}{}{}}

```

---

File 226 **l warp-hyphenat.sty**

§ 335 Package **hyphenat**

Pkg hyphenat **hyphenat** is emulated during HTML output, while the print-mode version is used inside a `latextimage`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{hyphenat}[2009/09/02]

---

```

2 \LetLtxMacro{\LWRHYNAT@origtextnhtt}{\textnhtt}
3 \LetLtxMacro{\LWRHYNAT@orignhtfamily}{\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@orignhtfamily}%
26   \LetLtxMacro{\nohyphens}{\LWRHYNAT@orignohyphens}%
27   \LetLtxMacro{\bshyp}{\LWRHYNAT@origbshyp}%
28   \LetLtxMacro{\fshyp}{\LWRHYNAT@origfshyp}%
29   \LetLtxMacro{\dothyp}{\LWRHYNAT@origdothyp}%
30   \LetLtxMacro{\colonhyp}{\LWRHYNAT@origcolonhyp}%
31   \LetLtxMacro{\hyp}{\LWRHYNAT@orighyp}%
32 }

```

---

### File 227 **l warp-idxlayout.sty**

§ 336      Package **idxlayout**

*(Emulates or patches code by THOMAS TITZ.)*

Pkg    idxlayout

idxlayout is emulated.

for HTML output: Discard all options for l warp-idxlayout:

```

1 \LWR@ProvidesPackageDrop{idxlayout}[2012/03/30]
2 \newcommand{\LWR@indexprenote}{}

```

\AtBeginDocument to help with package load order.

```

3 \AtBeginDocument{
4   \preto{\printindex}{%
5     \LWR@maybe@orignewpage
6     \LWR@startpars
7   }
8   \LWR@indexprenote
9 }
10
11 }
12 }

```

---

```

13 \newcommand{\setindexprenote}[1]{\renewcommand{\LWR@indexprenote}{#1}}
14 \newcommand*{\noindexprenote}{\renewcommand{\LWR@indexprenote}{}}
15
16 \newcommand{\idxlayout}[1]{}
17 \newcommand*{\indexfont}{}
18 \newcommand*{\indexjustific}{}
19 \newcommand*{\indexsubsdelim}{}
20 \newcommand*{\indexstheadcase}{}

```

---

File 228 **l warp-ifoddpage.sty**

§ 337      Package **ifoddpage**

(Emulates or patches code by MARTIN SCHARRER.)

Pkg ifoddpage      ifoddpage is emulated.

**for HTML output:** Discard all options for l warp-ifoddpage:

```

1 \LWR@ProvidesPackageDrop{ifoddpage}[2016/04/23]

2 \newif\ifoddpage
3
4 \newif\ifoddpageoroneside
5
6 \DeclareRobustCommand{\checkoddpage}{\oddpage true\oddpageoroneside true}
7
8 \def\oddpage@page{1}
9
10 \def@ifoddpage{%
11     \expandafter\@firstoftwo
12 }
13
14 \def@ifoddpageoroneside{%
15     \expandafter\@firstoftwo
16 }

```

---

File 229 **l warp-imakeidx.sty**

§ 338      Package **imakeidx**

(Emulates or patches code by ENRICO GREGORIO.)

Pkg imakeidx      imakeidx is patched for use by l warp.

**letter headings** When using *makeindex*, to match the print and HTML output's display of index letter headings, specify the l warp.ist style:

```
\makeindex[options={-s l warp.ist}]
```

(For HTML the l warp.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 l warpmk 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     \@ifundefined{\#1@idxfile}{%
27       \PackageWarning{lwarp-imakeidx}{Undefined index file '#1'}%
28       \begingroup
29         \@sanitize
30         \imki@nowrindex%
31       }%
32     }%
33   }%
34   {%
35     \edef@\idxfile{\#1}%
36     \begingroup
37       \@sanitize
38       \@wrindex\idxfile%
39     }%
40   }%
41   {%
42     \@ifundefined{\#1_html@idxfile}{%
43       \PackageWarning{lwarp-imakeidx}{Undefined index file '#1_html'}%
44       \begingroup
45         \@sanitize
46         \imki@nowrindex%
47       }%
48     }%
49     {%
50       \edef@\idxfile{\#1_html}%
51     }%
52   }%
53 }
```

```

51          \begingroup
52          \@sanitize
53          \@wrindex\@idxfile%
54      }%
55  }%
56 }
57
58 \catcode`\_=8%

```

\item

\subitem

\subsubitem

HTML versions of \item, etc.:

```

59 \appto\theindex{%
60   \LetLtxMacro\item\LWR@indexitem%
61   \LetLtxMacro\subitem\LWR@indexsubitem%
62   \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
63 }

```

\imki@wrindexentrysplit

\imki@wrindexentryunique

{<file>} {<entry>} {<page>}  
 {<file>} {<entry>} {<page>}

While writing index entries, adds an HTML label, and writes the label's index instead of the page number:

```

64 \renewcommand\imki@wrindexentrysplit[3]{%
65 \addtocounter{\LWR@autoindex}{1}%
66 \label{\LWRindex-\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{\LWRindex-\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 \esp@hack%
82 }
83
84 \def\imki@wrindexunique#1#2{%
85 \imki@wrindexentryunique{\#1}{\#2}{\thepage}%
86 \endgroup\imki@showidxentry{\#1}{\#2}%
87 \esp@hack%
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 l warp version is used.  
(Only one style at a time is possible.)

For *xindy*, multiple modules may be specified, and the l warp version is appended.

```

97 \newcommand*\LWR@imki@setdefopts[1]{%
98 \ifblank{#1}{%
99   \edef\imki@options{\space -s \space \LWR@makeindexStyle \space}%
100  \ifdefstring{\imki@progdefault}{xindy}{\LWR@imki@setxdydefopts}{}%
101  \ifdefstring{\imki@progdefault}{texindy}{\LWR@imki@setxdydefopts}{}%
102  \ifdefstring{\imki@progdefault}{truexindy}{\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 l warp core, so it must be redefined here similarly, but patched for imakeidx:

Env theindex

```

118 \AtBeginDocument{
119 \renewenvironment*{theindex}{%
120   \imki@maybeaddtotoc
121   \imki@indexlevel{\indexname}
122   \LetLtxMacro\item\LWR@indexitem%
123   \LetLtxMacro\subitem\LWR@indexsubitem%
124   \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
125 }{}%
126 }% AtBeginDocument

```

Update to the new defaults:

```
127 \imki@resetdefaults
```

Update to the new patches:

\AtBeginDocument is because \wrindex is previously defined as \AtBeginDocument in the l warp core.

```
128 \ifimki@splitindex
129   \let\imki@startidx\imki@startidxunique
130   \AtBeginDocument{\let@\wrindex\imki@wrindexunique}
131   \let\imki@putindex\imki@putindexunique
132   \let\imki@wrindexentry\imki@wrindexentryunique
133   \let\imki@startidxsplit@\undefined
134   \let\imki@wrindexsplit@\undefined
135   \let\imki@putindexsplit@\undefined
136 \else
137   \let\imki@startidx\imki@startidxsplit
138   \AtBeginDocument{\let@\wrindex\imki@wrindexsplit}
139   \let\imki@putindex\imki@putindexsplit
140   \let\imki@wrindexentry\imki@wrindexentrysplit
141   \let\imki@startidxunique@\undefined
142   \let\imki@wrindexunique@\undefined
143   \let\imki@putindexunique@\undefined
144 \fi
```

#### File 230 l warp-impnattypo.sty

##### § 339 Package **impnattypo**

Pkg impnattypo      impnattypo is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{impnattypo}[2019/03/04]

#### File 231 l warp-index.sty

##### § 340 Package **index**

(Emulates or patches code by DAVID M. JONES.)

Pkg index      index is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{index}[2004/01/20]

Use \theLWR@autoindex instead of \thepage. \@tempswattrue 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     \@tempswattrue%
6     \x@newindex[\theLWR@autoindex]%
```

```

7      }
8      {}
9      {\LWR@patcherror{index}{newindex}}
10
11 \xpatchcmd{\renewindex}
12   {\x@renewindex[thepage]}
13   {%
14     \@tempswatrue%
15     \x@renewindex[\the\LWR@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}%          l warp
23     \label{LWRindex-\arabic{\LWR@autoindex}}%    l warp
24     \begingroup%
25   }
26   {}
27   {\LWR@patcherror{index}{@wrindex}}

```

\AtBeginDocument l warp core \lets \@wrindex to \LWR@wrindex. Since the index package has been loaded, \let to its version instead:

```

28 \let\LWR@index@\wrindex@\wrindex
29
30 \AtBeginDocument{
31 \let@\wrindex\LWR@index@\wrindex
32 }

```

Modified to add \index@prologue:

```

33 \AtBeginDocument{
34 \renewenvironment*{\theindex}{%
35   \LWR@indexsection{\indexname}%
36   \ifx\index@prologue\empty\else
37     \index@prologue
38     \bigskip
39   \fi
40   \LetLtxMacro\item{\LWR@indexitem}%
41   \LetLtxMacro\subitem{\LWR@indexsubitem}%
42   \LetLtxMacro\subsubitem{\LWR@indexsubsubitem}%
43 }{}%
44 }% AtBeginDocument

```

Disabled:

```

45 \def@showidx#1{}
46 \let@\texttop\relax
47 \renewcommand*{\raggedbottom}={}
48 \renewcommand*{\flushbottom}={}
49 \renewcommand*{\markboth}[2]{}
50 \renewcommand*{\markright}[1]{}

```

---

**File 232 l warp-inputtrc.sty****§ 341 Package **inputtrc****

(Emulates or patches code by UWE LÜCK.)

Pkg inputtrc      inputtrc is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{inputtrc}[2012/10/10]

Patched to remove extraneous spaces, which sometimes showed up in logos inside a `lateximage`.

```
2 \renewcommand*\IT@prim@input}[1]{%
3   \typeout{\IT@indent\IT@currfile INPUTTING #1}%
4% ... TODO: option to write to ‘.log’ only.
5   \xdef\IT@filestack{\IT@currfile}\IT@filestack}%
6   \xdef\IT@currfile{#1}%
7   \expandafter \gdef\expandafter \IT@indent\expandafter{%
8     \IT@indent \IT@indent@unit}%
9     \IT@input#1%
10    \expandafter\IT@pop@indent\IT@indent \IT@nil%
11    \expandafter\IT@pop@file \IT@filestack\IT@nil%
12    \IT@maybe@returnmessage% v0.2%
13 }
```

---

**File 233 l warp-intopdf.sty****§ 342 Package **intopdf****

Pkg intopdf      intopdf is emulated.

The filespec, MIME type, and description are ignored for now.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{intopdf}[2019/05/28]

```
2 \NewDocumentCommand{\attachandlink}{o m o m m}{%
3   \LWR@href{#2}{#5}%
4 }
```

---

**File 234 l warp-isomath.sty****§ 343 Package **isomath****

(Emulates or patches code by GÜNTER MILDE.)

Pkg isomath      isomath is used as-is for SVG math, and emulated for MATHJAX.

**⚠ MATHJAX sans** MATHJAX does not provide a sans math font, so sans is typeset as roman.

**for HTML output:** 1 \LWR@ProvidesPackagePass{isomath}[2012/09/04]

---

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\mathbf{\boldsymbol}}
4 \CustomizeMathJax{\let\mathsf{\mathbf{not sans}}}
5 \CustomizeMathJax{\let\mathsf{\mathbf{not sans}}}
6 \CustomizeMathJax{\let\mathbf{\mathbf{not sans}}}
7 \CustomizeMathJax{\let\mathbf{\mathbf{not sans}}}
8 \CustomizeMathJax{\let\mathbf{\mathbf{not sans}}}
9 \CustomizeMathJax{\let\mathbf{\mathbf{not sans}}}
10 \CustomizeMathJax{\let\mathbf{\mathbf{not sans}}}
11 \CustomizeMathJax{\let\mathbf{\mathbf{not sans}}}
12 \end{warpMathJax}

```

---

File 235 **l warp-isotope.sty**

§ 344 Package **isotope**

*(Emulates or patches code by HEIKO BAUKE.)*

Pkg isotope

isotope is patched for use by l warp with svg math, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{isotope}[2011/08/26]

```

2 \newcommand{\LWR@HTML@isotope@two}[2][]{%
3     \renewcommand{\isotope@atomicnumber}{#1}%
4     \edef\LWR@isotope@alttag{%
5         \textbackslash%
6         \textbackslash{}isotope%
7         [\isotope@nucleonnumber]%
8         [\isotope@atomicnumber]%
9         \{#2\}%
10        \textbackslash{}%
11    }%
12    \ifbool{mathjax}{%
13        {\LWR@isotope@alttag}%
14        {%
15            \m@th%
16            \LWR@subsingle dollar*%
17            {%
18                \LWR@isotope@alttag%
19            }%
20            {isotope}%
21            {add'l hashing}%
22            {contents}%
23            \settowidth{\tempdimb}{%
24                \ensuremath{\scriptstyle\isotope@nucleonnumber}%
25            }%
26            \settowidth{\tempdimc}{%
27                \ensuremath{\scriptstyle\isotope@atomicnumber}%
28            }%
29            \ifdim{\tempdimb}<{\tempdimc}\tempdimb=\tempdimc\fi%
30            \ensuremath{%
31                \^{\{\makebox[\tempdimb]{r}\{%
32                    \ensuremath{\scriptstyle\isotope@nucleonnumber}%
33                }\}}%
34            }%
35            \_{\makebox[\tempdimb]{r}\{%
36

```

---

```

37          \ensuremath{%
38              \scriptstyle\isotope@atomicnumber%
39          }% ensuremath
40      }%
41          \isotestyle{#2}%
42      }% 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             {}^{\mathrm{\LWRisotopenucleonnumber}}_{\mathrm{#1}}%
55             \mathrm{#2}%
56         }%
57     }%
58 }
59
60 \CustomizeMathJax{%
61     \newcommand{\isotope}[1][]{%
62         \def\LWRisotopenucleonnumber{\#1}%
63         \LWRisotopetwo%
64     }%
65 }
66 \end{warpMathJax}

```

---

File 236 **lwarf-jurabib.sty**

§ 345 Package **jurabib**

(Emulates or patches code by JENS BERGER.)

Pkg jurabib

jurabib is patched for use by lwarf.

**for HTML output:** 1 \LWR@ProvidesPackagePass{jurabib}[2004/01/25]

```

2 \renewrobustcmd{\jblangle}{\textless}
3
4 \renewrobustcmd{\jbrangle}{\textgreater}
5
6 \renewcommand*\jb@biblaw@item{%
7     \hspace{0.5em}%
8     \$\triangleright\$%
9     \HTMLUnicode{25B7}%
10    lwarf
11    \hspace{0.5em}%
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         &
21         \quad\% l warp
22 %       \ifthenelse{\equal{#2}{}{}}{\jb@archnameformat{#2}}%
23       \end{tabular}
24     \fi
25   }
26
27 \xpatchcmd{\jb@do@post@item}
28   {\begin{tabular}{p{\jb@biblaw@item@width}j{\jb@biblaw@entry@width}}}
29   {}
30   {}
31   {\LWR@patcherror{jurabib}{jb@do@post@item 1}}
32
33 \xpatchcmd{\jb@do@post@item}
34   {\multicolumn{2}{p{\columnwidth}}{\jb@name}}
35   {\jb@name}
36   {}
37   {\LWR@patcherror{jurabib}{jb@do@post@item 2}}
38
39 \xpatchcmd{\jb@do@post@item}
40   {\jb@biblaw@item & \jb@fulltitle}
41   {\jb@biblaw@item \quad \jb@fulltitle}
42   {}
43   {\LWR@patcherror{jurabib}{jb@do@post@item 3}}
44
45 \xpatchcmd{\jb@do@post@item}
46   {\end{tabular}}
47   {}
48   {}
49   {\LWR@patcherror{jurabib}{jb@do@post@item 4}}
50
51 \xpatchcmd{\jb@do@post@item}
52   {\begin{minipage}[t]{\bibnumberwidth}}
53   {}
54   {}
55   {\LWR@patcherror{jurabib}{jb@do@post@item 5}}
56
57 \xpatchcmd{\jb@do@post@item}
58   {\end{minipage}}
59   {\quad}
60   {}
61   {\LWR@patcherror{jurabib}{jb@do@post@item 6}}

```

File 237 **l warp-karnaugh-map.sty**

§ 346 Package **karnaugh-map**

(Emulates or patches code by MATTIAS JACOBSSON.)

Pkg karnaugh-map karnaugh-map is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{karnaugh-map}[2017/02/20]

This patch is needed only because l warp 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}'0' is considered as missing matrix template
20    \newcommand{\@karnaughmap@local@maprealignmentx@}{0}%
21    \newcommand{\@karnaughmap@local@maprealignmenty@}{0}%
22    \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizel@=221
23      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
24        \&          0 \&          1 \& \phantom{0} \\
25        0 \& |(00000)| \phantom{0} \& |(00001)| \phantom{0} \& \\
26        1 \& |(00010)| \phantom{0} \& |(00011)| \phantom{0} \& \\
27        \phantom{0} \&           \&           \&           \\
28      }%
29    \fi
30    \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizel@=241
31      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
32        \&          0 \&          1 \& \phantom{0} \\
33        00 \& |(00000)| \phantom{0} \& |(00001)| \phantom{0} \& \\
34        01 \& |(000010)| \phantom{0} \& |(000011)| \phantom{0} \& \\
35        11 \& |(000110)| \phantom{0} \& |(000111)| \phantom{0} \& \\
36        10 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& \\
37        \phantom{00} \&           \&           \&           \\
38      }%
39    \fi
40    \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizel@=421
41      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
42        \&          00 \&          01 \&          11 \&          10 \& \phantom{0} \\
43        0 \& |(00000)| \phantom{0} \& |(00001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)| \\
44        1 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)| \\
45        \phantom{00} \&           \&           \&           \&           \\
46      }%
47    \fi
48    \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizel@=441
49      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
50        \&          00 \&          01 \&          11 \&          10 \& \phantom{0} \\
51        00 \& |(00000)| \phantom{0} \& |(00001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)| \\
52        01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)| \\
53        11 \& |(001100)| \phantom{0} \& |(001101)| \phantom{0} \& |(001111)| \phantom{0} \& |(001110)| \\
54        10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(001010)| \\
55        \phantom{00} \&           \&           \&           \&           \\
56      }%
57    \fi
58    \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizel@=442

```

```

59      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
60          \&          00 \&          01 \&          11 \&          10 \& \ph
61          00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(0
62          01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(0
63          11 \& |(001100)| \phantom{0} \& |(001101)| \phantom{0} \& |(001111)| \phantom{0} \& |(0
64          10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(0
65          \phantom{0} \&          \&          \&          \&          \&
66          }%
67      \renewcommand{\@karnaughmap@local@maprealignmentx@}{2.5}%
68  \fi
69 \ifnum\@karnaughmap@var@mapsizex@\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizel@=444
70      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
71          \&          00 \&          01 \&          11 \&          10 \& \ph
72          00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(0
73          01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(0
74          11 \& |(001100)| \phantom{0} \& |(001101)| \phantom{0} \& |(001111)| \phantom{0} \& |(0
75          10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(0
76          \phantom{0} \&          \&          \&          \&          \&
77          00 \& |(100000)| \phantom{0} \& |(100001)| \phantom{0} \& |(100011)| \phantom{0} \& |(1
78          01 \& |(100100)| \phantom{0} \& |(100101)| \phantom{0} \& |(100111)| \phantom{0} \& |(1
79          11 \& |(101100)| \phantom{0} \& |(101101)| \phantom{0} \& |(101111)| \phantom{0} \& |(1
80          10 \& |(101000)| \phantom{0} \& |(101001)| \phantom{0} \& |(101011)| \phantom{0} \& |(1
81          \phantom{0} \&          \&          \&          \&          \&
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@mapsizel@)%}
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@mapsizel@);
105   % when there are 2 sub maps
106   \ifnum\@karnaughmap@var@mapsizel@=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@mapsizel@=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@mapsizel@+0.9) {\small{#5}};
118   \node[left] at (-0.9,\@karnaughmap@var@mapsizel@*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@ma
143          \@karnaughmap@local@matrixtemplate@%
144      };
145  }{
146      \end{tikzpicture}
147  \endgroup
148 }

```

---

File 238 **l warp-keyfloat.sty**

§ 347 Package **keyfloat**

*(Emulates or patches code by BRIAN DUNN.)*

Pkg keyfloat

**keyfloat** is supported with a considerable amount of hacking. (It's a mashup of **l warp**, **keyfloat**, and **tocdata**.)

⚠ **keywrap** If placing a `\keyfig[H]` inside a `\keywrap`, use an absolute width for `\keyfig`, instead of `lw`-proportional widths. (The `[H]` option forces the use of a minipage, which internally adjusts for a virtual 6-inch wide minipage, which then corrupts the `lw` option.)

For wrapped figures, overhang and number of lines are ignored.

for HTML output:

```

1 \LWR@ProvidesPackagePass{keyfloat}[2019/09/23]
2
3 \IfPackageAtLeastTF{keyfloat}{2019/09/23}{\relax}{
4     \PackageError{l warp-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{
```

Hook [keyfloat] Integration for keyfloat.

```
\KFLT@LWR@hook@boxouter
14 \providecommand*\KFLT@LWR@hook@boxouter{}%
15
16 \renewcommand*\KFLT@LWR@hook@boxouter{}%
17   \ifbool{KFLT@keywrap}{%
18     }{%
19       \ifnumequal{\value{KFLT@keyfloatdepth}}{0}{%
20         \setlength{\ linewidth}{6in}%
21         \setlength{\ textwidth}{6in}%
22         \setlength{\ textheight}{9in}%
23       }{%
24     }%
25   \normalcolor%
26 }
```

Hook [keyfloat] Integration for keyfloat.

```
\KFLT@LWR@hook@keysubfloats
27 \LetLtxMacro\KFLT@LWR@hook@keysubfloats\KFLT@LWR@hook@boxouter
```

Hook [keyfloat] Integration for keyfloat.

```
\KFLT@LWR@hook@keyfloatsminipage
28 \let\KFLT@LWR@hook@keyfloatsminipage\relax
29 \let\end\KFLT@LWR@hook@keyfloatsminipage\relax
30 \newenvironment*{KFLT@LWR@hook@keyfloatsminipage}[1]{}{}
```

Hook [keyfloat] Integration for keyfloat.

```
\KFLT@LWR@hook@keyfloats
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@inkeysubfloats}%
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   {%
81     \ifthenelse{\dimtest{\KFLT@w}>{0pt}}
82     {%
83       \ifthenelse{\dimtest{\KFLT@h}>{0pt}}
84         {%
85           \KFLT@frame{\includegraphics{%
86             [scale=\KFLT@s,%
87               width=\KFLT@imagewidth,%
88               height=\KFLT@h,%
89               \KFLT@keepaspectratio,%
90             ]{#1}%
91           }%
92         }%
93       }%
94     }%
95   }%
96   {%
97     \ifthenelse{\dimtest{\KFLT@h}>{0pt}}
98       {%
99         \KFLT@frame{\includegraphics{%
100        [scale=\KFLT@s, height=\KFLT@h]{#1}%
101      }%
102    }%
103  }%
104 }%
105 }
```

```

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     \ifcsempty{\KFLT@#1t}%
154     {}% no text
155     {}% text to add

```

```
156      {%
```

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 \IfPackageLoadedTF{tocdata}
172 {}
173 {% tocdata not loaded
174
175      \newcommand*{\LWR@KFLT@setnamealign}[1]{%
176          \def\LWR@KFLT@textalign{justify}%
177          \ifstrequal{#1}{\centering}%
178              {\def\LWR@KFLT@textalign{center}}%
179          {}%
180          \ifstrequal{#1}{\raggedleft}%
181              {\def\LWR@KFLT@textalign{right}}%
182          {}%
183          \ifstrequal{#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}{O{-1.2ex} m}%
210 {%
211     \uselengthunit{PT}%
212     \LWR@BlockClassWP%
213     {float:right; width:2in; margin:10pt}%
214     {}%
215     (note)%
216     {marginblock}%
217     \renewcommand*\@capttype{#2}%
218     \minipage{1.2\LWR@usersmarginparwidth}%
219     \setlength{\marginparwidth}{.95\LWR@usersmarginparwidth}%
220 }%
221 {%
222     \endminipage%
223     \endLWR@BlockClassWP%
224 }\\
225 \DeclareDocumentEnvironment{marginfigure}{o}%
226     {\begin{KFLT@marginfloat}{figure}}%
227     {\end{KFLT@marginfloat}}%
228 \\
229 \DeclareDocumentEnvironment{margintable}{o}%
230     {\begin{KFLT@marginfloat}{table}}%
231     {\end{KFLT@marginfloat}}

```

Env keywrap

```

{<width>} {<keyfloat>}\\
232 \DeclareDocumentEnvironment{keywrap}{m +m}%
233 {%
234     \begin{LWR@setvirtualpage}*
235     \setlength{\LWR@templengthone}{#1}%
236     \begin{LWR@BlockClassWP}%
237         {}%
238         float:right; width:\LWR@printlength{\LWR@templengthone}; % extra space
239         margin:10pt%
240     }%
241     {}%
242     (note)%
243     {marginblock}%
244     \setlength{\ linewidth}{.95\LWR@templengthone}%
245     \booltrue{KFLT@keywrap}%

```

```
246      #2%
247      \end{LWR@BlockClassWP}%
248      \end{LWR@setvirtualpage}%
249 }
250 {}

251 }% AtBeginDocument
```

---

**File 239 l warp-keystroke.sty**

§ 348      Package **keystroke**

(Emulates or patches code by WERNER FINK.)

Pkg    keystroke                keystroke is patched for use by l warp.

**for HTML output:**    1 \LWR@ProvidesPackagePass{keystroke}[2010/04/23]

```
2 \newcommand*{\LWR@HTML@keystroke}[1]{
3     \InlineClass{keystroke}{#1}
4 }
5 \LWR@formatted{keystroke}
6
7
8 \newcommand*{\LWR@HTML@Return}{\keystroke{\HTMLunicode{021A9}}}
9 \LWR@formatted{Return}
10
11 \newcommand*{\LWR@HTML@BSpace}{\keystroke{\HTMLunicode{027FB}}}
12 \LWR@formatted{BSpace}
13
14 \newcommand*{\LWR@HTML@Tab}{\keystroke{\HTMLunicode{021C6}|}}
15 \LWR@formatted{Tab}
16
17 \newcommand*{\LWR@HTML@UArrow}{\keystroke{\HTMLunicode{02191}}}
18 \LWR@formatted{UArrow}
19
20 \newcommand*{\LWR@HTML@DArrow}{\keystroke{\HTMLunicode{02193}}}
21 \LWR@formatted{DArrow}
22
23 \newcommand*{\LWR@HTML@LArrow}{\keystroke{\HTMLunicode{02190}}}
24 \LWR@formatted{LArrow}
25
26 \newcommand*{\LWR@HTML@RArrow}{\keystroke{\HTMLunicode{02192}}}
27 \LWR@formatted{RArrow}
28
29 % Preserves the language options:
30 \LetLtxMacro{\LWR@HTML@Shift}{\Shift}
31 \xpatchcmd{\LWR@HTML@Shift}
32   {$\Uparrow$}
33   {\HTMLunicode{21D1}}
34   {}
35   {}
36 \LWR@formatted{Shift}
37
38 \LetLtxMacro{\LWR@HTML@PgUp}{\PgUp}
39 \xpatchcmd{\LWR@HTML@PgUp}
40   {$\uparrow$}
```

---

```

41      {\HTMLUnicode{2191}}
42      {}
43      {}
44 \LWR@formatted{PgUp}
45
46 \LetLtxMacro{\LWR@HTML@PgDown}{\PgDown}
47 \xpatchcmd{\LWR@HTML@PgDown}
48   {$\downarrow$}
49   {\HTMLUnicode{2193}}
50   {}
51   {}
52 \LWR@formatted{PgDown}

```

---

File 240 **l warp-kpfonts.sty**

§ 349 Package **kpfonts**

*(Emulates or patches code by CHRISTOPHE CAIGNAERT.)*

Pkg kpfonts

kpfonts is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation honors the options `uprightRoman` for `\D` only, `classicReIm`, `frenchstyle` for Greek only, `upright` for Greek only, `uprightgreeks`, `slantedGreeks`, and `mathcalascript`.

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-newpxmath}
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

```

File 241 **l warp-kpfonts-otf.sty**

§ 350 Package **kpfonts-otf**

(Emulates or patches code by DANIEL FLIPO.)

`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 `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\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\idsint}
39
40 \CustomizeMathJax{\newcommand{\varointccw}{%
41   \mathop{\!\!\!{\text{\scriptsize\texttt{x2939}}}\!\!}\!\!\!\mathop{\!\!\!{\text{\scriptsize\texttt{x0222E}}}\!\!}\!\!\!
42 }%
43
44 \CustomizeMathJax{\newcommand{\ointcw}{%
45   \mathop{\!\!\!{\text{\scriptsize\texttt{x0222F}}}\!\!}\!\!\!\mathop{\!\!\!{\text{\scriptsize\texttt{x2938}}}\!\!}\!\!\!
46 }%
47
48 \CustomizeMathJax{\newcommand{\ointctrccw}{%
49   \mathop{\!\!\!{\text{\scriptsize\texttt{x2939}}}\!\!}\!\!\!\mathop{\!\!\!{\text{\scriptsize\texttt{x0222F}}}\!\!}\!\!\!
50 }%
51
52 \CustomizeMathJax{\newcommand{\varointcw}{%
53   \mathop{\!\!\!{\text{\scriptsize\texttt{x0222F}}}\!\!}\!\!\!\mathop{\!\!\!{\text{\scriptsize\texttt{x2938}}}\!\!}\!\!\!
54 }%
55
56 \CustomizeMathJax{\newcommand{\varointctrccw}{%
57   \mathop{\!\!\!{\text{\scriptsize\texttt{x2939}}}\!\!}\!\!\!\mathop{\!\!\!{\text{\scriptsize\texttt{x0222F}}}\!\!}\!\!\!
58 }%
59
60 \CustomizeMathJax{\newcommand{\oiintcw}{%
```

---

```

61     \mathop{\!unicode{x02230}\!\!\!unicode{x2938}}%
62 }
63
64 \CustomizeMathJax{\newcommand{\oiintcclockwise}{%
65   \mathop{\!unicode{x2939}\!\!\!unicode{x02230}}%
66 }}
67
68 \CustomizeMathJax{\newcommand{\varoiintclockwise}{%
69   \mathop{\!unicode{x02230}\!\!\!unicode{x2938}}%
70 }}
71
72 \CustomizeMathJax{\newcommand{\varoiintcclockwise}{%
73   \mathop{\!unicode{x2939}\!\!\!unicode{x02230}}%
74 }}
75
76 \CustomizeMathJax{\newcommand{\sqiint}{%
77   \mathop{\!unicode{x2A16}\!\!\!unicode{x2A16}}%
78 }}
79
80 \CustomizeMathJax{\newcommand{\sqiiint}{%
81   \mathop{\!unicode{x2A16}\!\!\!unicode{x2A16}\!\!\!unicode{x2A16}}%
82 }}
83
84 \CustomizeMathJax{\let\widearc\overparen}
85 \CustomizeMathJax{\let\widearcarrow\overrightarrow}
86 \CustomizeMathJax{\let\overrightarc\overrightarrow}
87
88 \end{warpMathJax}

```

---

File 242 **l warp-layaureo.sty**

§ 351 Package **layaureo**

Pkg layaureo layaureo is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{layaureo}[2004/09/16]

File 243 **l warp-layout.sty**

§ 352 Package **layout**

Pkg layout layout is ignored.

**for HTML output:** Discard all options for l warp-layout:

```

1 \LWR@ProvidesPackageDrop{layout}[2014/10/28]
2 \NewDocumentCommand{\layout}{s}{}{}
```

---

**File 244 l warp-layouts.sty**

§ 353      Package **layouts**

Pkg    layouts                        layouts is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{layouts}[2009/09/02]

```
2 \newif\ifoddpage layout
3   \oddpagelayouttrue
4 \newif\iftwocolumnlayout
5   \twocolumnlayoutfalse
6 \newif\ifdrawmarginpars
7   \drawmarginparstrue
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{\setvaluefont}[1]{}{}}
25 \newcommand{\setLayoutscale}[1]{}{}}
26 \newcommand{\setuplayouts}{}{}}
27 \newcommand{\printinunitsof}[1]{}{}}
28 \newcommand{\prntlen}[1]{}{}}
29 \newcommand{\trypaperwidth}[1]{}{}}
30 \newcommand{\trypaperheight}[1]{}{}}
31 \newcommand{\tryhoffset}[1]{}{}}
32 \newcommand{\tryvoffset}[1]{}{}}
33 \newcommand{\trytopmargin}[1]{}{}}
34 \newcommand{\tryheadheight}[1]{}{}}
35 \newcommand{\tryheadsep}[1]{}{}}
36 \newcommand{\trytextheight}[1]{}{}}
37 \newcommand{\tryfootskip}[1]{}{}}
38 \newcommand{\tryoddsidemargin}[1]{}{}}
39 \newcommand{\tryevensidemargin}[1]{}{}}
40 \newcommand{\trytextwidth}[1]{}{}}
41 \newcommand{\trymarginparsep}[1]{}{}}
42 \newcommand{\trymarginparwidth}[1]{}{}}
43 \newcommand{\trymarginparpush}[1]{}{}}
44 \newcommand{\trycolumnsep}[1]{}{}}
45 \newcommand{\trycolumnseprule}[1]{}{}}
46 \newcommand{\setfootbox}[2]{}{}}
47 \newcommand{\currentpage}{}{}}
48 \newcommand{\drawpage}{(draw page)}
49 \newcommand{\pagediagram}{(page diagram)}
```

```
50 \newcommand{\pagedesign}{(page design)}
51 \newcommand{\pagevalues}{(page values)}
52 \newcommand{\trystockwidth}[1]{}
53 \newcommand{\trystockheight}[1]{}
54 \newcommand{\trytrimedge}[1]{}
55 \newcommand{\trytrimtop}[1]{}
56 \newcommand{\tryuppermargin}[1]{}
57 \newcommand{\tryspinemargin}[1]{}
58 \newcommand{\currentstock}{}
59 \newcommand{\drawstock}{(draw stock)}
60 \newcommand{\stockdiagram}{(stock diagram)}
61 \newcommand{\stockdesign}{(stock design)}
62 \newcommand{\stockvalues}{(stock values)}
63 \newcommand{\tryitemindent}[1]{}
64 \newcommand{\trylabelwidth}[1]{}
65 \newcommand{\trylabelsep}[1]{}
66 \newcommand{\tryleftmargin}[1]{}
67 \newcommand{\tryrightmargin}[1]{}
68 \newcommand{\trylistparindent}[1]{}
69 \newcommand{\trytopsep}[1]{}
70 \newcommand{\tryparskip}[1]{}
71 \newcommand{\trypartopsep}[1]{}
72 \newcommand{\tryparsep}[1]{}
73 \newcommand{\tryitemsep}[1]{}
74 \newcommand{\currentlist}{}
75 \newcommand{\drawlist}{(draw list)}
76 \newcommand{\listdiagram}{(list diagram)}
77 \newcommand{\listdesign}{(list design)}
78 \newcommand{\listvalues}{(list values)}
79 \newcommand{\tryfootins}[1]{}
80 \newcommand{\tryfootnotesep}[1]{}
81 \newcommand{\tryfootnotebaseline}[1]{}
82 \newcommand{\tryfootruleheight}[1]{}
83 \newcommand{\tryfootrulefrac}[1]{}
84 \newcommand{\currentfootnote}{}
85 \newcommand{\drawfootnote}{(draw footnote)}
86 \newcommand{\footnotediagram}{(footnote diagram)}
87 \newcommand{\footnotedesign}{(footnote design)}
88 \newcommand{\footnotevalues}{(footnote values)}
89 \newcommand{\tryparindent}[1]{}
90 \newcommand{\tryparlinewidth}[1]{}
91 \newcommand{\tryparbaselineskip}[1]{}
92 \newcommand{\currentparagraph}{}
93 \newcommand{\drawparagraph}{(draw paragraph)}
94 \newcommand{\paragraphdiagram}{(paragraph diagram)}
95 \newcommand{\paragraphdesign}{(paragraph design)}
96 \newcommand{\paragraphvalues}{(paragraph values)}
97 \newcommand{\trybeforeskip}[1]{}
98 \newcommand{\tryafterskip}[1]{}
99 \newcommand{\tryindent}[1]{}
100 \newcommand{\currentheading}{}
101 \newcommand{\drawheading}[1]{(draw heading)}
102 \newcommand{\headingdiagram}[1]{(heading diagram)}
103 \newcommand{\headingdesign}[1]{(heading design)}
104 \newcommand{\headingvalues}{(heading values)}
105 \newcommand{\trytextfloatsep}[1]{}
106 \newcommand{\tryfloatsep}[1]{}
107 \newcommand{\tryintextsep}[1]{}
108 \newcommand{\trytopfigrule}[1]{}
109 \newcommand{\trybotfigrule}[1]{}
```

---

```

110 \newcommand{\currentfloat}{}%
111 \newcommand{\drawfloat}{(draw float)}%
112 \newcommand{\floatdiagram}{(float diagram)}%
113 \newcommand{\floatdesign}{(float design)}%
114 \newcommand{\floatvalues}{(float values)}%
115 \newcommand{\trytotalnumber}[1]{}%
116 \newcommand{\trytopnumber}[1]{}%
117 \newcommand{\trybottomnumber}[1]{}%
118 \newcommand{\trytopfraction}[1]{}%
119 \newcommand{\trytextfraction}[1]{}%
120 \newcommand{\trybottomfraction}[1]{}%
121 \newcommand{\currentfloatpage}{}%
122 \newcommand{\drawfloatpage}{(draw floatpage)}%
123 \newcommand{\floatpagediagram}{(floatpage diagram)}%
124 \newcommand{\floatpagedesign}{(floatpage design)}%
125 \newcommand{\floatpagevalues}{(floatpage values)}%
126 \newcommand{\trytocindent}[1]{}%
127 \newcommand{\trytocnumwidth}[1]{}%
128 \newcommand{\trytoclinewidth}[1]{}%
129 \newcommand{\trytocrmarg}[1]{}%
130 \newcommand{\trytocpnumwidth}[1]{}%
131 \newcommand{\trytocdotsep}[1]{}%
132 \newcommand{\currenttoc}{}%
133 \newcommand{\drawtoc}{(draw toc)}%
134 \newcommand{\tocdiagram}{(toc diagram)}%
135 \newcommand{\tocdesign}{(toc design)}%
136 \newcommand{\tocvalues}{(toc values)}%
137 \newcommand{\drawaspread}[8][0]{(a spread)}%
138 \newcommand{\drawfontframe}[1]{(font frame)}%
139 \newcommand{\drawfontframelabel}[1]{}%

```

---

#### File 245 **l warp-leading.sty**

§ 354      Package **leading**

Pkg **leading**                  leading is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{leading}[2008/12/11]  
                               2 \newcommand\leading[1]{}%

---

#### File 246 **l warp-leftidx.sty**

§ 355      Package **leftidx**

(Emulates or patches code by HARALD HARDERS.)

Pkg **leftidx**                  leftidx works as-is with SVG math, and is emulated for MATHJAX.

**for HTML output:**    1 \LWR@ProvidesPackagePass{leftidx}[2003/09/24]  
                               2 \begin{warpMathJax}  
                               3 \CustomizeMathJax{\newcommand{\leftidx}[3]{\vphantom{#2}\!\!#1#2#3}}  
                               4 \CustomizeMathJax{\newcommand{\ltrans}[1]{\leftidx[^{\mathrm{t}}]{\!#1}}}{}  
                               5 \end{warpMathJax}

---

**File 247 l warp-letterspace.sty**

§ 356      Package **letterspace**

(Emulates or patches code by R SCHLICHT.)

Pkg letterspace

**letterspace** is a subset of microtype, which is pre-loaded by **l warp**. All user options and macros are ignored and disabled.

**for HTML output:** Discard all options for **l warp-letterspace**:

```
1 \LWR@ProvidesPackageDrop{letterspace}[2018/01/14]

2 \newcommand*\lsstyle{}
3 \newcommand\textls[2][]{}
4 \def\textls#1#2{}
5 \newcommand*\lslig[1]{#1}
```

---

---

**File 248 l warp-lettrine.sty**

§ 357      Package **lettrine**

(Emulates or patches code by DANIEL FLIPO.)

Pkg lettrine

**lettrine** is emulated.

**for HTML output:** Discard all options for **l warp-lettrine**:

```
1 \LWR@ProvidesPackageDrop{lettrine}[2018-08-28]
```

The initial letter is in a <span> of class **lettrine**, and the following text is in a <span> of class **lettrinetext**. \lettrine [<keys>] {<letter>} {<additional text>}

```
2 \DeclareDocumentCommand{\lettrine}{o m m}{%
3     \InlineClass{lettrine}{#2}\InlineClass{lettrinetext}{#3} % extra space
4 }
5
6 \newcounter{DefaultLines}
7 \setcounter{DefaultLines}{2}
8 \newcounter{DefaultDepth}
9 \newcommand*{\DefaultOptionsFile}{\relax}
10 \newcommand*{\DefaultLoversize}{0}
11 \newcommand*{\DefaultLraise}{0}
12 \newcommand*{\DefaultLhang}{0}
13 \newdimen\DefaultFindent
14 \setlength{\DefaultFindent}{\z@}
15 \newdimen\DefaultNindent
16 \setlength{\DefaultNindent}{0.5em}
17 \newdimen\DefaultSlope
18 \setlength{\DefaultSlope}{\z@}
19 \newdimen\DiscardVskip
20 \setlength{\DiscardVskip}{0.2\p@}
21 \newif\ifLettrineImage
```

---

```

22 \newif\ifLettrineOnGrid
23 \newif\ifLettrineRealHeight
24
25 \newcommand*{\LettrineTextFont}{\scshape}
26 \newcommand*{\LettrineFontHook}{}%
27 \newcommand*{\LettrineFont}[1]{\InlineClass{lettrine}{#1}}
28 \newcommand*{\LettrineFontEPS}[1]{\includegraphics[height=1.5ex]{#1}}

```

---

File 249 **lwarp-libertinust1math.sty**

§ 358      Package **libertinust1math**

*(Emulates or patches code by MICHAEL SHARPE.)*

Pkg **libertinust1math**

**libertinust1math** is used as-is for SVG math, and is emulated for MATHJAX.

The MATHJAX emulation honors `frenchmath` for Greek but not Latin characters, and `slantedGreek`, `uprightGreek`, and `ISO` also adjust Greek characters. MATHJAX cannot yet honor options for adjusting Latin characters.

The dedicated macros for upright and italic Greek letters do work correctly.

Some of the symbol font macros such as `\mathsf{bf}` do not use a sans font because MATHJAX does not yet have sans Greek.

SVG math honors all font choices, and should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{libertinust1math}[2020/06/10]
2
3 \LWR@infoprocessingmathjax{libertinust1math}

4 \LWR@origRequirePackage{lwarp-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\mathsfbf\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{\mathbf}[1]{\boldsymbol{#1}}}
35 \CustomizeMathJax{\let\mathbf\boldsymbol}

36 % \CustomizeMathJax{\newcommand{\mathsfbf}[1]{\boldsymbol{#1}}}}% not sans
37 \CustomizeMathJax{\let\mathsfbf\mathbf}% not sans
38 % \CustomizeMathJax{\newcommand{\mathsfbf}[1]{%
39 %   \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}}% not greek
40 % }}% not sans

41 \CustomizeMathJax{\let\mathsfit\mathit}% not sans
42 % \CustomizeMathJax{\newcommand{\mathsfit}[1]{%
43 %   \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}}% not greek
44 % }}% not sans
45
46 \CustomizeMathJax{\let\vectorsym\mathbf}
47 \CustomizeMathJax{\let\matrixsym\mathbf}
48 \CustomizeMathJax{\let\tensorsym\mathsfbf}
49 \CustomizeMathJax{\let\mathboldsans\mathsfbf}
50 \CustomizeMathJax{\let\mathbold\mathbf}

```

`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{\smalliiiintsl}{\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{\smalliiiintup}{\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{\iiintslop}{\mathop{\backslash unicode{x222C}}\limits}}
72 \CustomizeMathJax{\newcommand{\iiiiintslop}{\mathop{\backslash unicode{x222D}}\limits}}
73 \CustomizeMathJax{\newcommand{\iiiiiiintslop}{\mathop{\backslash unicode{x2A0C}}\limits}}
74 \CustomizeMathJax{\let\ointslop\oint}
75 \CustomizeMathJax{\newcommand{\oiintslop}{\mathop{\backslash unicode{x222F}}\limits}}
76 \CustomizeMathJax{\newcommand{\oiiiintslop}{\mathop{\backslash unicode{x2230}}\limits}}
77
78 \CustomizeMathJax{\let\intupop\int}
79 \CustomizeMathJax{\newcommand{\iiintupop}{\mathop{\backslash unicode{x222C}}\limits}}
80 \CustomizeMathJax{\newcommand{\iiiiintupop}{\mathop{\backslash unicode{x222D}}\limits}}
81 \CustomizeMathJax{\newcommand{\iiiiiiintupop}{\mathop{\backslash 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{\smalliiiint}{\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{\inttop}{\mathop{\text{\scriptsize\texttt{unicode{x222C}}}}\limits}}
94 \CustomizeMathJax{\newcommand{\iinttop}{\mathop{\text{\scriptsize\texttt{unicode{x222D}}}}\limits}}
95 \CustomizeMathJax{\newcommand{\iiinttop}{\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{\ooint}{\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{x20200}}}}\limits}}
129 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{\#1\text{\scriptsize\texttt{unicode{x20201}}}}\limits}}
130 \CustomizeMathJax{\newcommand{\leftarrowaccent}[1]{\mathord{\#1\text{\scriptsize\texttt{unicode{x20200}}}}\limits}}
131 \CustomizeMathJax{\let\rightarrowaccent\vec}
132
133 \CustomizeMathJax{\newcommand{\leftrightarrowaccent}[1]{\mathord{\#1\text{\scriptsize\texttt{unicode{x202E1}}}}\limits}}
134 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{\#1\text{\scriptsize\texttt{unicode{x202E7}}}}\limits}}
135 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{\#1\text{\scriptsize\texttt{unicode{x202E9}}}}\limits}}
136 \CustomizeMathJax{\newcommand{\asteraccent}[1]{\mathord{\#1\text{\scriptsize\texttt{unicode{x202F0}}}}\limits}}
137
138 % neutralized:
139 \CustomizeMathJax{\newcommand{\braceId}{}}
140 \CustomizeMathJax{\newcommand{\bracerd}{}}
141 \CustomizeMathJax{\newcommand{\bracelu}{}}
```

```

142 \CustomizeMathJax{\newcommand{\braceru}{}}}
143 \CustomizeMathJax{\newcommand{\braceex}{}}}
144 \CustomizeMathJax{\newcommand{\bracemu}{}}}
145 \CustomizeMathJax{\newcommand{\bracemd}{}}}
146 \CustomizeMathJax{\newcommand{\parenld}{}}}
147 \CustomizeMathJax{\newcommand{\parenrd}{}}}
148 \CustomizeMathJax{\newcommand{\parenlu}{}}}
149 \CustomizeMathJax{\newcommand{\parenru}{}}}
150 \CustomizeMathJax{\newcommand{\bracketld}{}}}
151 \CustomizeMathJax{\newcommand{\bracketrd}{}}}
152 \CustomizeMathJax{\newcommand{\bracketlu}{}}}
153 \CustomizeMathJax{\newcommand{\bracketru}{}}}
154 \CustomizeMathJax{\newcommand{\bracketex}{}}}
155 \CustomizeMathJax{\newcommand{\parenex}{}}}
156
157 \CustomizeMathJax{\newcommand{\lhook}{\sim}}
158 \CustomizeMathJax{\newcommand{\rhook}{\sim}}
159 \CustomizeMathJax{\newcommand{\relbar}{-}}
160 \CustomizeMathJax{\newcommand{\Relbar}{=}}
161
162 \CustomizeMathJax{\newcommand{\mapstochar}{\mathrel{\text{\scriptsize{\texttt{`}}}\text{\normalsize{\texttt{x21A6}}}}}}
163
164 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\text{\scriptsize{\texttt{x0001B5}}}}}}
165 \CustomizeMathJax{\newcommand{\notchar}{\mathrel{\text{\scriptsize{\texttt{x000AC}}}}}}
166 \CustomizeMathJax{\newcommand{\upbackepsilon}{\mathord{\text{\scriptsize{\texttt{x03F6}}}}}}
167 \CustomizeMathJax{\newcommand{\smblkcircle}{\mathbin{\text{\scriptsize{\texttt{x02022}}}}}}
168 \CustomizeMathJax{\newcommand{\enleadertwodots}{\mathord{\text{\scriptsize{\texttt{x02025}}}}}}
169 \CustomizeMathJax{\newcommand{\unicodeellipsis}{\mathord{\text{\scriptsize{\texttt{x02026}}}}}}
170 \CustomizeMathJax{\newcommand{\mathellipsis}{\mathinner{\text{\scriptsize{\texttt{x02026}}}}}}
171 \CustomizeMathJax{\newcommand{\dprime}{\mathord{\text{\scriptsize{\texttt{x02033}}}}}}
172 \CustomizeMathJax{\newcommand{\trprime}{\mathord{\text{\scriptsize{\texttt{x02034}}}}}}
173 \CustomizeMathJax{\newcommand{\backdprime}{\mathord{\text{\scriptsize{\texttt{x02036}}}}}}
174 \CustomizeMathJax{\newcommand{\backtrprime}{\mathord{\text{\scriptsize{\texttt{x02037}}}}}}
175 \CustomizeMathJax{\newcommand{\caretinsert}{\mathord{\text{\scriptsize{\texttt{x02038}}}}}}
176 \CustomizeMathJax{\newcommand{\Exclam}{\mathord{\text{\scriptsize{\texttt{x0203C}}}}}}
177
178 \CustomizeMathJax{\newcommand{\hyphenbullet}{\mathord{\text{\scriptsize{\texttt{x02043}}}}}}
179 \CustomizeMathJax{\newcommand{\fracslash}{\mathbin{\text{\scriptsize{\texttt{x02044}}}}}}
180 \CustomizeMathJax{\newcommand{\Question}{\mathord{\text{\scriptsize{\texttt{x02047}}}}}}
181 \CustomizeMathJax{\newcommand{\closure}{\mathrel{\text{\scriptsize{\texttt{x02050}}}}}}
182 \CustomizeMathJax{\newcommand{\qprime}{\mathord{\text{\scriptsize{\texttt{x02057}}}}}}
183 \CustomizeMathJax{\newcommand{\vertoverlay}{\mathrel{\text{\scriptsize{\texttt{x020D2}}}}}}
184 \CustomizeMathJax{\newcommand{\enclosecircle}{\mathord{\text{\scriptsize{\texttt{x020DD}}}}}}
185 \CustomizeMathJax{\newcommand{\enclosesquare}{\mathord{\text{\scriptsize{\texttt{x020DE}}}}}}
186 \CustomizeMathJax{\newcommand{\enclosetriangle}{\mathord{\text{\scriptsize{\texttt{x020E4}}}}}}
187 \CustomizeMathJax{\newcommand{\Eulerconst}{\mathord{\text{\scriptsize{\texttt{x02107}}}}}}
188 \CustomizeMathJax{\newcommand{\turndiota}{\mathord{\text{\scriptsize{\texttt{x02129}}}}}}
189 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\text{\scriptsize{\texttt{x0212B}}}}}}
190
191 \CustomizeMathJax{\newcommand{\sansLturned}{\mathord{\text{\scriptsize{\texttt{x02142}}}}}}
192 \CustomizeMathJax{\newcommand{\sansLmirrored}{\mathord{\text{\scriptsize{\texttt{x02143}}}}}}
193 \CustomizeMathJax{\newcommand{\Yup}{\mathord{\text{\scriptsize{\texttt{x02144}}}}}}
194 \CustomizeMathJax{\newcommand{\upand}{\mathbin{\text{\scriptsize{\texttt{x0214B}}}}}}
195 \CustomizeMathJax{\newcommand{\increment}{\mathord{\text{\scriptsize{\texttt{x02206}}}}}}
196 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\text{\scriptsize{\texttt{x0220A}}}}}}
197 \CustomizeMathJax{\newcommand{\nni}{\mathrel{\text{\scriptsize{\texttt{x0220C}}}}}}
198
199 \CustomizeMathJax{\newcommand{\smallni}{\mathrel{\text{\scriptsize{\texttt{x0220D}}}}}}
200 \CustomizeMathJax{\newcommand{\QED}{\mathord{\text{\scriptsize{\texttt{x0220E}}}}}}
201 \CustomizeMathJax{\newcommand{\vysmwhtcircle}{\mathbin{\text{\scriptsize{\texttt{x02218}}}}}}

```

```
202 \CustomizeMathJax{\newcommand{\vysmblkcircle}{\mathbin{\text{\scriptsize{\texttt{vysmblkcircle}}}}}}
203 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\text{\scriptsize{\texttt{rightangle}}}}}}
204
205 \CustomizeMathJax{\newcommand{\Colon}{\mathrel{\text{\scriptsize{\texttt{:}}}}}}
206 \CustomizeMathJax{\newcommand{\dotminus}{\mathbin{\text{\scriptsize{\texttt{dotminus}}}}}}
207 \CustomizeMathJax{\newcommand{\dashcolon}{\mathrel{\text{\scriptsize{\texttt{dashcolon}}}}}}
208 \CustomizeMathJax{\newcommand{\dotsminusdots}{\mathrel{\text{\scriptsize{\texttt{dotsminusdots}}}}}}
209 \CustomizeMathJax{\newcommand{\kernelcontraction}{\mathrel{\text{\scriptsize{\texttt{kernelcontraction}}}}}}
210 \CustomizeMathJax{\newcommand{\invlazys}{\mathbin{\text{\scriptsize{\texttt{invlazys}}}}}}
211
212 \CustomizeMathJax{\newcommand{\sinewave}{\mathord{\text{\scriptsize{\texttt{sinewave}}}}}}
213 \CustomizeMathJax{\newcommand{\nsime}{\mathrel{\text{\scriptsize{\texttt{nsime}}}}}}
214 \CustomizeMathJax{\newcommand{\simneqq}{\mathrel{\text{\scriptsize{\texttt{simneqq}}}}}}
215 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\text{\scriptsize{\texttt{napprox}}}}}}
216 \CustomizeMathJax{\newcommand{\approxident}{\mathrel{\text{\scriptsize{\texttt{approxident}}}}}}
217 \CustomizeMathJax{\newcommand{\backcong}{\mathrel{\text{\scriptsize{\texttt{backcong}}}}}}
218
219 \CustomizeMathJax{\newcommand{\nasym}{\mathrel{\text{\scriptsize{\texttt{nasym}}}}}}
220 \CustomizeMathJax{\newcommand{\nlesssim}{\mathrel{\text{\scriptsize{\texttt{nlesssim}}}}}}
221 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\text{\scriptsize{\texttt{ngtrsim}}}}}}
222 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\text{\scriptsize{\texttt{nlessgtr}}}}}}
223 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\text{\scriptsize{\texttt{ngtrless}}}}}}
224
225 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\text{\scriptsize{\texttt{nsubset}}}}}}
226 \CustomizeMathJax{\newcommand{\nsupset}{\mathrel{\text{\scriptsize{\texttt{nsupset}}}}}}
227
228 \CustomizeMathJax{\newcommand{\cupleftarrow}{\mathbin{\text{\scriptsize{\texttt{cupleftarrow}}}}}}
229 \CustomizeMathJax{\newcommand{\cupdot}{\mathbin{\text{\scriptsize{\texttt{cupdot}}}}}}
230 \CustomizeMathJax{\newcommand{\circledeq}{\mathbin{\text{\scriptsize{\texttt{circledeq}}}}}}
231
232 \CustomizeMathJax{\newcommand{\assert}{\mathrel{\text{\scriptsize{\texttt{assert}}}}}}
233 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\text{\scriptsize{\texttt{VDash}}}}}}
234 \CustomizeMathJax{\newcommand{\prurel}{\mathrel{\text{\scriptsize{\texttt{prurel}}}}}}
235
236 \CustomizeMathJax{\newcommand{\origof}{\mathrel{\text{\scriptsize{\texttt{origof}}}}}}
237 \CustomizeMathJax{\newcommand{\smallprod}{\mathop{\text{\scriptsize{\texttt{smallprod}}}}}}% not small
238 \CustomizeMathJax{\newcommand{\smallcoprod}{\mathop{\text{\scriptsize{\texttt{smallcoprod}}}}}}% not small
239 \CustomizeMathJax{\newcommand{\smallsum}{\mathop{\text{\scriptsize{\texttt{smallsum}}}}}}% not small
240 \CustomizeMathJax{\newcommand{\Hfraktur}{\mathord{\text{\scriptsize{\texttt{Hfraktur}}}}}}
241 \CustomizeMathJax{\newcommand{\dsol}{\mathbin{\text{\scriptsize{\texttt{dsol}}}}}}
242 \CustomizeMathJax{\newcommand{\rsolbar}{\mathbin{\text{\scriptsize{\texttt{rsolbar}}}}}}
243
244 \CustomizeMathJax{\newcommand{\eqless}{\mathrel{\text{\scriptsize{\texttt{eqless}}}}}}
245 \CustomizeMathJax{\newcommand{\eqgtr}{\mathrel{\text{\scriptsize{\texttt{eqgtr}}}}}}
246 \CustomizeMathJax{\newcommand{\npreccurlyeq}{\mathrel{\text{\scriptsize{\texttt{npreccurlyeq}}}}}}
247 \CustomizeMathJax{\newcommand{\nsucccurlyeq}{\mathrel{\text{\scriptsize{\texttt{nsucccurlyeq}}}}}}
248 \CustomizeMathJax{\newcommand{\nsqsubseteq}{\mathrel{\text{\scriptsize{\texttt{nsqsubseteq}}}}}}
249 \CustomizeMathJax{\newcommand{\nsqsupseteq}{\mathrel{\text{\scriptsize{\texttt{nsqsupseteq}}}}}}
250 \CustomizeMathJax{\newcommand{\sqsubsetneq}{\mathrel{\text{\scriptsize{\texttt{sqsubsetneq}}}}}}
251 \CustomizeMathJax{\newcommand{\sqsupsetneq}{\mathrel{\text{\scriptsize{\texttt{sqsupsetneq}}}}}}
252 \CustomizeMathJax{\newcommand{\nvartriangleleft}{\mathrel{\text{\scriptsize{\texttt{nvartriangleleft}}}}}}
253 \CustomizeMathJax{\newcommand{\nvartriangleright}{\mathrel{\text{\scriptsize{\texttt{nvartriangleright}}}}}}
254
255 \CustomizeMathJax{\newcommand{\vdotsmath}{\mathrel{\text{\scriptsize{\texttt{vdotsmath}}}}}}
256 \CustomizeMathJax{\newcommand{\unicodedcdots}{\mathord{\text{\scriptsize{\texttt{unicodedcdots}}}}}}
257 \CustomizeMathJax{\newcommand{\adots}{\mathrel{\text{\scriptsize{\texttt{adots}}}}}}
258 \CustomizeMathJax{\newcommand{\succneqq}{\mathrel{\text{\scriptsize{\texttt{succneqq}}}}}}
259 \CustomizeMathJax{\newcommand{\preceqq}{\mathrel{\text{\scriptsize{\texttt{preceqq}}}}}}
260 \CustomizeMathJax{\newcommand{\succeqq}{\mathrel{\text{\scriptsize{\texttt{succeqq}}}}}}
261 \CustomizeMathJax{\newcommand{\precneqq}{\mathrel{\text{\scriptsize{\texttt{precneqq}}}}}}
```

```
262
263 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\text{\scriptsize\texttt{unicode{x021A4}}}}}}
264
265 \CustomizeMathJax{\newcommand{\longmapsfrom}{\mathrel{\text{\scriptsize\texttt{unicode{x027FB}}}}}}
266
267 \CustomizeMathJax{\newcommand{\diameter}{\mathord{\text{\scriptsize\texttt{unicode{x02300}}}}}}
268 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\text{\scriptsize\texttt{unicode{x02254}}}}}}
269 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\text{\scriptsize\texttt{unicode{x02255}}}}}}
270 \CustomizeMathJax{\newcommand{\arceq}{\mathrel{\text{\scriptsize\texttt{unicode{x02258}}}}}}
271 \CustomizeMathJax{\newcommand{\wedgeq}{\mathrel{\text{\scriptsize\texttt{unicode{x02259}}}}}}
272 \CustomizeMathJax{\newcommand{\veeeq}{\mathrel{\text{\scriptsize\texttt{unicode{x0225A}}}}}}
273
274 \CustomizeMathJax{\newcommand{\stareq}{\mathrel{\text{\scriptsize\texttt{unicode{x0225B}}}}}}
275 \CustomizeMathJax{\newcommand{\eqdef}{\mathrel{\text{\scriptsize\texttt{unicode{x0225D}}}}}}
276 \CustomizeMathJax{\newcommand{\measeq}{\mathrel{\text{\scriptsize\texttt{unicode{x0225E}}}}}}
277 \CustomizeMathJax{\newcommand{\questeq}{\mathrel{\text{\scriptsize\texttt{unicode{x0225F}}}}}}
278 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\text{\scriptsize\texttt{unicode{x02262}}}}}}
279 \CustomizeMathJax{\newcommand{\Equiv}{\mathrel{\text{\scriptsize\texttt{unicode{x02263}}}}}}
280
281 \CustomizeMathJax{\newcommand{\house}{\mathord{\text{\scriptsize\texttt{unicode{x02302}}}}}}
282
283 \CustomizeMathJax{\newcommand{\musicalnote}{\mathord{\text{\scriptsize\texttt{unicode{x0266A}}}}}}
284 \CustomizeMathJax{\newcommand{\degree}{\mathord{\text{\scriptsize\texttt{unicode{x000B0}}}}}}
285 \CustomizeMathJax{\newcommand{\mathsection}{\mathord{\text{\scriptsize\texttt{unicode{x000A7}}}}}}
286 \CustomizeMathJax{\newcommand{\mathparagraph}{\mathord{\text{\scriptsize\texttt{unicode{x000B6}}}}}}
287 \CustomizeMathJax{\newcommand{\checkmarkmath}{\mathord{\text{\scriptsize\texttt{unicode{x02713}}}}}}
288 \CustomizeMathJax{\newcommand{\invnot}{\mathord{\text{\scriptsize\texttt{unicode{x02310}}}}}}
289
290 \CustomizeMathJax{\newcommand{\mathvisiblespace}{\mathord{\text{\scriptsize\texttt{unicode{x02423}}}}}}
291 \CustomizeMathJax{\newcommand{\mdlgblksquare}{\mathord{\text{\scriptsize\texttt{unicode{x025A0}}}}}}
292 \CustomizeMathJax{\newcommand{\mdlwghtsquare}{\mathord{\text{\scriptsize\texttt{unicode{x025A1}}}}}}
293
294 \CustomizeMathJax{\newcommand{\bigblacktriangleup}{\mathord{\text{\scriptsize\texttt{unicode{x025B2}}}}}}
295 \CustomizeMathJax{\newcommand{\varbigtriangleup}{\mathord{\text{\scriptsize\texttt{unicode{x025B3}}}}}}
296
297 \CustomizeMathJax{\newcommand{\bigblacktriangledown}{\mathord{\text{\scriptsize\texttt{unicode{x025BC}}}}}}
298 \CustomizeMathJax{\newcommand{\varbigtriangledown}{\mathord{\text{\scriptsize\texttt{unicode{x025BD}}}}}}
299 \CustomizeMathJax{\newcommand{\Longmapsfrom}{\mathrel{\text{\scriptsize\texttt{unicode{x027FD}}}}}}
300
301 % bug in print font:
302 \CustomizeMathJax{\newcommand{\mdlgblkdiamond}{\mathord{\text{\scriptsize\texttt{unicode{x025C6}}}}}}
303
304 \CustomizeMathJax{\newcommand{\mdlgwhtdiamond}{\mathord{\text{\scriptsize\texttt{unicode{x025C7}}}}}}
305 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\text{\scriptsize\texttt{unicode{x027FE}}}}}}
306 \CustomizeMathJax{\newcommand{\fisheye}{\mathord{\text{\scriptsize\texttt{unicode{x025C9}}}}}}
307 \CustomizeMathJax{\newcommand{\mdlgwhtlozenge}{\mathord{\text{\scriptsize\texttt{unicode{x025CA}}}}}}
308 \CustomizeMathJax{\newcommand{\mdlgwhtcircle}{\mathbin{\text{\scriptsize\texttt{unicode{x025CB}}}}}}
309 \CustomizeMathJax{\newcommand{\bullseye}{\mathord{\text{\scriptsize\texttt{unicode{x025CE}}}}}}
310 \CustomizeMathJax{\newcommand{\mdlgblkcircle}{\mathord{\text{\scriptsize\texttt{unicode{x025CF}}}}}}
311
312 \CustomizeMathJax{\newcommand{\Nwarrow}{\mathrel{\text{\scriptsize\texttt{unicode{x021D6}}}}}}
313 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\text{\scriptsize\texttt{unicode{x021D7}}}}}}
314 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\text{\scriptsize\texttt{unicode{x021D8}}}}}}
315 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\text{\scriptsize\texttt{unicode{x021D9}}}}}}
316
317 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathord{\text{\scriptsize\texttt{unicode{x02906}}}}}}
318 \CustomizeMathJax{\newcommand{\smwhtcircle}{\mathord{\text{\scriptsize\texttt{unicode{x025E6}}}}}}
319 \CustomizeMathJax{\newcommand{\smwhtdiamond}{\mathbin{\text{\scriptsize\texttt{unicode{x022C4}}}}}}
320 \CustomizeMathJax{\newcommand{\Mapsto}{\mathord{\text{\scriptsize\texttt{unicode{x02907}}}}}}
321
```

```
322 \CustomizeMathJax{\let\ngets\nleftarrow}
323 \CustomizeMathJax{\let\nsimeq\nsimeq}
324 \CustomizeMathJax{\let\nleq\nleq}
325 \CustomizeMathJax{\let\ngt\ngt}
326
327 \end{warpMathJax}
```

---

**File 250 l warp-lineno.sty**

§ 359      Package **lineno**

(Emulates or patches code by STEPHAN I. BÖTTCHER.)

Pkg    lineno

lineno is partly emulated, but mostly ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{lineno}[2005/11/02]

```
2 \newcommand*\resetlinenumber[1][\@ne]{}%
3
4 \def\linenumbers{%
5   \@ifnextchar[\{\resetlinenumber\}%
6     {\@ifstar{\resetlinenumber}{}}\}%
7 }
8
9 \newcommand*\nolinenumbers{}%
10
11 \namedef{linenumbers}{\par\linenumbers*}%
12 \namedef{runninglinenumbers}{\par\runninglinenumbers*}%
13
14 \def\endlinenums{\par}%
15 \let\endrunninglinenums\endlinenums%
16 \let\endpagewiselinenums\endlinenums%
17 \expandafter\let\csname endlinenums*\endcsname\endlinenums%
18 \expandafter\let\csname endrunninglinenums*\endcsname\endlinenums%
19 \let\endnolinenums\endlinenums%
20
21 \def\pagewiselinenums{\linenums\setpagewiselinenums}%
22
23 \def\runninglinenums{\setrunninglinenums\linenums}%
24
25 \def\setpagewiselinenums{}%
26
27 \def\setrunninglinenums{}%
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\switchlinenums{\@ifstar{}{}}
37 \def\setmakelinenums#1{\@ifstar{}{}}
38
39 \def\leftlinenums{\@ifstar{}{}}
40 \def\rightlinenums{\@ifstar{}{}}
41
```

```
42 \newcounter{linenumber}
43 \newcount\c@pagewiselinenumbers
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\quotelinenumberssep
76
77 \quotelinenumberssep=\linenumbersep
78 \let\quotelinumberfont\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}
```

---

```

102 \newdimen\bframerule
103 \bframerule=\fboxrule
104
105 \newdimen\bframesep
106 \bframesep=\fboxsep
107
108 \newenvironment{bframe}
109 {%
110     \LWR@forceminwidth{\bframerule}%
111     \BlockClass[
112         border:\LWR@printlength{\LWR@atleastonept} solid black ; %
113         padding:\LWR@printlength{\bframesep}%
114     ]{bframe}
115 }
116 {\endBlockClass}
```

---

File 251 **l warp-lips.sty**

§ 360 Package **lips**

*(Emulates or patches code by MATT SWIFT.)*

Pkg lips

**lips** is emulated.

```

1 \% \LWR@ProvidesPackageDrop{lips}
2 \PackageInfo{l warp}{Using the l warp version of package 'lips'.}%
3 \ProvidesPackage{l warp-lips}[2001/08/31]
4
5 \NewDocumentCommand{\Lips}{}{\textellipsis}
6
7 \NewDocumentCommand{\BracketedLips}{}{[\textellipsis]}
8
9 \let\lips\Lips
10 \let\olips\lips
11
12 \DeclareOption*{}
13 \DeclareOption{mla}{%
14 \let\lips\BracketedLips
15 }
16 \ProcessOptions\relax
17
18 \newcommand \LPNobreakList {}
```

---

File 252 **l warp-lipsum.sty**

§ 361 Package **lipsum**

*(Emulates or patches code by PATRICK HAPPEL.)*

Pkg lipsum

**lipsum** is patched for use by **l warp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{lipsum}[2021-03-03]

2 \SetListParListEnd{%
3     \LWR@closeparagraph%
```

---

```

4      \leavevmode\LWR@orignewline%
5 }

```

---

File 253 **l warp-listings.sty**

§ 362 Package **listings**

*(Emulates or patches code by CARSTEN HEINZ, BROOKS MOSES, JOBST HOFFMANN.)*

Pkg listings

**listings** is supported with some limitations. Text formatting and escape characters are not yet supported.

```
1 \LWR@ProvidesPackagePass{listings}[2018/09/02]
```

Force flexible columns. Fixed columns inserts spaces in the PDF output.

```
2 \lst@column@flexible
```

Patches to embed listings inside pre tags:

```

3 \let\LWR@origlst@Init\lst@Init
4 \let\LWR@origlst@DeInit\lst@DeInit
5
6 \let\LWR@origlst@EveryPar\lst@EveryPar
7
8 \renewcommand{\l@lstlisting}[2]{\hypertocfloat{1}{lstlisting}{lol}{#1}{#2}}

```

\lstset {*<options>*}

Use the **listings** literate option to replace HTML entities:

```

9 \def\lstset@#1{\endgroup%
10 % \ifx\@empty#1%
11 %     \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%      l warp
26   \LWR@forcenewpage%    l warp
27 \fi%                      l warp
```

Escapes do not work yet, and are disabled:

```
28 \let\lst@ifmathescape\iffalse%      l warp
29 \let\lst@DefEsc\relax%            l warp
30 \def\lst@escapebegin{}%          l warp
31 \def\lst@escapeend{}%          l warp

32 \renewcommand*{\@capttype}{lstlisting}%      l warp
33   \let\lst@aboveskip\z@\let\lst@belowskip\z@%    l warp
34   \gdef\lst@boxpos{t}%              l warp
35   \let\lst@frame\empty%           l warp
36   \let\lst@frametshape\empty%     l warp
37   \let\lst@framershape\empty%    l warp
38   \let\lst@framebshape\empty%    l warp
39   \let\lst@framelshape\empty%    l warp
40   \lstframe@\lst@frameround ffff\relax%  l warp
41   \lst@multicols\empty%        l warp
42   \begingroup%
```

Inside the listing, temporarily prevent underfull `\hbox` warnings.

```
43           \hbadness=1000\relax%

44   \ifx\lst@float\relax\else%
45     \edef\@tempa{\noexpand\lst@beginfloat{lstlisting}[\lst@float]}%
46     \expandafter\@tempa%
47 \fi%
48 \ifx\lst@multicols\empty\else%
49   \edef\lst@next{\noexpand\multicols{\lst@multicols}}%
50   \expandafter\lst@next%
51 \fi%
52 \ifhmode\ifinner \lst@boxtrue \fi\fi%
53 \lst@ifbox%
54   \lst@BoxUnsafe%
55   \hbox to\z@\bgroup%
56   $ \if t\lst@boxpos \vtop%
57   \else \if b\lst@boxpos \vbox%
58   \else \vcenter \fi\fi%
59   \bgroup \par\noindent%
60 \else%
61   \lst@ifdisplaystyle%
62     \lst@EveryDisplay%
63     \par\penalty-50\relax%
64     \vspace\lst@aboveskip%
65   \fi%
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   \lst@PreInit \lst@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{\lst@EveryLine\lst@EveryPar}}%
90       \fi
91     \fi
92     \everypar\expandafter{\lst@ltxlabel
93                           \lst@EveryLine\lst@EveryPar}%
94   \else
95     \everypar{}
96     \let\lst@NewLine@\empty
97   \fi
98 \LWR@traceinfo{lst@Init: P}%
99   \lst@InitVars \lst@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.}% lwarp
109   \let\lst@EveryPar\relax%                                lwarp

110   \LWR@atbeginverbatim{programlisting}%                lwarp
111
112   \let\lst@EveryPar\LWR@origlst@EveryPar%    lwarp
113 \else%                                         lwarp

```

Inline, so open a <span>:

```

114   \ifbool{\LWR@verbtags}{\LWR@htmltag{%
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 &lt;/pre&gt;, then reenable line numbers:

```

123   \let\lsthk@EveryPar\relax%
124   \LWR@afterendverbatim%
125   \let\lsthk@EveryPar\LWR@origlsthkEveryPar%
126 \else%
```

Inline, so create the closing &lt;/span&gt;:

```

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   \lsthk@ExitVars\everypar{}\lsthk@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 lwarf.

```

159 \def\lst@MakeCaption#1{%
160 \LWR@traceinfo{lst@MakeCaption at #1}%
161   \lst@ifdisplaystyle
162 \LWR@traceinfo{lst@MakeCaption: making a listings display caption}%

```

```

163      \ifx #1t%
164          \ifx\lst@caption\empty\expandafter\lst@HRefStepCounter \else
165              \expandafter\refstepcounter
166          \fi {\lstlisting}%
167 % \LWR@traceinfo{About to assign label: !\lst@label!}%
168 %     \ifx\lst@label\empty\else
169 % \label{\lst@label}\fi
170 % \LWR@traceinfo{Finished assigning the label.}%
171     \let\lst@arg\lst@intname \lst@ReplaceIn\lst@arg\lst@filenamerpl
172     \global\let\lst@name\lst@arg \global\let\lstname\lst@name
173     \lst@ifnolol\else
174         \ifx\lst@caption\empty
175             \ifx\lst@intname\empty
176                 \def\lst@temp{ }%
177             \else
178                 \def\lst@temp\lst@intname\lst@temp \else
179             
```

This code places a contents entry for a non-float. This would have to be modified for lwarf:

```

180 \LWR@traceinfo{\lst@MakeCaption: addcontents lst@name: -\lst@name-}%
181 %                                         \addcontentsline{lol}{lstlisting}{\lst@name}
182         \fi
183         \fi
184         \fi
185     
```

This would have to be modified for lwarf:

```

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\vsip
199 %         \def\vsip{\afterassignment\lst@vskip \tempskipa}%
200 %         \def\lst@vskip{\nobreak\@vskip\tempskipa\nobreak}%
201 %         \par\@parboxrestore\normalsize\normalfont % \noindent (AS)
202 %         \ifx #1t\allowbreak \fi
203         \ifx\lst@title\empty

```

New lwarf code to create a caption:

```

204             \LWR@stopars%      lwarf
205             \lst@makecaption\fnum@lstlisting{\ignorespaces \lst@caption}
206             \else

```

New lwarf code to create a title:

```

207 %             \lst@maketitle\lst@title % (AS)
208 \LWR@traceinfo{\lst@MakeCaption: Making title: \lst@title}%
209 \begin{BlockClass}{lstlistingtitle}{}%    lwarf
210 \lst@maketitle\lst@title%                  lwarf

```

```

211 \end{BlockClass}%
212           \fi%
213 \LWR@traceinfo{lst@MakeCaption: About to assign label: !\lst@label!}%
214     \ifx\lst@label\empty\else%
215 \leavevmode% gets rid of bad space factor error
216 \GetTitleStringExpand{\lst@caption}%
217 \edef\LWR@lntemp{\GetTitleStringResult}%
218 \edef@\currentlabelname{\detokenize\expandafter{\LWR@lntemp}}%
219 \label{\lst@label}\fi%
220 \LWR@traceinfo{lst@MakeCaption: Finished assigning the label.}%

```

Not needed for lwarp:

```

221 %           \ifx #1b\allowbreak \fi
222           \endgroup}{ }%
223   \fi
224 \LWR@traceinfo{lst@MakeCaption: end of making a listings display caption}%
225   \else
226 \LWR@traceinfo{lst@MakeCaption: INLINE}%
227   \fi
228 \LWR@traceinfo{lst@MakeCaption: done at #1}%
229 }
230
231 \renewcommand{\lst@maketitle}[1]{%
232   \LWR@isolate{#1}%
233 }%
234

```

**line numbers** Patched to keep left line numbers outside of the left margin, and place right line numbers in a field \VerbatimHTMLWidth wide.

```

235 \lst@Key{numbers}{none}{%
236   \let\lst@PlaceNumber\empty
237   \lstKV@SwitchCases{#1}{%
238     {none}: \%
239     left: \def\lst@PlaceNumber{%

```

For now, **lwarp** places left line numbers inline. Ideally the entire line would be moved to the right, but conflicts with list indenting occurs.

```

240 %           \LWR@origllap{%
241   \LWR@orignormalfont%
242   \lst@numberstyle{\thelstnumber}\kern\lst@numbersep%
243 }
244 }\\%
245   right:\def\lst@PlaceNumber{\LWR@origllap{\LWR@orignormalfont%
246   \kern 6in \kern\lst@numbersep%
247   \lst@numberstyle{\thelstnumber}}}%
248 }{\PackageError{lwarp-listings}{Numbers #1 unknown}@ehc}

```

#### File 254 **lwarp-listliketab.sty**

§ 363      Package **listliketab**

Pkg **listliketab**      **listliketab** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{listliketab}[2005/01/09]

```
2 \newcommand*{\storestyleof}[1]{}
3 \newcommand*{\storeliststyle}{}
4 \newenvironment{listliketab}{}{}
```

---

**File 255 l warp-lltjext.sty**

§ 364      Package **lltjext**

(Emulates or patches code by THE LUATEX-JA PROJECT TEAM.)

Pkg lltjext      lltjext is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{lltjext}[2018/10/07]

```
2 \protected\def\yoko{%
3   \directlua{luatexja.direction.set_list_direction(4, 'yoko')}%
4 }
5 \protected\def\tate{\yoko}
6 \protected\def\dtou{\yoko}
7 \protected\def\utod{\yoko}
8
9 \define@key[ltj]{japaram}{direction}{}
10
11 \yoko
12
13 \DeclareExpandableDocumentCommand{\rensushi}{s o m}{#3}
14
15 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}
16
17 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d<> d() o}{}
18
19 \LetLtxMacro\pcaption\caption
20
21 \DeclareDocumentCommand{\layoutcaption}{d<> d() o}{}
22
23 \let\captiondir\relax
24 \RenewDocumentEnvironment{\LWR@HTML@minipage}{d<> 0{t} 0{} 0{t} m}
25   {\LWR@HTML@sub@minipage{#2}{#3}{#4}{#5}}
26   {\endLWR@HTML@sub@minipage}
27
28 \RenewDocumentCommand{\LWR@HTML@parbox}{d<> 0{t} 0{} 0{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<> 0{0pt} 0{c} m}{%
37 \global\booltrue{\LWR@minipagefullwidth}%
38 \parbox{#2}{#4}%
39 }
```

---

File 256 **l warp-lltjp-siunitx.sty**

§ 365 Package **lltjp-siunitx**

*(Emulates or patches code by THE LUATEX-JA PROJECT TEAM.)*

Pkg lltjp-siunitx

lltjp-siunitx is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{lltjp-siunitx}% 2021-10-31, no date assigned in file

This is the **siunitx** v3 file, as patched by **lltjp-siunitx**.

```

2 \ExplSyntaxOn
3
4 \cs_set_protected:Npn \siunitx_print_text:n #1
5 {
6   \text
7   {
8     \ltj@allalchar % <-- LuaTeX-ja
9     \bool_if:NT \l_siunitx_print_text_family_bool
10    { \fontfamily { \familydefault } }
11    \bool_if:NT \l_siunitx_print_text_series_bool
12    { \fontseries { \seriesdefault } }
13    \bool_if:NT \l_siunitx_print_text_shape_bool
14    { \fontshape { \shapedefault } }
15    \bool_lazy_any:nT
16    {
17      { \l_siunitx_print_text_family_bool }
18      { \l_siunitx_print_text_series_bool }
19      { \l_siunitx_print_text_shape_bool }
20    }
21    { \selectfont }
22    \tl_use:N \l_siunitx_print_text_font_tl
23    \exp_args:NnV \tl_if_head_eq_meaning:nNTF {#1} \l_siunitx_unit_fraction_tl
24    {
25      \siunitx_print_text_fraction:Nnn #1
26    }
27    {
28      \siunitx_print_text_replace:n {#1}
29    }
30  }
31 }
32
33 \ExplSyntaxOff

```

---

File 257 **l warp-lltjp-tascmac.sty**

§ 366 Package **lltjp-tascmac**

lltjp-tascmac is a patch for tascmac, and is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{lltjp-tascmac}[2020/12/24]

---

File 258 **l warp-longtable.sty**

§ 367 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 `threeparttable`.)

```
\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`.

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 threeparttable, 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 regadng longtables and threeparttablex.}
62 }

```

Error if more than one of \endhead or \endfirsthead is outside of warpprintonly.

```

63 \newcommand*{\LWR@longtable@maybeheaderror}{%
64 \ifbool{\LWR@longtable@havehead}{%
65   {\LWR@longtable@headerror}%
66   {%
67     \booltrue{\LWR@longtable@havehead}%
68     \LWR@tabularendofline% throws away options // [dim] and // *
69   }%
70 }

```

Error if more than one of these is outside of warpprint.

```

71 \def\endhead{\LWR@longtable@maybeheaderror}
72 \def\endfirsthead{\LWR@longtable@maybeheaderror}

```

Error if ANY of these is outside of warpprint.

```

73 \def\endfoot{\LWR@longtable@headerror}
74 \def\endlastfoot{\LWR@longtable@headerror}

75 \let\tabularnewline\\
76 \providecommand*{\LWR@HTML@tabularnewline}{\LWR@tabularendofline}
77 \LWR@formatted{tabularnewline}

78 \newcommand{\setlongtables}{}% Obsolete command, does nothing.
79 \newlength{\LTleft}
80 \newlength{\LTright}
81 \newlength{\LTpre}
82 \newlength{\LTpost}
83 \newlength{\LTcapwidth}

84 \LetLtxMacro{\LWR@origkill}{\kill}
85 \renewcommand*{\kill}{\LWR@tabularendofline}
86 \appto{\LWR@restoreorigformatting}{%
87 \LetLtxMacro{\kill}{\LWR@origkill}%
88 }

```

### File 259 l**warp-lpic.sty**

§ 368      Package **lpic**

(Emulates or patches code by R. MATVEYEV.)

**lpic** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{lpic}[2010/12/23]

```
2 \BeforeBeginEnvironment{lpic}{%
3   \begin{latentimage}[-lpic-\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{lpic}{\end{latentimage}}
```

---

### File 260 **l warp-lscape.sty**

#### § 369 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 261 **l warp-ltablex.sty**

#### § 370 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 262 **l warp-ltcaption.sty**

#### § 371 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 263 l warp-ltxgrid.sty

### § 372 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 264 l warp-ltxtable.sty

### § 373 Package ltxtable

Pkg ltxtable

ltxtable is emulated.

⚠ table numbering The print version does not seem to honor longtable\* from the caption package, while l warp does.

for HTML output: 1 \RequirePackage{tabularx, longtable}  
2 \LWR@ProvidesPackageDrop{ltxtable}[1995/12/11]

```
\LTXtable {<width>} {<file>}
3 \newcommand*\{\LTXtable}[2]{%
4   \input{#2}%
5 }

---


```

#### File 265 l warp-lua-check-hyphen.sty

### § 374 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 266 **l warp-lua-visual-debug.sty**

§ 375 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 267 **l warp-luacolor.sty**

§ 376 Package **luacolor**

Pkg luacolor luacolor is ignored.

**for HTML output:** 1 \\LWR@ProvidesPackageDrop{luacolor}[2016/05/16]

```
2 \\newcommand{\\luacolorProcessBox}[1]{}{}
```

---

File 268 **l warp-luamplib.sty**

§ 377 Package **luamplib**

(Emulates or patches code by HANS HAGEN, TACO HOEKWATER, ELIE ROUX, PHILIPP GESANG, KIM DO-HYUN.)

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 269 **l warp-luatexko.sty**

§ 378 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 \\uline, etc.

**for HTML output:** 1 \\LWR@ProvidesPackagePass{luatexko}[2021/07/10]

```

2 \protected\def\typesetvertical{}
3 \protected\def\typesethorizontal{}
4
5 \def\verticaltypesetting{\BlockClass{verticalrl}}
6 \def\beginverticaltypesetting{\BlockClass{verticalrl}}
7 \def\endverticaltypesetting{\endBlockClass}
8
9 \protected\def\vertical#1{\BlockClass{verticalrl}}
10 \protected\def\endvertical{\endBlockClass}
11 \protected\def\horizontal#1{\BlockClass{horizontaltb}}
12 \protected\def\endhorizontal{\endBlockClass}
13 \DeclareDocumentCommand{\vertlatin}{m}{#1}

14 \newcommand{\LWR@HTML@dotemph}[1]{%
15 %     \uline{#1}%
16     \InlineClass{text-emphasis-style: dot}{dotemph}{#1}%
17 }
18 \LWR@formatted{dotemph}

19 \newcommand{\LWR@HTML@ruby}[2]{%
20     \LWR@htmltagc{ruby}%
21     #1%
22     \LWR@htmltagc{rp}(\LWR@htmltagc{/rp}%
23     \LWR@htmltagc{rt}#2\LWR@htmltagc{/rt}%
24     \LWR@htmltagc{rp})\LWR@htmltagc{/rp}%
25     \LWR@htmltagc{/ruby}%
26 }
27 \LWR@formatted{ruby}

```

The following is modified from lwarf-ulem:

```

28 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
29     \InlineClass%
30         (text-decoration:underline; text-decoration-skip: auto)%
31     [%
32         text-underline-offset: \ulinedown ;
33         text-decoration-thickness: \ulinewidth%
34     ]%
35     {uline}{\LWR@isolate{#1}}%
36 }
37 \LWR@formatted{uline}
38
39 \NewDocumentCommand{\LWR@HTML@uunderline}{+m}{%
40     \InlineClass%
41         (%
42             text-decoration:underline; text-decoration-skip: auto;%
43             text-decoration-style:double%
44         )%
45     [%
46         text-underline-offset: \ulinedown ;
47         text-decoration-thickness: \ulinewidth%
48     ]%
49     {uunderline}{\LWR@isolate{#1}}%
50 }
51 \LWR@formatted{uunderline}
52
53 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
54     \InlineClass%
55         (%

```

```
56         text-decoration:underline; text-decoration-skip: auto;%  
57         text-decoration-style:wavey%  
58     )%  
59     [%  
60         text-underline-offset: \ulinedown ;  
61         text-decoration-thickness: \ulinewidth%  
62     ]%  
63     {uwave}{\LWR@isolate{#1}}%  
64 }  
65 \LWR@formatted{uwave}  
66  
67 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%  
68     \InlineClass%  
69         (text-decoration:line-through)%  
70         [text-decoration-thickness: \ulinewidth]%
```

71 {sout}{\LWR@isolate{#1}}%  
72 }  
73 \LWR@formatted{sout}  
74  
75 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%  
76 \InlineClass%  
77 (text-decoration:line-through)%  
78 [text-decoration-thickness: \ulinewidth]%

```
79     {xout}{\LWR@isolate{#1}}%  
80 }  
81 \LWR@formatted{xout}  
82  
83 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%  
84     \InlineClass%  
85     (%  
86         text-decoration:underline;%  
87         text-decoration-skip: auto;%  
88         text-decoration-style:dashed%  
89     )%  
90     [%  
91         text-underline-offset: \ulinedown ;  
92         text-decoration-thickness: \ulinewidth%  
93     ]%  
94     {dashuline}{\LWR@isolate{#1}}%  
95 }  
96 \LWR@formatted{dashuline}  
97  
98 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%  
99     \InlineClass%  
100    (%  
101        text-decoration:underline;%  
102        text-decoration-skip: auto;%  
103        text-decoration-style: dotted%  
104    )%  
105    [%  
106        text-underline-offset: \ulinedown ;  
107        text-decoration-thickness: \ulinewidth%  
108    ]%  
109    {dotuline}{\LWR@isolate{#1}}%  
110 }  
111 \LWR@formatted{dotuline}
```

---

File 270 **l warp-luatodonotes.sty**

§ 379 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}{\tdo}{\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         \atodonotes@author\par%
40     \fi%
41     \arabic{@todonotes@numberoftodonotes}: %
42     \fcolorbox%
43     {\atodonotes@currentbordercolor}%
44     {\atodonotes@currentbackgroundcolor}%
45     {%
46         \atodonotes@sizecommand%
47         \atodonotes@text %
48     }%
49 }%
50
51 \renewcommand{\missingfigure}[2][]{%
52 \setkeys{todonotes}{#1}%
53 \addcontentsline{tdo}{todo}{\atodonotes@MissingFigureText: #2}%
54 \fcolorboxBlock%
55     {\atodonotes@currentbordercolor}%
56     {\atodonotes@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     \atodonotes@areaselectedtrue%
74     \atodocommon{#1}{#2}%
75     \atodonotes@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 271 **l warp-luavlna.sty**

§ 380 Package **luavlna**

(Emulates or patches code by MICHAL HOFTICH, MIRO HRONČOK.)

**luavlna** is patched for use by **l warp**.

The package is disabled for HTML output, due to incompatibilities with **l warp**'s handling of math SVG images.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{luavlna}[2019/10/30]
2 \preventsingleoff
3 \LetLtxMacro\preventsingleon\preventsingleoff
```

---

File 272 **l warp-lyluatex.sty**

§ 381 Package **lyluatex**

(Emulates or patches code by Fr. JACQUES PERON, URS LISKA, BR. SAMUEL SPRINGUEL.)

Pkg lyluatex

lyluatex is patched for use by l warp.

For the first compile, to set *l warpmk*'s configuration, use:

```
lualatex --shell-escape <filename>
```

**⚠️ images** After compiling the document with **l warpmk html**, use **l warpmk l images** to convert the Lilypond images for HTML.

**css** The option `insert=systems` results in an image per system. Each music image “system” is placed inside a `<span>` of class `lyluatex`, which defaults to `display: inline-block`.

**⚠️ insert=fullpage** **css** The option `insert=fullpage` results in a single image per page of printed output. Each music “fullpage” image is placed inside a `<div>` of class `lyluatex`. To match the number of measures per line with the printed version, use the `geometry` package to select the page geometry, or use the `lyluatex` options for page and staff sizes.

**⚠️ options** To use `\linewidth` or `\textwidth` inside the package options for `lyluatex`, use the `kvoptions-patch` package first:

```
\usepackage{kvoptions-patch}
\usepackage[...,\line-width-0.8\linewidth,...]{lyluatex}
```

**⚠️ raw-pdf** If using `raw-pdf`, the resulting PDF images must be converted to SVG:

```
Enter ⇒ l warpmk pdftosvg tmp-ly/*.pdf
```

**for HTML output:**

```
1 \LWR@origRequirePackage{luacode}
2
3 \LWR@ProvidesPackagePass{lyluatex}[2019/05/27]
```

User-redefinable ALT tag:

```
4 \newcommand*{\LyluatexImageAltText}{-lilypond-\PackageDiagramAltText}
```

{*Lilypond object*}

```
5 \LetLtxMacro\LWR@orig@ly@compilescore\ly@compilescore
6
7 \renewcommand*{\ly@compilescore}[1]{%
```

\ly@compilescore

A local group holds a number of changes:

```
8     \begingroup%
```

The user's original geometry and font size are restored to match the print version. This allows for correct spacing in the musical score.

```
9     \LWR@maybe@orignewpage%
10    \LWR@origloadgeometry{\LWR@usergeometry}%
11    \LWR@print@normalsize%
```

A local group holds a redefined `\includegraphics` which is used by *lyluatex.lua* to insert the *Lilypond* score if `insert=systems` is used. This is now placed inside a `lateximage`, which itself is placed inside a `<span>` of class *lyluatex*.

`\LWR@addbaselinemarker` preserves the left margins.

```
12    \renewcommand{\includegraphics}[2][]{%
13        \InlineClass{lyluatex}{%
14            \begin{lateximage}[\LyluatexImageAltText]%
15            \LWR@addbaselinemarker%
16            \LWR@originincludegraphics{##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 273 **l warp-magaz.sty**

#### § 382 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 274 **l warp-makeidx.sty**

#### § 383 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 275 **l warp-manyfoot.sty**

§ 384      Package **manyfoot**

Pkg manyfoot      manyfoot is emulated.

**bigfoot, manyfoot**      Verbatim footnotes are not yet supported.

⚠ **verbatim**

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

As a possible solution, try creating several new counters before defining **bigfoot** or **manyfoot** footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use X<sub>E</sub>L<sup>A</sup>T<sub>E</sub>X or L<sub>UA</sub>L<sup>A</sup>T<sub>E</sub>X instead of PDF L<sup>A</sup>T<sub>E</sub>X.

**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}{}{%
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 276 **l warp-marginal.sty**

§ 385 Package **marginal**

Pkg marginal marginal is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{marginal}

2 \newcommand*{\showlostmarginals}{}
3 \newcommand*{\enlargefreelist}{}
4 \newcommand*{\onesidemarginals}{}
```

---

File 277 **l warp-marginfit.sty**

§ 386 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 278 **l warp-marginfix.sty**

§ 387 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 279 **l warp-marginnote.sty**

§ 388 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][]{\qquad{\small\textrm{#2}}}\LWRmarginnote}
17 \end{warpMathJax}

```

---

File 280 **l warp-marvosym.sty**

§ 389 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 281 **l warp-mathalpha.sty**

§ 390 Package **mathalpha**

*(Emulates or patches code by MICHAEL SHARPE.)*

Pkg **mathalpha**

 **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}[2021/11/18]
2
3 \begin{warpMathJax}
4 \CustomizeMathJax{\newcommand{\mathbbfbb}[1]{\boldsymbol{\mathbb{#1}}}}% not bold
5 \CustomizeMathJax{\newcommand{\mathbfcal}[1]{\boldsymbol{\mathcal{#1}}}}}
6 \CustomizeMathJax{\newcommand{\mathbfrak}[1]{\boldsymbol{\mathfrak{#1}}}}}
7 \CustomizeMathJax{\newcommand{\mathbfscr}[1]{\boldsymbol{\mathscr{#1}}}}% not bold
8
9 \IfPackageLoadedWithOptionsTF{mathalpha}{oldbold}
10 {
11 \CustomizeMathJax{\newcommand{\mathbbb}[1]{\boldsymbol{\mathbb{#1}}}}% not bold
12 \CustomizeMathJax{\newcommand{\mathbcal}[1]{\boldsymbol{\mathcal{#1}}}}}
13 \CustomizeMathJax{\newcommand{\mathbfrak}[1]{\boldsymbol{\mathfrak{#1}}}}}
14 \CustomizeMathJax{\newcommand{\mathbscr}[1]{\boldsymbol{\mathscr{#1}}}}% not bold
15 }{}}
16 \end{warpMathJax}

```

---

File 282 **l warp-mathastext.sty**

§ 391 Package **mathastext**

*(Emulates or patches code by JEAN-FRANÇOIS BURNOL.)*

Pkg **mathastext**

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mathastext}[2019/11/16]
2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \ifmst@itgreek
6 \%   \LWR@mathjax@addgreek@l@it{}{}
7 \else
8   \ifmst@upgreek
9     \LWR@mathjax@addgreek@l@up{}{}
10 \else

```

```

11 \ifmst@frenchmath
12     \LWR@mathjax@addgreek@l@up{}{}
13 \else
14     \ifmst@italic
15 %         \LWR@mathjax@addgreek@l@it{}{}
16     \else
17         \LWR@mathjax@addgreek@l@up{}{}
18     \fi
19 \fi
20 \fi
21 \fi
22
23 \ifcase\mst@greek@select
24     \or{\LWR@mathjax@addgreek@u@it*{}{}}
25 %     \or{\LWR@mathjax@addgreek@u@up*{}{}}
26 \fi
27
28 \CustomizeMathJax{\newcommand{\mathnormalbold}[1]{\boldsymbol{#1}}}
29 \CustomizeMathJax{\newcommand{\MathEulerBold}[1]{\boldsymbol{#1}}}
30 \CustomizeMathJax{\newcommand{\MathEuler}[1]{\{#1\}}}
31 \CustomizeMathJax{\newcommand{\MathPSymbol}[1]{\{#1\}}}
32 \CustomizeMathJax{\let\fouriervec\vec}
33 \CustomizeMathJax{\let\pmvec\vec}
34 \CustomizeMathJax{\let\inodot\imath}
35 \CustomizeMathJax{\let\jnodot\jmath}
36 \CustomizeMathJax{\let\shortiff\iff}
37 \CustomizeMathJax{\let\longto\longrightarrow}
38 \CustomizeMathJax{\newcommand{\inftypsy}{\mathord{\text{\tiny \texttt{unicode{x221E}}}}}}
39 \CustomizeMathJax{\newcommand{\proptopsy}{\mathrel{\text{\tiny \texttt{unicode{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{\tiny \texttt{unicode{x2234}}}}}}
45 \end{warpMathJax}

```

File 283 **lwarp-mathcomp.sty**

§ 392 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{\tcelsius}{\text{\textcelsius}}}
5 \CustomizeMathJax{\newcommand{\tcmu}{\mathrm{\mu B}}}
6 \CustomizeMathJax{\newcommand{\tcperthousand}{\text{\textperthousand}}}
7 \CustomizeMathJax{\newcommand{\tcpertenthousand}{\text{\textperthousand}}}
8 \CustomizeMathJax{\newcommand{\tcdegree}{\mathrm{^\circ C}}}
9 \CustomizeMathJax{\newcommand{\tdigitoldstyle}[1]{\oldstyle[#1]}}
10 \end{warpMathJax}

```

---

File 284 **l warp-mathdesign.sty**

§ 393      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{\digammaait}{\mathit{\digammaup}}}}
```

Extra symbols:

```
22 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\!{\scriptsize \texttt{\smallin}}}}}
```

---

```

23 \CustomizeMathJax{\newcommand{\smallowns}{\mathrel{\unicode{x220D}}}}
24 \CustomizeMathJax{\newcommand{\notsmallin}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x220A}}}}}
25 \CustomizeMathJax{\newcommand{\notsmallowns}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x220D}}}}}
26 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\unicode{x221F}}}}

```

Integrals:

```

27 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\unicode{x2231}}\limits}}
28 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicode{x2232}}\limits}}
29 \CustomizeMathJax{\newcommand{\ointctr-clockwise}{\mathop{\unicode{x2233}}\limits}}
30 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
31 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}

```

Math and text mode:

```

32 \CustomizeMathJax{\newcommand{\ddag}{\unicode{x2021}}}
33 \CustomizeMathJax{\newcommand{\P}{\unicode{x00B6}}}
34 \CustomizeMathJax{\newcommand{\copyright}{\unicode{x00A9}}}
35 \CustomizeMathJax{\newcommand{\dag}{\unicode{x2020}}}
36 \CustomizeMathJax{\newcommand{\pounds}{\unicode{x00A3}}}

```

Extra symbols:

```

37 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\cdots}}}
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 285 **l warp-mathdots.sty**

§ 394      Package **mathdots**

*(Emulates or patches code by DAN LUECKING.)*

Pkg **mathdots**

**mathdots** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mathdots}[2014/06/11]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\cdots}}}
4 \CustomizeMathJax{\let\fixedddots\ddots}
5 \CustomizeMathJax{\let\fixedvdots\vdots}
6 \CustomizeMathJax{\let\fixediddots\iddots}
7 \CustomizeMathJax{\let\originalddots\ddots}
8 \CustomizeMathJax{\let\originalvdots\vdots}
9 \CustomizeMathJax{\let\originaliddots\iddots}
10 \CustomizeMathJax{\let\originaldddot\dddots}
11 \CustomizeMathJax{\let\originalddddot\dddddots}
12 \end{warpMathJax}

```

---

File 286 **l warp-mathfixs.sty**

§ 395 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 287 **l warp-mathpazo.sty**

§ 396 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 288 l warp-mathptmx.sty****§ 397 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{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathptmx}
6
7 \IfPackageLoadedWithOptionsTF{mathptmx}{slantedGreek}
8   {\LWR@mathjax@addgreek@u@it*{}{}}
9   {}
10
11 \LWR@mathjax@addgreek@u@up*{up}{}}
12 \end{warpMathJax}
```

---

**File 289 l warp-mathspec.sty****§ 398 Package maths我没有找到这个包的源码。 spec***(Emulates or patches code by ANDREW GILBERT MOSCHOU.)*

Pkg maths我没有找到这个包的源码。

mathspec is used as-is with SVG math, and is emulated for MATHJAX.

**⚠ quotes** Double quotes (" and " 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{l warp-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{exchangekappaforms}{%
40     \CustomizeMathJax{\let\LRorigkappa\kappa}
41     \CustomizeMathJax{\let\kappa\varkappa}
42     \CustomizeMathJax{\let\varkappa\LRorigkappa}
43   }%
44   \eu@ifbooltrue{exchangepeiforms}{%
45     \CustomizeMathJax{\let\LRorigpi\pi}
46     \CustomizeMathJax{\let\pi\varpi}
47     \CustomizeMathJax{\let\varpi\LRorigpi}
48   }%
49   \eu@ifbooltrue{exchangerhoforms}{%
50     \CustomizeMathJax{\let\LRorigrho\rho}
51     \CustomizeMathJax{\let\rho\varrho}
52     \CustomizeMathJax{\let\varrho\LRorigrho}
53   }%
54   \eu@ifbooltrue{exchangephipforms}{%
55     \CustomizeMathJax{\let\LRorigphi\phi}
56     \CustomizeMathJax{\let\phi\varphi}
57     \CustomizeMathJax{\let\varphi\LRorigphi}
58   }%
59 }%
60 \eu@ifbooltrue{GreekUppercase}{%
61   \eu@ifbooltrue{exchageThetaforms}{%
62     \CustomizeMathJax{\let\LRorigTheta\Theta}

```

---

```

63      \CustomizeMathJax{\let\Theta\varTheta}
64      \CustomizeMathJax{\let\varTheta\LWRorigTheta}
65  }
66 }
67 }
```

Append new action to `mathspec`'s `\AtBeginDocument`:

```

68 \xapptocmd{\exchangeforms}
69   {\AtBeginDocument{\LWR@mathspec@varforms}}
70   {}
71   {\LWR@patcherror{mathspec}{exchangeforms}}
72
73 \end{warpMathJax}
```

---

### File 290 **l warp-mathtools.sty**

## § 399 Package **mathtools**

(Emulates or patches code by MORTEN HØGHOLM, LARS MADSEN.)

Pkg mathtools

⚠ **equation numbering**

`mathtools` is patched for use by `l warp`. Emulation macros are provided for MATHJAX.

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

⚠ **italic correction** `mathic` is not emulated for HTML.

⚠ **MATHJAX** If using MATHJAX:

- `mathtools disallowspaces` does not work for MATHJAX. Protect brackets which are not optional arguments, such as:

```
\begin{gathered}{}\\[p]=1 ...\\end{gathered}
```

- `showonlyrefs` does not work in MATHJAX, and will result in a difference in equation numbering compared to the print version.
- `alignat` in MATHJAX requires math mode, but in LATEX it doesn't. It may be required to use `warpHTML` and `warpprint` to isolate a version for each mode.
- `\DeclarePairedDelimiter` and related must be in the preamble before `\begin{document}`.

**for HTML output:** 1 `\LWR@ProvidesPackagePass{mathtools}[2018/01/08]`

2 `\RequirePackage{graphicx}`

3 `\MHInternalSyntaxOn`

Forces `showonlyrefs` off because `l warp` uses `cleveref`, which is not compatible with `showonlyrefs`.

```
4 \renewcommand*\MT_showonlyrefs_true:{%
5   \PackageWarningNoLine{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 lwarps.

```
17 \renewcommand*\{\MT_mathic_true:\}{\MT_mathic_false:}
18 \mathtoolsset{mathic=false}
```

19 \MHInternalSyntaxOff

For MATHJAX.

```

20 \begin{warpMathJax}
21 \CustomizeMathJax{\require{mathtools}}
22
23 \LWR@infoprocessingmathjax{mathtools}
24
25 \CustomizeMathJax{\newenvironment{crampedsubarray}[1]{}{}}
26
27 \CustomizeMathJax{\newcommand{\smashoperator}[2][]{\#2\limits}}
28
29 \CustomizeMathJax{\newcommand{\SwapAboveDisplaySkip}{}}
30
31 \CustomizeMathJax{\newcommand{\LaTeXunderbrace}[1]{\underbrace{\#1}}}
32 \CustomizeMathJax{\newcommand{\LaTeXoverbrace}[1]{\overbrace{\#1}}}
33
34
35 \CustomizeMathJax{\newcommand{\LWRmultlined}[1][]{\begin{multiline*}}}
36 \CustomizeMathJax{\newenvironment{multlined}[1][]{\LWRmultlined}{\end{multiline*}}}
37
38 \CustomizeMathJax{\let\LWRorigshoveleft\shoveleft}
39 \CustomizeMathJax{\renewcommand{\shoveleft}[1][]{\LWRorigshoveleft}}
40 \CustomizeMathJax{\let\LWRorigshoveright\shoveright}
41 \CustomizeMathJax{\renewcommand{\shoveright}[1][]{\LWRorigshoveright}}
42
43 \CustomizeMathJax{\newcommand{\shortintertext}[1]{\text{\#1}\notag \\}}
44
45 \LetLtxMacro{\LWR@mathtools@orig}{\DeclarePairedDelimiter{\DeclarePairedDelimiter}}
46 \renewcommand{\DeclarePairedDelimiter}[3]{%
47   \LWR@mathtools@orig{\DeclarePairedDelimiter{\#1}{\#2}{\#3}}}
48 % starred:
49 \appto{\LWR@customizedMathJax}{\LWRbackslash{}}
50 \appto{\LWR@customizedMathJax}{%
51   \LWRbackslash{}newcommand{\LWRbackslash{}\macrotocname{\#1}\LWRsubstar\%}}
52 }%
53 \appto{\LWR@customizedMathJax}{\%}

```

```
54 \appto\LWR@customizedMathJax{\{\{\}%
55 \LWR@subcustomizedmathjax{\#1\left##2##1\right#3}%
56 \appto\LWR@customizedMathJax{\}\}}%
57 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
58 % not starred:
59 \appto\LWR@customizedMathJax{\LWRbackslash()}%
60 \appto\LWR@customizedMathJax{%
61 \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{\#1}\LWRsubstar\}%
62 }%
63 \appto\LWR@customizedMathJax{[2][]}%
64 \appto\LWR@customizedMathJax{\{\{\}%
65 \LWR@subcustomizedmathjax{\#1#2##2##1#3}%
66 \appto\LWR@customizedMathJax{\}\}}%
67 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
68 % user macro:
69 \appto\LWR@customizedMathJax{\LWRbackslash()}%
70 \appto\LWR@customizedMathJax{%
71 \LWRbackslash{}newcommand{\LWRbackslash{}\macrotocname{\#1}\}%
72 \LWRbackslash{}ifstar%
73 \LWRbackslash{}\macrotocname{\#1}\LWRsubstar%
74 \LWRbackslash{}\macrotocname{\#1}\LWRsubnostar%
75 }%
76 }%
77 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
78 }
79 \@onlypreamble\DeclarePairedDelimiter
80
81 % (DeclarePairedDelimiterX is already defined to use \DeclarePairedDelimiterXPP.)
82
83 \LetLtxMacro{\LWR@mathtools@orig}{\DeclarePairedDelimiterXPP\DeclarePairedDelimiterXPP}
84 \DeclareDocumentCommand{\DeclarePairedDelimiterXPP}{m O{1} m m m m}{%
85 \LWR@mathtools@orig{\LWR@math@orig{\#1}{\#2}{\#3}{\#4}{\#5}{\#6}{\#7}}%
86 % subsubstar, second opt arg
87 \appto\LWR@customizedMathJax{\LWRbackslash()}%
88 \appto\LWR@customizedMathJax{%
89 \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{\#1}\LWRsubsubstar\}%
90 }%
91 \appto\LWR@customizedMathJax{[#2]}%
92 \appto\LWR@customizedMathJax{\{\{\LWRbackslash{}left\}%
93 \LWR@subcustomizedmathjax{\#3\#4\#7}%
94 \appto\LWR@customizedMathJax{\LWRbackslash{}right\}%
95 \LWR@subcustomizedmathjax{\#5\#6}%
96 \appto\LWR@customizedMathJax{\}\}}%
97 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
98 % substar, first opt arg
99 \appto\LWR@customizedMathJax{\LWRbackslash()}%
100 \appto\LWR@customizedMathJax{%
101 \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{\#1}\LWRsubstar\}[1][]%
102 }%
103 \appto\LWR@customizedMathJax{%
104 \{%
105 \LWRbackslash{}def\LWRbackslash{}delimsize{\#\#1\}%
106 \LWRbackslash\macrotocname{\#1}\LWRsubsubstar%
107 }%
108 }%
109 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
110 % subsubnostar, second opt arg
111 \appto\LWR@customizedMathJax{\LWRbackslash()}%
112 \appto\LWR@customizedMathJax{%
113 \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{\#1}\LWRsubsubnostar\}%

```

```

114    }%
115    \appto\lWR@customizedMathJax{[#2]}%
116    \appto\lWR@customizedMathJax{\{\{\lWRbackslash{}delimsize\}%
117    \lWR@subcustomizedmathjax{#3#4#7}\}%
118    \appto\lWR@customizedMathJax{\lWRbackslash{}delimsize\}%
119    \lWR@subcustomizedmathjax{#5#6}\}%
120    \appto\lWR@customizedMathJax{\}\}\}%
121    \appto\lWR@customizedMathJax{\lWRbackslash{}\par}\}%
122% subnstar, first opt arg
123    \appto\lWR@customizedMathJax{\lWRbackslash()\}%
124    \appto\lWR@customizedMathJax{\%
125        \lWRbackslash{}newcommand{\lWRbackslash\macrotocname{#1}\lWRsubnstar\}[1]\}%
126    }%
127    \appto\lWR@customizedMathJax{\%
128        \{%
129            \lWRbackslash{}def\lWRbackslash{}delimsize{\#\#1\}%
130            \lWRbackslash\macrotocname{#1}\lWRsubnstar%
131        }\}%
132    }%
133    \appto\lWR@customizedMathJax{\lWRbackslash{}\par}\}%
134% user macro:
135    \appto\lWR@customizedMathJax{\lWRbackslash()\}%
136    \appto\lWR@customizedMathJax{\%
137        \lWRbackslash{}newcommand\{%
138            \lWRbackslash{}\macrotocname{#1}\}%
139        }\}%
140        \{\lWRbackslash{}ifstar%
141            \lWRbackslash{}\macrotocname{#1}\lWRsubstar\%
142            \lWRbackslash{}\macrotocname{#1}\lWRsubnstar\%
143        }\}%
144    }%
145    \appto\lWR@customizedMathJax{\lWRbackslash{}\par}\}%
146 }%
147 \@onlypreamble\DeclareParedDelimiterXPP
148 \@onlypreamble\DeclareParedDelimiterX
149
150 \CustomizeMathJax{\newcommand{\vcntcolon}{\mathrel{\!unicode{x2236}}}}%
151
152 \LetLtxMacro\lWR@mathtools@orig@newgathered\newgathered
153 \renewcommand{\newgathered}[4]\{%
154     \lWR@mathtools@orig@newgathered{#1}{#2}{#3}{#4}\}%
155     \appto\lWR@customizedMathJax{\lWRbackslash()\}%
156     \lWR@subcustomizedmathjax{\%
157         \newenvironment{#1}{\begin{gathered}}{\end{gathered}}\}%
158     }%
159     \appto\lWR@customizedMathJax{\lWRbackslash{}\}%
160 }%
161 \@onlypreamble\newgathered
162
163 \end{warpMathJax}

```

---

File 291 **l warp-mattens.sty**

§ 400 Package **mattens**

(Emulates or patches code by DANIE ELS.)

**mattens** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{mattens}[2010/03/26]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\LWRmattensnull}{}}
4
5 \CustomizeMathJax{\newcommand{\LWRmattensnostar}[2][]{%
6   {#1{\LWRmattensundercmd{\LWRmattenovercmd{\LWRmattencross{\boldsymbol{#2}}}}}}}}%
7 }
8
9 \CustomizeMathJax{\newcommand{\LWRmattensstar}[2][]{%
10  {#1{\LWRmattensundercmd{\LWRmattenovercmd{\LWRmattencross{#2}}}}}}}}%
11 }
12
13 \CustomizeMathJax{\newcommand{\LWRmattens}{%
14   \ifstar\LWRmattensstar\LWRmattensnostar%
15 }}
16
17 \CustomizeMathJax{\newcommand{\aS}{%
18   \let\LWRmattencross\LWRmattensnull%
19   \let\LWRmattenovercmd\overrightarrow%
20   \let\LWRmattensundercmd\LWRmattensnull%
21   \LWRmattens%
22 }}
23
24 \CustomizeMathJax{\newcommand{\aSa}{%
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{\aSb}{%
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 292 **lwarf-maybemath.sty**

### § 401 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\maybem\mayberm}
5 \CustomizeMathJax{\let\maybeit\mayberm}
6 \CustomizeMathJax{\let\maybeitrm\mayberm}
7 \CustomizeMathJax{\let\maybeitsubscript\mayberm}
8 \CustomizeMathJax{\let\maybebsf\mayberm}
9 \CustomizeMathJax{\let\maybebmsf\mayberm}
10 \end{warpMathJax}

```

---

File 293 **l warp-mcaption.sty**

§ 402 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 294 **l warp-mdframed.sty**

§ 403 Package **mdframed**

(Emulates or patches code by MARCO DANIEL, ELKE SCHUBERT.)

Pkg mdframed

mdframed is loaded with options forced to framemethod=none.

§ 403.1 **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.

### § 403.2 Package loading

**for HTML output:**

```
1 \RequirePackage{xcolor}%
2 %
3 \LWR@ProvidesPackageDrop{mdframed}[2013/07/01]
```

Do not require Tikz or pstricks:

```
4 \LWR@origRequirePackage[framemethod=none]{mdframed}
```

### § 403.3 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 % \@nmbrlistfalse%
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
```

### § 403.4 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 }
```

### § 403.5 Color and length HTML conversion

\LWR@mdfprintcolor

{⟨*mdfcolorkey*⟩}

Given the **mdframed** key, print the color.

```
38 \newcommand*{\LWR@mdfprintcolor}[1]{%
39 \convertcolorspec{named}{\@nameuse{mdf@\#1}}{HTML}\LWR@tempcolor%
40 \LWR@origpound\LWR@tempcolor
41 }
```

\LWR@mdfprintlength

{⟨*mdflengthkey*⟩}

Given the **mdframed** key, print the length.

```
42 \newcommand*{\LWR@mdfprintlength}[1]{%
43 \LWR@forceminwidth{\@nameuse{mdf@\#1@length}}%
44 \LWR@printlength{\LWR@atleastonept}%
45 }
```

### § 403.6 Environment encapsulation

\LWR@mdframedstart

Actions before an mdframe starts.

Encapsulate a frame inside a <div> of the desired class.

```
46 \newcommand*{\LWR@mdframedstart}{%
47 \LWR@traceinfo{\LWR@mdframedstart start}%


```

Warn if starting a frame inside a <span>:

```
48 \LWR@spanwarninvalid{mdframe}%
```

Turn off paragraph handling during the generation of the encapsulating tags:

```
49 \LWR@stoppars%
```

Open a <div> and with custom class and custom style. A BlockClass environment is not used because this <div> is created by the **mdframed startcode** and **endcode** settings, which do not properly nest the <div> inside the **mdframed** environment.

```
50 \LWR@htmllagc{div class=\textquotedbl%
51 mdframed%
52 \ifdefined{\LWR@mdthisenv}{mdframed}{}{\LWR@mdthisenv}%
53 \textquotedbl \LWR@orignewline
54 style=\textquotedbl\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 \ifbooleq{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 }

```

## § 403.7 Mdframed environment

```

83 \renewenvironment{mdframed}[1][]{}%
84 \color@begingroup%
85 \mdfsetup{userdefinedwidth=\linewidth,#1}%
86 \mdf@startcode%
87 \mdf@preenvsetting%
88 \ifempty{\mdf@firstframetitle}{}%
89     {\let\mdf@frametitlesave\mdf@frametitle%
90      \let\mdf@frametitle\mdf@firstframetitle%
91    }%
92 \ifvmode\nointerlineskip\fivemodewidth%
93 \ifempty{\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 %      \mdf@endinnercode%
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       \mdf@endinnercode%
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 }

```

### § 403.8 Titles and subtitles

\mdfframedtitleenv

{*title*}

Place the title inside a <div> of class mdframedtitle:

```

133 \newlength{\LWR@titleroundcorner}
134
135 \renewrobustcmd\mdfframedtitleenv[1]{%
136 \LWR@traceinfo{\LWR@mdframedtitleenv start}%

```

Open a <div> with a custom class and custom style:

```
137 \begin{BlockClass}[%
```

Convert and print the title background color:

```

138 background:
139 \LWR@mdfprintcolor{frametitlebackgroundcolor}
140 ; \LWR@orignewline

```

Convert and print the title rule:

```

141 \ifbool{\mdf@frametitlerule}{%
142   border-bottom:
143   \LWR@mdfprintlength{frametitlerulewidth}
144   solid
145   \LWR@mdfprintcolor{frametitlerulecolor}
146   ; \LWR@orignewline
147 }{}%

```

Finish the custom style and the opening <div> tag:

```

148 ]{mdframedtitle}%
Print the title inside the <div>:
149 \mdf@frametitlefont{\LWR@textcurrentfont{#1}}%
Close the <div>:
150 \end{BlockClass}%
151 \LWR@traceinfo{\LWR@mdframedtitleenv end}%
152 }

```

\LWR@mdfsubtitlecommon

{*sub—or—subsub*} [*options*] {*title*}

Common code for \LWR@mdfsubtitle and \LWR@mdfsubsubtitle.

Encapsulate the subtitle inside a <div> of class mdframedsubtitle:

```

153 \NewDocumentCommand{\LWR@mdfsubtitlecommon}{m o m}
154 {%
155   the following empty line is required
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

### § 403.9 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 \defcounter{#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 \edef\newctr{\newctr[##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}}% l warp
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}}% l warp
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}}% l warp
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}}% l warp
291   \BeforeBeginEnvironment{\#2*}{\renewcommand*{\LWR@mdthisenv}{md\#2}}% l warp
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 295 **l warp-mdwmath.sty**

#### § 404 Package **mdwmath**

(Emulates or patches code by MARK WOODING.)

Pkg mdwmath

**mdwmath** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mdwmath}[1996/04/11]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\LWRmdwmathsqrt\sqrt}
4 \CustomizeMathJax{\renewcommand{\sqrt}{\ifstar{\LWRmdwmathsqrt}{\LWRmdwmathsqrt}}}
5 \CustomizeMathJax{\newcommand{\bitand}{\mathbin{\&}}}
6 \CustomizeMathJax{\def\bitor{\mathbin{\mid}}}
7 \CustomizeMathJax{\def\dblor{\mathbin{\mid\mid}}}
8 \CustomizeMathJax{\def\dbland{\mathbin{\mathrel{\bitand}\mathrel{\bitand}}}}
9 \end{warpMathJax}
```

---

**File 296 l warp-media9.sty****§ 405 Package media9**

Pkg media9

media9 is emulated.

The packages `multimedia`, `movie15`, and `media9` are supported.

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

`HTML5 <embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by `HTML5`.)

For `media9`, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each `HTML` multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The `HTML` object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the `HTML` document.

`HTML5` media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\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.

**for HTML output:** 1 `\LWR@ProvidesPackageDrop{media9}[2019/02/21]`

2 `\LWR@origRequirePackage{l warp-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\expandafter\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\expandafter\expandafter[\LWR@medianine@options]%
19     {\LWR@medianine@postertext}%
20     {\LWR@tempone}%
21   }{%
22   \IfBeginWith{\#1}{src=}{%
23     \StrGobbleLeft{\#1}{4}[\LWR@tempone]%
24     \expandafter\expandafter\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 297 **l warp-memhfixc.sty**

### § 406 Package **memhfixc**

Pkg memhfixc memhfixc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{memhfixc}[2013/05/30]

---

#### File 298 **l warp-menukeys.sty**

### § 407 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{latentimage}*[\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{latentimage}%
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 299 **l warp-metalogo.sty**

#### § 408 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 300 **l warp-metalogox.sty**

#### § 409 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 301 **l warp-mhchem.sty**

§ 410 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 |
| $\text{\ce{NO_{x}}}$                          | % old |
| $\text{\ce{NO_x}}$                            | % new |
| $\text{\ce{cis$[-][PtCl_2(NH_3)_2]}}$         | % old |
| $\text{\ce{\mathit{cis}}[-][PtCl_2(NH_3)_2]}$ | % new |

**for HTML output:** 1 `\LWR@ProvidesPackagePass{mhchem}[2018/06/22]`

The original definition of `\ce`:

2 `\LetLtxMacro{\LWR@mhchem@orig}{\ce}`

The new definition, called from the new \ce after math shift is set. The starred \teximage 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{teximage}%
9           *%
10          [%
11            \textbackslash{%
12              ce%%
13                \{\LWR@HTMLsanitizedetokenized{\detokenize{\#1}}\}\}%
14            ]%
15            *%
16            [%
17              FM\LWR@f@family%
18              SR\LWR@f@series%
19              SH\LWR@f@shape%
20              SHC\LWR@f@shapecaps%
21              CL\LWR@tempcolor%
22              FB\LWR@tempone% xfakebold
23            ]%
24          \LWR@setcurrentfont%
25          \LWR@mhchem@origce{\#1}%
26        \end{teximage}%
27        \endgroup%
28        \addtocounter{\LWR@mhchem@cedepth}{-1}%
29      }%

```

Only set math shift if outer depth:

```

30 \newcounter{\LWR@mhchem@cedepth}
31 \setcounter{\LWR@mhchem@cedepth}{0}

```

The new \ce. Sets math shift then continues.

```

32 \renewcommand{\ce}{%
33   \begingroup%
34   \ifnumequal{\value{\LWR@mhchem@cedepth}}{0}{%
35     \catcode`\$=3% math shift
36   }{%
37     \addtocounter{\LWR@mhchem@cedepth}{1}%
38     \LWR@mhchem@HTML@ce%
39   }%

```

The original definition of \cesplit:

```

40 \LetLtxMacro{\LWR@mhchem@origcesplit}{\cesplit}

```

The new definition, called from the new \cesplit after math shift is set. The starred \teximage uses a hashed filename for the svg image. The alt tag is set to the mhchem expression.

```

41 \newcommand*{\LWR@mhchem@HTML@cesplit}[2]{%
42 {%
43   \LWR@findcurrenttextcolor% sets \LWR@tempcolor

```

```

44     \ifboolex{\LWR@xfakebold}{%
45         {\def\LWR@tempone{Y}}{%
46         {\def\LWR@tempone{N}}{%
47             \begin{lateximage}{%
48                 *{%
49                 [%
50                     \textbackslash{}{%
51                     \cesplit{%
52                         \{\LWR@HTMLsanitizedetokenized{\detokenize{\#2}}\}{%
53                         ]{%
54                         *{%
55                         [%
56                             \FM\,\LWR@f@family{%
57                             \SR\,\LWR@f@series{%
58                             \SH\,\LWR@f@shape{%
59                             \SHC\,\LWR@f@shapecaps{%
60                             \CL\,\LWR@tempcolor{%
61                             \FB\,\LWR@tempone{ xfakebold }{%
62                             ]{%
63                             \LWR@setcurrentfont{%
64                             \LWR@mhchem@origcesplit{\#1}{\#2}{%
65                             \end{lateximage}{%
66                             \endgroup{%
67 }

```

Only set math shift if outer depth:

```

68 \newcounter{\LWR@mhchem@cesplitdepth}
69 \setcounter{\LWR@mhchem@cesplitdepth}{0}

```

The new `\cesplit`. Sets math shift then continues.

```

70 \renewcommand{\cesplit}{%
71     \begingroup{%
72     \ifnumequal{\value{\LWR@mhchem@cesplitdepth}}{0}{%
73         \catcode`\$=3% math shift
74     }{%
75     \addtocounter{\LWR@mhchem@cesplitdepth}{1}{%
76     \LWR@mhchem@HTML@cesplit{%
77 }

```

Resore originals inside a `lateximage`:

```

78 \appto{\LWR@restoreorigformatting}{%
79 \LetLtxMacro{\ce}{\LWR@mhchem@origce}{%
80 \LetLtxMacro{\cesplit}{\LWR@mhchem@origcesplit}{%
81 }{%
82
83 \begin{warpMathJax}{%
84 \CustomizeMathJax{\require{mhchem}}{%
85 \end{warpMathJax}}

```

File 302 **l warp-microtype.sty**

§ 411 Package **microtype**

(Emulates or patches code by R SCHLICHT.)

Pkg microtype

microtype is pre-loaded by l warp. All user options and macros are ignored and disabled.

**for HTML output:** Discard all options for l warp-microtype:

```

1 \LWR@ProvidesPackageDrop{microtype}[2018/01/14]

2 \DeclareDocumentCommand{\DeclareMicrotypeSet}{o m m}{}
3 \DeclareDocumentCommand{\UseMicrotypeSet}{o m}{}
4 \DeclareDocumentCommand{\DeclareMicrotypeSetDefault}{o m}{}
5 \DeclareDocumentCommand{\SetProtrusion}{o m m}{}
6 \DeclareDocumentCommand{\SetExpansion}{o m m}{}
7 \DeclareDocumentCommand{\SetTracking}{o m m}{}
8 \DeclareDocumentCommand{\SetExtraKerning}{o m m}{}
9 \DeclareDocumentCommand{\SetExtraSpacing}{o m m}{}
10 \DeclareDocumentCommand{\DisableLigatures}{o m}{}
11 \DeclareDocumentCommand{\DeclareCharacterInheritance}{o m m}{}
12 \DeclareDocumentCommand{\DeclareMicrotypeVariants}{m}{}
13 \DeclareDocumentCommand{\DeclareMicrotypeAlias}{m m}{}
14 \DeclareDocumentCommand{\LoadMicrotypeFile}{m}{}
15 \DeclareDocumentCommand{\DeclareMicrotypeBabelHook}{m m}{}
16 \DeclareDocumentCommand{\microtypesetup}{m}{}
17 \DeclareDocumentCommand{\microtypecontext}{m}{}
18 \DeclareDocumentCommand{\textmicrotypecontext}{m m}{#2}
19 \IfPackageLoadedTF{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{\gobbleone}
26 \onlypreamble\DeclareMicrotypeSet
27 \onlypreamble\UseMicrotypeSet
28 \onlypreamble\DeclareMicrotypeSetDefault
29 \onlypreamble\DisableLigatures
30 \onlypreamble\DeclareMicrotypeVariants
31 \onlypreamble\DeclareMicrotypeBabelHook

```

### File 303 l warp-midfloat.sty

#### § 412 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 304 **lwarp-midpage.sty**

§ 413 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 305 **l warp-minibox.sty**

§ 414 Package **minibox**

*(Emulates or patches code by WILL ROBERTSON.)*

Pkg minibox

minibox is patched for use by lwarp.

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 306 l warp-minitoc.sty****§ 415 Package **minitoc****

Pkg minitoc minitoc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{minitoc}[2018/07/12]

mtcoff disables minitoc.

2 \usepackage{mtcoff}

---

**File 307 l warp-minted.sty****§ 416 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}[2021/12/24]

```
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}}
43
44 \renewenvironment{minted@snugshade*}[1]%
45 {%
46     \colorlet{shadecolor}{#1}%
47     \begin{snugshade*}%
48 }
49 {%
50     \end{snugshade*}%
51 }

```

### File 308 **l warp-mismath.sty**

## § 417 Package **mismath**

*(Emulates or patches code by ANTOINE MISSIER.)*

Pkg **mismath**

⚠ **MATHJAX** `\number`, `\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 8.7.6. 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 `\latextimage` restores the original definition of the `math` environment.

```

9 {%
10    \renewenvironment{mathcols}{%
11        \begin{latextimage}
12        \begin{math}
13        \begin{aligned}\displaystyle
14    }{%
15        \end{aligned}%
16        \end{math}
17        \end{latextimage}
18    }
19 }% svg
20
21 \renewcommand{\changeocol}{%
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}[1][]{}}
35 \CustomizeMathJax{\newcommand{\hvect}[1]{\vec{\phantom{h}\!#1}}}
36 \CustomizeMathJax{\newcommand{\hvec}[1]{\vec{\phantom{t}\!#1}}}
37 \CustomizeMathJax{%
38     \newcommand{\norm}[1]{\left\| #1 \right\|}}
39 }
40 \CustomizeMathJax{\newcommand{\di}{\mathop{}\!\mathrm{d}}}
41
42 \CustomizeMathJax{\newcommand{\P}{\operatorname{\mathit{probastyle{P}}}}}
43 \CustomizeMathJax{\newcommand{\E}{\operatorname{\mathit{probastyle{E}}}}}
44 \CustomizeMathJax{\newcommand{\V}{\operatorname{\mathit{probastyle{V}}}}}
45 \CustomizeMathJax{\newcommand{\Par}{\text{\scriptsize{\texttt{\&#x00B6}}}}}
46
47 \CustomizeMathJax{\DeclareMathOperator{\adj}{adj}}
48 \CustomizeMathJax{\DeclareMathOperator{\Aut}{Aut}}
49 \CustomizeMathJax{\DeclareMathOperator{\Conv}{Conv}}
50 \CustomizeMathJax{\DeclareMathOperator{\cov}{cov}}
51 \CustomizeMathJax{\DeclareMathOperator{\Cov}{Cov}}
52 \CustomizeMathJax{\newcommand{\curl}{\operatorname{\mathit{vect{\mathit{mathrm{curl}}}}}}}
53 \CustomizeMathJax{\DeclareMathOperator{\divg}{div}}
54 \CustomizeMathJax{\DeclareMathOperator{\End}{End}}
55

```

```
56 \CustomizeMathJax{\DeclareMathOperator{\erf}{erf}}
57 \CustomizeMathJax{\newcommand{\grad}{\operatorname{\vect{\mathsf{grad}}}}}
58 \CustomizeMathJax{\DeclareMathOperator{\id}{id}}
59 \CustomizeMathJax{\DeclareMathOperator{\Id}{Id}}
60 \CustomizeMathJax{\DeclareMathOperator{\im}{im}}
61 \CustomizeMathJax{\let\oldIm\Im}
62 \CustomizeMathJax{\renewcommand{\Im}{\operatorname{Im}}}
63 \CustomizeMathJax{\DeclareMathOperator{\lb}{lb}}
64 \CustomizeMathJax{\DeclareMathOperator{\lc}{lc}}
65
66 \CustomizeMathJax{\DeclareMathOperator{\rank}{rank}}
67 \CustomizeMathJax{\let\oldRe\Re}
68 \CustomizeMathJax{\renewcommand{\Re}{\operatorname{Re}}}
69 \CustomizeMathJax{\newcommand{\rot}{\operatorname{\vect{\mathsf{rot}}}}}
70 \CustomizeMathJax{\DeclareMathOperator{\sgn}{sgn}}
71 \CustomizeMathJax{\DeclareMathOperator{\spa}{span}}
72 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
73 \CustomizeMathJax{\DeclareMathOperator{\Var}{Var}}
74 \CustomizeMathJax{\DeclareMathOperator{\Zu}{Z}}
75
76 \CustomizeMathJax{\DeclareMathOperator{\arccot}{arccot}}
77 \CustomizeMathJax{\DeclareMathOperator{\sech}{sech}}
78 \CustomizeMathJax{\DeclareMathOperator{\csch}{csch}}
79 \CustomizeMathJax{\DeclareMathOperator{\arsinh}{arsinh}}
80 \CustomizeMathJax{\DeclareMathOperator{\arcosh}{arcosh}}
81 \CustomizeMathJax{\DeclareMathOperator{\artanh}{artanh}}
82 \CustomizeMathJax{\DeclareMathOperator{\arcoth}{arcoth}}
83 \CustomizeMathJax{\DeclareMathOperator{\arsech}{arsech}}
84 \CustomizeMathJax{\DeclareMathOperator{\arcsch}{arcsch}}
85
86 \CustomizeMathJax{\DeclareMathOperator{\bigO}{\mathcal{O}}}
87 \CustomizeMathJax{\DeclareMathOperator{\bigo}{O}}
88 \CustomizeMathJax{\DeclareMathOperator{\lito}{o}}
89
90 \CustomizeMathJax{\newcommand{\R}{\mathset{R}}}
91 \CustomizeMathJax{\newcommand{\C}{\mathset{C}}}
92 \CustomizeMathJax{\newcommand{\N}{\mathset{N}}}
93 \CustomizeMathJax{\newcommand{\Z}{\mathset{Z}}}
94 \CustomizeMathJax{\newcommand{\Q}{\mathset{Q}}}
95 \CustomizeMathJax{\newcommand{\F}{\mathset{F}}}
96 \CustomizeMathJax{\newcommand{\K}{\mathset{K}}}
97
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{\phantom{h}}}}
105 \CustomizeMathJax{\newcommand{\hlbar}[1]{\overline{\phantom{h}\#1}}}
106 \CustomizeMathJax{\newcommand{\eqdef}{\stackrel{\mathrel{\mathop:}=}{=}}}
107 \CustomizeMathJax{\newcommand{\unbr}{\underbrace{\phantom{h}}_{\phantom{h}}}}
108 \CustomizeMathJax{\newcommand{\iif}{\text{if and only if }}}
109
110 \CustomizeMathJax{\newcommand{\mul}{\mathord{\times}}}
111 \CustomizeMathJax{\newcommand{\then}{\rightarrow \Longrightarrow \mbox{} }\quad}
112 \CustomizeMathJax{\newcommand{\txt}[1]{\quad\text{#1}\quad}}
113 \CustomizeMathJax{\newcommand{\paren}[1]{\mathopen{\left(\kern-1.6pt#1\right)})}
114 \CustomizeMathJax{\newcommand{\pow}[2]{\left.\kern-1.6pt#1\right)^{\!\!-\kern-1.6pt#2}}}
115 \CustomizeMathJax{\newcommand{\abs}[1]{\left.\kern-1.6pt#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{\changecol}{\end{aligned}\qquad\begin{aligned}}}

```

User-adjustable settings, detected if in the preamble.

```

134 \AtBeginDocument{
135 \ifdef{\itpi}{%
136   \CustomizeMathJax{\let\itpi\pi}
137 }{%
138 \ifdefstring{\boldvectcommand}{\mathbf}{%
139   \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\mathbf{#1}}}}
140 }{%
141   \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\boldsymbol{#1}}}}
142 }
143 \ifbool{arrowvect}{%
144   \CustomizeMathJax{\newcommand{\vect}[1]{\overrightarrow{#1}}}}
145 }{%
146   \CustomizeMathJax{\newcommand{\vect}[1]{\boldsymbol{\mathrm{#1}}}}}
147 }
148 \ifdefstring{\probastyle}{\mathbb}{%
149   \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathbb{#1}}}}
150 }{%
151   \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathrm{#1}}}}
152 }
153 \ifdefstring{\mathset}{\mathbb}{%
154   \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbb{#1}}}}
155 }{%
156   \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbf{#1}}}}
157 }
158 }
159 \end{warpMathJax}

```

### File 309 lwarpmleftrtight.sty

§ 418 Package **mleftrtight**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg mleftrtight

**mleftrtight** is used as-is, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{mleftrtight}[2019/12/03]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\mleft}{\left}}
4 \CustomizeMathJax{\newcommand{\mright}{\right}}
5 \CustomizeMathJax{\newcommand{\mleftright}{\left.\right}}
6 \CustomizeMathJax{\newcommand{\mleftrightrestore}{\left.\right.}}
7 \end{warpMathJax}
```

---

**File 310 l warp-morefloats.sty****§ 419 Package morefloats**

Pkg morefloats      morefloats is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{morefloats}[2015/07/22]

---

**File 311 l warp-moreverb.sty****§ 420 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 \verb+%
52 }
53 {
54 \endverbatim%
55 \LWR@afterendverbatim%
56 }
```

---

File 312 **l warp-movie15.sty**

§ 421 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 \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/...`

```

for HTML output: 1 \LWR@ProvidesPackageDrop{movie15}[2012/05/16]

2 \LWR@origRequirePackage{l warp-common-multimedia}
3
4 \RequirePackage{xkeyval}
5
6 \newcommand*\{\LWR@moviefifteen@text}{}%
7
8 \define@key{\LWR@moviefifteen}{text}{\renewcommand{\LWR@moviefifteen@text}{#1}}
9
10 \newcommand*\{\LWR@includemovieb}[4][]{%
11     \renewcommand{\LWR@moviefifteen@text}{(multimedia)}
12     \setkeys*{\LWR@moviefifteen}{#1}%
13     \LWR@multimediacat[#1, width=#2, height=#3]{\LWR@moviefifteen@text}{#4}%
14 }
15
16 \newrobustcmd*\{\includemovie}{%
17     \begingroup%
18     \LWR@linkmediacatcodes%
19     \LWR@includemovieb%
20 }
21
22
23 \newcommand*\{\movieref}[3][]{}
24
25 \LetLtxMacro\movie\LWR@multimedia
26 % \LetLtxMacro\sound\LWR@multimedia% not in media15
27
28 \newcommand{\hyperlink{movie}}[3][]{}

```

### File 313 l warp-mparhack.sty

§ 422 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 314 l warp-multibib.sty**

§ 423 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 315 l warp-multicap.sty**

§ 424 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 316 l warp-multicol.sty**

§ 425 Package **multicol**

(Emulates or patches code by FRANK MITTELBACH.)

Pkg multicol

multicol is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{multicol}[2021/10/28]
```

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{multicols}
```

Optional HTML <div> class for the heading:

```
6     \IfValueT{#3}{\begin{BlockClass}{multicolsheading}#3\end{BlockClass}}%
```

Change \linewidth to compensate for expected size:

```
7     \setlength{\linewidth}{\linewidth/#2}
```

Locally force any minipages to be fullwidth:

```
8     \booltrue{LWR@forceminipagefullwidth}
9 }
```

When done with the environment, close the <div>:

```
10 {\endBlockClass}
```

Emulated null functions which are not used in HTML:

```
11 \newcommand*{\columnbreak}{}%
12 \newcommand*{\newcolumn}{}%
13 \newcommand*{\RLmulticolcolumns}{}%
14 \newcommand*{\LRmulticolcolumns}{}%
15
16 \newlength{\premulticols}
17 \newlength{\postmulticols}
18 \newlength{\multicolsep}
19 \newlength{\multicolbaselineskip}
20 \newlength{\multicoltolerance}
21 \newlength{\multicolpretolerance}
22 \newcommand*{\columnseprulecolor}{\normalcolor}
23 \newcounter{columnbadness}
24 \newcounter{finalcolumnbadness}
25 \newcounter{collectmore}
26 \newcounter{unbalance}
27 \newlength{\multicolovershoot}
28 \newlength{\multicolundershoot}

29 \NewDocumentCommand{\docolaction}{s o m m}{%
30     \IfValueTF{#2}{#2}{#3}%
31 }
```

### File 317 **l warp-multicolrule.sty**

#### § 426 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 318 `lwarp-multimedia.sty`**

§ 427      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 \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/...`.

**for HTML output:**    1 `\LWR@ProvidesPackageDrop{multimedia}[2012/05/02]`

```
2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \LetLtxMacro{\movie}{\LWR@multimedia}
5 \LetLtxMacro{\sound}{\LWR@multimedia}
6
7 \newcommand{\hyperlink{movie}}[3][]{}
8
9 \newcommand{\hyperlinksound}[3][]{}
```

10

---

```
11 \newcommand{\hyperlinkmute}{
```

---

File 319 **l warp-multiobjective.sty**

§ 428    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\mathord{\prec}}}
9 \CustomizeMathJax{\newcommand{\multepsilondom}{\preccurlyeq_{\epsilon\cdot\dot{}}}}
10 \CustomizeMathJax{\newcommand{\addiepsilondom}{\preccurlyeq_{\epsilon+\cdot}}}
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 320 **l warp-multirow.sty**

§ 429    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 `lateximage`.

- 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 429.2 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.

In a `lateximage`, the print versions are restored.

See section 75.24 for the print-mode versions.

**for HTML output:** Remove the placeholder macro which was used if `multirow` was not loaded:

```
1 \LetLtxMacro\multirow\relax
2 \LWR@ProvidesPackagePass{multirow}[2021/03/15]
```

`\LWR@multirowborder` Set to `left` or `right` to create a thick border for the cell, for use by `bigdelim`:

```
3 \newcommand{\LWR@multirowborder}{}  
4 \LWR@multirowborder
```

### § 429.1 Multirow

```
\LWR@multirow@par
    \par inside a \multirow.

4 \newcommand*\LWR@multirow@par{%
5     \LWR@htmltag{br /}%
6 }%

\multirow
    [<1: vpos>] [<2: numrows>] [<3:bigstruts>] [<4: width>] [<5: vmove>] [<6: text>]

7 \NewDocumentCommand{\LWR@HTML@multirow}{O{c} m o m o +m}{%
8 {%
9     \LWR@traceinfo{\LWR@HTML@multirow #1 #2 #4}%
10    \booltrue{\LWR@usedmultirow}%
11    \LWR@maybenewtablerow%
12    \LWR@tabularleftedge%
```

Print the start of a new table data cell:

```
13     \LWR@htmltag{%
14         td rowspan=\textquotedbl#2\textquotedbl\ %
```

A class adds the column spec and the rule:

```
15     class=\textquotedbl{}td%
```

Append this column's spec:

```
16     \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.

```
17     \LWR@addcmidruletrim%
18     \LWR@addleftmostbartag%
19     \LWR@printbartag{\arabic{\LWR@tableLaTeXcolindex}}%
20     \textquotedbl

21     \LWR@tdstartstyles%
```

The vertical alignment, if given:

```
22     \ifstrequal{#1}{c}{\LWR@tdaddstyle\LWR@print@mbox{vertical-align:middle}}{}%
23     \ifstrequal{#1}{b}{\LWR@tdaddstyle\LWR@print@mbox{vertical-align:bottom}}{}%
24     \ifstrequal{#1}{t}{\LWR@tdaddstyle\LWR@print@mbox{vertical-align:top}}{}%
```

The left/right border, if given:

```
25     \ifdefvoid{\LWR@multirowborder}{}{%
26         \LWR@tdaddstyle%
27         \LWR@print@mbox{border-\LWR@multirowborder:} 2px dotted black ; %
28         \LWR@print@mbox{padding-\LWR@multirowborder:} 2px%
29     }%
```

Additional style elements:

```

30      \LWR@addcmidrulewidth%
31      \LWR@addcdashline%
32      \LWR@addtabularrulecolors%
33      \LWR@tdendstyles%
34  }%

```

The column's < spec:

```
35      \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.

```

36  \begingroup%
37      \LetLtxMacro{\\\}{\LWR@endofline}%
38      \booltrue{\LWR@in@multirow@par}%
39      #6%
40  \endgroup%
41  \LWR@stoppars%
42  \boolfalse{\LWR@intabularmetadata}%
43  \renewcommand{\LWR@multirowborder}{}%
44  \LWR@traceinfo{\LWR@HTML@multirow done}%
45 }%
46
47 \LWR@formatted{multirow}

```

## § 429.2 Combined multicolumn and multirow

```
\multicolumnrow {\langle 1:cols \rangle} {\langle 2:halign \rangle} [\langle 3:vpos \rangle] {\langle 4:numrows \rangle} [\langle 5:bigstruts \rangle] {\langle 6:width \rangle} [\langle 7:fixup \rangle] {\langle 8:text \rangle}
```

\IfPackageLoadedTF{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.

```

48 \AtBeginDocument{
49
50 \NewExpandableDocumentCommand{\LWR@HTML@multicolumnrow}{m m O{} m O{} m O{} +m}{%
51 \booltrue{\LWR@usedmultirow}%

```

Figure out how many extra HTML columns to add for @ and ! columns:

```
52 \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.

```
53 \LetLtxMacro{\\"}{\LWR@endofline}%
54 \LWR@domulticolumn[#3][#4]{#1}{\arabic{\LWR@tabhtmlcoltotal}}{#2}{#8}%
55 \LetLtxMacro{\\"}{\LWR@tabularendofline}%
```

Move to the next L<sup>A</sup>T<sub>E</sub>X column:

```
56 \defaddtocounter{\LWR@tableLaTeXcolindex}{#1}%
57 \defaddtocounter{\LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
58 \booltrue{\LWR@skipatbang}%
59 }%
60 %
61 \LWR@expandableformatted{multicolumnrow}%
62 %
63 }% \AtBeginDocument
```

For MATHJAX. Only the text is used. All other parameters are ignored.

```
64 \begin{warpMathJax}
65 % \multirow[vpos]{num}[bigstruts][width][vmove]{text}
66 \CustomizeMathJax{\newcommand{\LWRsubmultirow}[2][]{\#2}}
67 \CustomizeMathJax{\newcommand{\LWRmultirow}[2][]{\LWRsubmultirow}}
68 \CustomizeMathJax{\newcommand{\multirow}[2][]{\LWRmultirow}}
69 %
70 \CustomizeMathJax{\newcommand{\mrowcell}{}}
71 \CustomizeMathJax{\newcommand{\mcolrowcell}{}}
72 \CustomizeMathJax{\newcommand{\STneed}[1]{}}
73 \end{warpMathJax}
```

### File 321 **l warp-multitoc.sty**

#### § 430 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 322 **l warp-musicography.sty**

#### § 431 Package **musicography**

(Emulates or patches code by ANDREW A. CASHNER.)

Pkg musicography

musicography is patched for use by l warp.

Images are used for the meter symbols and fingered bass, since the HTML fonts tend not to be the correct size and HTML cannot stack items. The HTML alt tag copies C and 3/2, etc. Hashes are used for the meter images, which are then reused as necessary.

- ⚠ Note that browser support for musical symbols may be buggy. ALT text and copy/paste into a text editor work well.

**for HTML output:** 1 \LWR@ProvidesPackagePass{musicography}[2019/05/28]

```
2 \NewDocumentCommand{\LWR@HTML@musSymbol}{ O{\musFont} m m m m }{%
3 \begin{lateximage}%
4 {#1\kern#2\raisebox{#3}{#5}\kern#4}%
5 \end{lateximage}%
6 }%
7 %
8 \LWR@formatted{musSymbol}%
9 %
10 \NewDocumentCommand{\LWR@HTML@musStemmedNote}{ m }{%
11 \begin{lateximage}%
12 \musSymbol{0.05em}{0.5ex}{0.2em}{#1\musStem}%
13 \end{lateximage}%
14 }%
15 %
16 \LWR@formatted{musStemmedNote}%
17 %
18 \NewDocumentCommand{\LWR@HTML@musFlaggedNote}{ m m }{%
19 \begin{lateximage}%
20 \musSymbol{0.05em}{0.5ex}{0pt}{#1\musStem}%
21 \musSymbol{0pt}{0pt}{0.9em}{#2}%
22 \end{lateximage}%
23 }%
24 %
25 \LWR@formatted{musFlaggedNote}%
26 %
27 \NewDocumentCommand{\LWR@HTML@musDottedNote}{ m }{%
28 \begin{lateximage}%
29 #1\musDot%
30 \end{lateximage}%
31 }%
32 %
33 \LWR@formatted{musDottedNote}%
34 %
35 \NewDocumentCommand{\LWR@HTML@musMeter}{ m m }{%
36 \begin{lateximage}*{[#1/#2][#1#2]}%
37 \musStack{#1 #2}\kern0.05em%
38 \end{lateximage}%
39 }%
40 %
41 \LWR@formatted{musMeter}%
42 %
43 \NewDocumentCommand{\LWR@HTML@meterCplus}{ m }{%
44 \begin{lateximage}*[C#1]%
45 \meterC{}\kern-0.7pt#1%
46 \end{lateximage}%
47 }%
48 %
49 \LWR@formatted{meterCplus}
```

```
50
51 \NewDocumentCommand{\LWR@HTML@meterC}{ }{%
52 \begin{lateximage}*{[C]}*%
53 \musSymbolMeter{\symbol{83}}%
54 \end{lateximage}%
55 }
56
57 \LWR@formatted{meterC}
58
59 \NewDocumentCommand{\LWR@HTML@meterCutC}{ }{%
60 \begin{lateximage}*{[C]}*%
61 \musSymbolMeter{\symbol{82}}%
62 \end{lateximage}%
63 }
64
65 \LWR@formatted{meterCutC}
66
67 \NewDocumentCommand{\LWR@HTML@meterCThreeTwo}{ }{%
68 \begin{lateximage}*{[C3/2]}*%
69 \meterCplus{\musStack{3 2}}%
70 \end{lateximage}%
71 }
72
73 \LWR@formatted{meterCThreeTwo}
74
75 \NewDocumentCommand{\LWR@HTML@meterO}{ }{ \HTMLunicode{25EF} }
76
77 \LWR@formatted{meterO}
78
79 \newcommand{\LWR@null@noFig}[1][]{ }{%
80
81 \NewDocumentCommand{\LWR@HTML@musFig}{ m }{%
82 \begin{lateximage}*[%
83     { \% ALT text for copy/paste
84         \LetLtxMacro{\noFig}{\LWR@null@noFig}%
85         \LetLtxMacro{\musSharp}{\LWR@HTML@musSharp}%
86         \LetLtxMacro{\musDoubleSharp}{\LWR@HTML@musDoubleSharp}%
87         \LetLtxMacro{\musFlat}{\LWR@HTML@musFlat}%
88         \LetLtxMacro{\musDoubleFlat}{\LWR@HTML@musDoubleFlat}%
89         \LetLtxMacro{\musNatural}{\LWR@HTML@musNatural}%
90         {#1} \% braces here because \noFig uses []
91     }%
92 ]*%
93     \musStack[\musFigFont]{#1}%
94 \end{lateximage}%
95 }
96
97 \LWR@formatted{musFig}
98
99 \NewDocumentCommand{\LWR@HTML@musFlat}{ }{ \HTMLunicode{266D} }
100 \NewDocumentCommand{\LWR@HTML@musDoubleFlat}{ }{ \HTMLunicode{1D12B} }
101 \NewDocumentCommand{\LWR@HTML@musSharp}{ }{ \HTMLunicode{266F} }
102 \NewDocumentCommand{\LWR@HTML@musDoubleSharp}{ }{ \HTMLunicode{1D12A} }
103 \NewDocumentCommand{\LWR@HTML@musNatural}{ }{ \HTMLunicode{266E} }
104
105 \LWR@formatted{musFlat}
106 \LWR@formatted{musDoubleFlat}
107 \LWR@formatted{musSharp}
108 \LWR@formatted{musDoubleSharp}
109 \LWR@formatted{musNatural}
```

```

110
111 \NewDocumentCommand{\LWR@HTML@musWhole} {}{\HTMLunicode{1D15D}}
112 \NewDocumentCommand{\LWR@HTML@musHalf} {}{\HTMLunicode{1D15E}}
113 \NewDocumentCommand{\LWR@HTML@musQuarter} {}{\HTMLunicode{1D15F}}
114 \NewDocumentCommand{\LWR@HTML@musEighth} {}{\HTMLunicode{1D160}}
115 \NewDocumentCommand{\LWR@HTML@musSixteenth} {}{\HTMLunicode{1D161}}
116 \NewDocumentCommand{\LWR@HTML@musThirtySecond} {}{\HTMLunicode{1D162}}
117 \NewDocumentCommand{\LWR@HTML@musSixtyFourth} {}{\HTMLunicode{1D163}}
118
119 \LWR@formatted{musWhole}
120 \LWR@formatted{musHalf}
121 \LWR@formatted{musQuarter}
122 \LWR@formatted{musEighth}
123 \LWR@formatted{musSixteenth}
124 \LWR@formatted{musThirtySecond}
125 \LWR@formatted{musSixtyFourth}
126
127 \NewDocumentCommand{\LWR@HTML@musWholeDotted} {}
128   {\HTMLunicode{1D15D}\HTMLunicode{1D16D}}
129 \NewDocumentCommand{\LWR@HTML@musHalfDotted} {}
130   {\HTMLunicode{1D15E}\HTMLunicode{1D16D}}
131 \NewDocumentCommand{\LWR@HTML@musQuarterDotted} {}
132   {\HTMLunicode{1D15F}\HTMLunicode{1D16D}}
133 \NewDocumentCommand{\LWR@HTML@musEighthDotted} {}
134   {\HTMLunicode{1D160}\HTMLunicode{1D16D}}
135 \NewDocumentCommand{\LWR@HTML@musSixteenthDotted} {}
136   {\HTMLunicode{1D161}\HTMLunicode{1D16D}}
137 \NewDocumentCommand{\LWR@HTML@musThirtySecondDotted} {}
138   {\HTMLunicode{1D162}\HTMLunicode{1D16D}}
139 \NewDocumentCommand{\LWR@HTML@musSixtyFourthDotted} {}
140   {\HTMLunicode{1D163}\HTMLunicode{1D16D}}
141
142 \LWR@formatted{musWholeDotted}
143 \LWR@formatted{musHalfDotted}
144 \LWR@formatted{musQuarterDotted}
145 \LWR@formatted{musEighthDotted}
146 \LWR@formatted{musSixteenthDotted}
147 \LWR@formatted{musThirtySecondDotted}
148 \LWR@formatted{musSixtyFourthDotted}

```

### File 323 **l warp-mwe.sty**

§ 432 Package **mwe**

*(Emulates or patches code by MARTIN SCHARRER.)*

Pkg mwe

mwe is used as-is, but a warning is issued to copy the images to the local directory.

for HTML output: 1 \LWR@ProvidesPackagePass{mwe}[2018/03/30]

```

2 \AtEndDocument{%
3   \PackageWarningNoLine{l warp}{%
4     For package mwe, copy any mwe images to be used for\MessageBreak
5     HTML, such as PNG or JPG, to the document's base\MessageBreak
6     directory. Neither a subdirectory nor the mwe\MessageBreak
7     directory will work, due to the TeX file search\MessageBreak
8     algorithm%
}
```

```
9      }%
10 }%
```

---

**File 324 l warp-nameauth.sty****§ 433 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]

Hook [nameauth] l warp formatting is inserted.

\@nameauth@Hook

```
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}}% l warp
19         }\egroup%
20       \else
21         \bgroup\MainNameHook{%
22           \LWR@textcurrentcolor{\LWR@textcurrentfont{\#1}}% l warp
23         }\egroup%
24       \fi
25     \else
26       \if@nameauth@FirstFormat
27         \bgroup\FrontNamesFormat{%
28           \LWR@textcurrentcolor{\LWR@textcurrentfont{\#1}}% l warp
29         }\egroup%
30       \else
31         \bgroup\FrontNameHook{%
32           \LWR@textcurrentcolor{\LWR@textcurrentfont{\#1}}% l warp
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}}% l warp
```

---

```

44      }\egroup%
45      \else
46          \bgroup\MainNameHook{%
47              \LWR@textcurrentcolor{\LWR@textcurrentfont{\#1}}%    l warp
48          }\egroup%
49      \fi
50  \else
51      \if@nameauth@FirstFormat
52          \bgroup\FrontNamesFormat{%
53              \LWR@textcurrentcolor{\LWR@textcurrentfont{\#1}}%    l warp
54          }\egroup%
55  \else
56      \bgroup\FrontNameHook{%
57          \LWR@textcurrentcolor{\LWR@textcurrentfont{\#1}}%    l warp
58      }\egroup%
59      \fi
60  \fi
61  \fi
62  \if@nameauth@FirstFormatfalse%
63  \if@nameauth@InHookfalse%
64  \fi
65 }

```

---

#### File 325 **l warp-nameref.sty**

#### § 434 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 326 **l warp-natbib.sty**

#### § 435 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 \ifdef\streq{\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 \setcitetstyle to patch after settings are made:

```

11 \let\LWRNB@origsetcitetstyle\setcitetstyle
12
13 \renewcommand{\setcitetstyle}[1]{%
14 \LWRNB@origsetcitetstyle{#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 327 l warp-nccfancyhdr.sty

§ 436 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{}%
3 \newcommand*\footrulewidth{}%
4 \newcommand{\headstrutheight}{}%
5 \newcommand{\footstrutheight}{}%
6 \newcommand*\headrule{}%
7 \newcommand*\footrule{}%
8
9 \newdimen\headwidth
10 \newcommand*\extendedheaders{}%
11 \newcommand*\normalheaders{}%
12
13 \newcommand*\fancyhead[2][]{}
14 \newcommand*\fancyfoot[2][]{}
15 \newcommand*\fancyhf[2][]{}
16 \newcommand*\fancypagestyle[2]{}%
17 \newcommand*\lhead[2]{}%
```

---

```

18 \newcommand*\chead}[2][]{}
19 \newcommand*\rhead}[2][]{}
20 \newcommand*\lfoot}[2][]{}
21 \newcommand*\cfoot}[2][]{}
22 \newcommand*\rfoot}[2][]{}
23
24 \newcommand{\nouppercase}[1]{#1}
25
26 \NewDocumentCommand{\fancycenter}{o o m m}{}
27
28 \NewDocumentCommand{\newpagestyle}{m o m}{}
29
30 \newcommand*\iffloatpage}[2]{#2}
31 \newcommand*\ifftopfloat}[2]{#2}
32 \newcommand*\iffbotfloat}[2]{#2}

```

---

File 328 **l warp-nccfoots.sty**

§ 437 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]

To nullify the footnotes where necessary:

```

2 \apptocmd{\LWR@nullifyfootnotes}{%
3   \renewcommand*\Footnote}[1]{%
4   \renewcommand*\Footnotemark}[1]{%
5 }{%
}
```

 For MATHJAX. There is no way to test for an empty argument, so the mark is not automatically duplicated.

```

6 \begin{warpMathJax}
7 \CustomizeMathJax{\newcommand{\Footnotemark}[1]{{}^{\mathrm{\scriptsize{#1}}}}}
8 \CustomizeMathJax{\newcommand{\Footnote}[2]{\Footnotemark{\#1}}}
9 \end{warpMathJax}

```

---

File 329 **l warp-nccmath.sty**

§ 438 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{}{#1}}}
36 \CustomizeMathJax{\newenvironment{ceqn}{}{}}
37 \CustomizeMathJax{\newenvironment{darray}[2][c]{\begin{array}{#1}\#2}{\end{array}}}
38 \CustomizeMathJax{\newcommand{\dmulticolumn}[3]{\#3}}
```

As of v0.86, MATHJAX v3 does not offer \\\*, so the unstarred version is used here.

```

39 \CustomizeMathJax{\newcommand{\LWRnrnostar}[1][0.5ex]{\[\#1\]}}
40 \CustomizeMathJax{\newcommand{\nr}{\ifstar\LWRnrnostar\LWRnrnostar}}
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]{}}

\eq, \eqs, \eqalign are created by LATEX, not MATHJAX.

52 \end{warpMathJax}
```

---

File 330 **l warp-needspace.sty**

§ 439 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 331 **l warp-newpxmath.sty**

§ 440 Package **newpxmath**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg newpxmath newpxmath is used as-is for SVG math, and is emulated for MATHJAX.

⚠ **limitations** The MATHJAX emulation ignores all package options, except slantedGreek is honored. The dedicated macros for upright and italic Greek do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** The MATHJAX code from newtxmath is used:

```

1 \LWR@ProvidesPackagePass{newpxmath}[2020/01/09]
2
3 \LWR@infoprocessingmathjax{newpxmath}
4
5 \LWR@origRequirePackage{l warp-common-mathjax-newpxmath}
6
7 \LWR@origRequirePackage{l warp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{up}
14 \LWR@mathjax@addgreek@l@up{up}{}
15 \LWR@mathjax@addgreek@l@up{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}
```

Optional slanted Greek:

```

18 \ifpx@slantedG
19   \LWR@mathjax@addgreek@u@it*{}{it}
20 \fi
21
```

---

```
22 \end{warpMathJax}
```

---

File 332 **l warp-newtxmath.sty**

§ 441 Package **newtxmath**

*(Emulates or patches code by MICHAEL SHARPE.)*

Pkg newtxmath

**newtxmath** is used as-is for SVG math, and is emulated for MATHJAX.

- ⚠ **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored, and except that bold italic Latin letters are not defined for MATHJAX if the option is not selected.

The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{newtxmath}[2020/08/04]
2
3 \LWR@infoprocessingmathjax{newtxmath}
4
5 \LWR@origRequirePackage{l warp-common-mathjax-newpxmath}
6
7 \LWR@origRequirePackage{l warp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{up}
14 \LWR@mathjax@addgreek@l@up{}{up}
15 \LWR@mathjax@addgreek@l@up*{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}
18
19 % only newtxmath, not newpxmath:
20 \LWR@mathjax@addgreek@u@it*{}{it}
21 \LWR@mathjax@addgreek@l@it{}{it}
22
23 % only newtxmath, not newpxmath:
24 \ifdef{\iftx@BI}{%
25   \iftx@BI
26     \LWR@mathjax@addlatin@u@bfit{BI}
27     \LWR@mathjax@addlatin@l@bfit{BI}
28   \fi
29 }{}
```

Optional slanted Greek:

```
30 \iftx@slantedG
31   \LWR@mathjax@addgreek@u@it*{}{it}
32 \fi
33
34 \end{warpMathJax}
```

---

**File 333 l warp-newtxsf.sty****§ 442 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*{}{it}{}
32 \fi
33
34 \end{warpMathJax}
```

---

**File 334 l warp-nextpage.sty****§ 443 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 335 l warp-nfssext-cfr.sty****§ 444 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@pststyle}{}
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@sbweight}{\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{pststyle}
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{newidth}
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}{}{%
duplicated by fontaxes
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{\pststyle}{\empty}
128   \LetLtxMacro{\tistyle}{\empty}
129   \LetLtxMacro{\ostyle}{\empty}
130   \LetLtxMacro{\postyle}{\empty}
131   \LetLtxMacro{\ltstyle}{\empty}
132   \LetLtxMacro{\ofstyle}{\empty}
133   \LetLtxMacro{\altstyle}{\empty}
134   \LetLtxMacro{\regstyle}{\empty}
135   \LetLtxMacro{\embossstyle}{\empty}
136   \LetLtxMacro{\ornamentalstyle}{\empty}
137   \LetLtxMacro{\qtstyle}{\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\nwwidth{@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@texttsu}[1]{#1}
183 % \newrobustcmd{\LWR@HTML@textsi}[1]{#1}
184 \newrobustcmd{\LWR@HTML@textdf}[1]{#1}

185 \ifdef{\LWR@HTML@textsw}{}{%
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@textt}[1]{\InlineClass{textt}{#1}}
205 \newrobustcmd{\LWR@HTML@textpl}[1]{#1}
206 \newrobustcmd{\LWR@HTML@textpo}[1]{\textsc{#1}}
207 \newrobustcmd{\LWR@HTML@textil}[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@textcu}[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{texttl}
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{textcu}
```

```
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{textet}
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     \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{0}
335 \newrobustcmd*\LWR@HTML@zeroslash{0}
336 \LWR@formatted{zeroslash}
```

---

### File 336 **l warp-nicefrac.sty**

#### § 445 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{{}^{\kern-1pt}{}_{\kern-1pt}{}^{#1}\kern-1pt/}\kern-1pt{}_{\kern-1pt}{}^{#2}\kern-1pt/}\kern-1pt{}_{\kern-1pt}{}^{#3}}}
25 \end{warpMathJax}
```

---

File 337 **l warp-niceframe.sty**

§ 446 Package **niceframe**

Pkg niceframe niceframe is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{niceframe}% the original date is in yyyy/dd/mm format

```

2 \newcommand{\LWR@niceframe}[3]{%
3   \begin{\LWR@setvirtualpage}*%
4   \setlength{\LWR@templengthone}{#1}%
5   \begin{BlockClass}[max-width:\LWR@printlength{\LWR@templengthone}]{#3}%
6   #2%
7   \end{BlockClass}%
8   \end{\LWR@setvirtualpage}%
9 }
10
11 \newcommand{\niceframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{niceframe}}
12 \newcommand{\curlyframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{curlyframe}}
13 \newcommand{\artdecoframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{artdecoframe}}
14
15 \newcommand{\generalframe}[9]{\LWR@niceframe{\textwidth}{#9}{generalframe}}

```

---

File 338 **l warp-nicematrix.sty**

§ 447 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 \CustomizeMathJax{\let\Hline\hline}
84
85 \CustomizeMathJax{\newcommand{\ldots}{[1][]{\dots}}}
86 \CustomizeMathJax{\newcommand{\cdots}{[1][]{\cdots}}}
87 \CustomizeMathJax{\newcommand{\vdots}{[1][]{\vdots}}}
88 \CustomizeMathJax{\newcommand{\ddots}{[1][]{\ddots}}}
89 \CustomizeMathJax{\newcommand{\Idots}{[1][]{\mathinner{\!\!{\scriptsize\texttt{\textbackslash}}\!}\!{\scriptsize\texttt{mathinner{\!{\scriptsize\texttt{\textbackslash}}\!}\!{\scriptsize\texttt{unicode{\!{\scriptsize\texttt{\{}}\!}\!{\scriptsize\texttt{x22F0}}\!}\!}}}}}}}
90
91 \CustomizeMathJax{\newcommand{\Hdotsfor}[1]{\ldots}}
92 \CustomizeMathJax{\newcommand{\Vdotsfor}[1]{\vdots}}
```

There is no way to emulate AutoNiceMatrix in MATHJAX.

```
93 \CustomizeMathJax{\newcommand{\AutoNiceMatrix}[2]{\text{(AutoNiceMatrix #1)}}}
94 \CustomizeMathJax{\let\pAutoNiceMatrix\AutoNiceMatrix}
95 \CustomizeMathJax{\let\bAutoNiceMatrix\AutoNiceMatrix}
96 \CustomizeMathJax{\let\BAutoNiceMatrix\AutoNiceMatrix}
97 \CustomizeMathJax{\let\vAutoNiceMatrix\AutoNiceMatrix}
98 \CustomizeMathJax{\let\VAutoNiceMatrix\AutoNiceMatrix}
99 \end{warpMathJax}
```

---

**File 339 l warp-noitcrl.sty****§ 448 Package noitcrl***(Emulates or patches code by PAUL EBERMANN.)*

Pkg noitcrl noitcrl is used as-is for SVG and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{noitcrl}[2006/04/11]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\noitUnderline}[1]{\underline{\#1}!}}
4 \end{warpMathJax}
```

---

**File 340 l warp-nolbreaks.sty****§ 449 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 341 l warp-nomencl.sty****§ 450 Package nomencl***(Emulates or patches code by BORIS VEYTSMAN, BERND SCHANDL, LEE NETHERTON, CV RADHAKRISHNAN.)*

Pkg nomencl nomencl is patched for use by l warp.

To process the HTML nomenclature:

```
makeindex      <project>_html.nlo      -s      nomencl.list      -o
<project>_html.nls
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{nomencl}[2005/09/22]

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
2 \def\@@nomenclature[#1]#2#3{%
3   \def\@tempa{#2}\def\@tempb{#3}%
4   \protected@write{\nomenclaturefile}{%
5     {\string\nomenclatureentry{\#1\nom@verb\@tempa @[\{\nom@verb\@tempa\}]%
6       \begin{group}\nom@verb\@tempb\protect\nameqref{\theequation}%
7         |nompageref|{\theLWR@previousautopagelabel}}% l warp
8   \endgroup}}
```

```
9  \@esphack}
10
11 \renewcommand*{\pagedeclaration}[1]{, \nameref{\BaseJobname-autopage-\#1}}%
```

---

**File 342 l warp-nonfloat.sty****§ 451 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 343 l warp-nonumonpart.sty****§ 452 Package nonumonpart**

Pkg nonumonpart      nonumonpart is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nonumonpart}[2011/04/15]

---

**File 344 l warp-nopageno.sty****§ 453 Package nopageno**

Pkg nopageno      nopageno is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nopageno}[1989/01/01]

---

**File 345 l warp-notes.sty****§ 454 Package notes**

Pkg notes      notes is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{notes}[2002/10/29]

```
2 \newcommand*{\LWR@notes@onenote}[2]{%
3 \newenvironment{\#1}
4 {
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 346 **l warp-notespages.sty**

§ 455      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 347 **l warp-nowidow.sty**

§ 456      Package **nowidow**

(Emulates or patches code by RAPHAËL PINSON.)

Pkg nowidow      nowidow is ignored.

**for HTML output:** Discard option package 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 348 **l warp-ntheorem.sty**

## § 457 Package **ntheorem**

(Emulates or patches code by WOLFGANG MAY, ANDREAS SCHEDLER.)

Pkg ntheorem

**ntheorem** is patched for use by **l warp**.

Table 20: Ntheorem package — css styling of theorems and proofs

**Theorem:** <div> of class theorembody<theoremstyle>

**Theorem Header:** <span> of class theoremheader<style>

where <theoremstyle> is plain, break, etc.

---

### § 457.1 Limitations

⚠ **Font control** This conversion is not total. Font control is via css, and the custom L<sup>A</sup>T<sub>E</sub>X font settings are ignored.

⚠ **Equation numbering** **ntheorem** has a bug with equation numbering in *AMS* environments when the option `thref` is used. **l warp** does not share this bug, so equations with `\split`, etc, are numbered correctly with **l warp**'s HTML output, but not with the print output. It is recommended to use `cleveref` instead of **ntheorem**'s `thref` option.

### § 457.2 Options

Options `amsthm` or `standard` choose which set of theorems and proofs to initialize.

⚠ **Disabled options** The options `thmmarks` and `amsmath` are disabled, since they heavily modify the underlying math code. Theorem marks are emulated. The AMS-math modifications are not done.

Option `thref` is disabled because `cleveref` functions are used instead. `\thref` is emulated.

Option `hyperref` is disabled because **l warp** emulated `hyperref`.

**for HTML output:** Some disabled options:

```
1 \DeclareOption{thref}{
2   \AtEndDocument{
3     \PackageWarningNoLine{l warp}{%
4       L warp 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]

```

### § 457.3 Remembering the theorem style

Storage for the style being used for new theorems.

```

36 \newcommand{\LWR@newtheoremstyle}{plain}

37 \AtBeginDocument{
38 \IfPackageLoadedTF{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}%
49   \theorem@prework
50   \LWR@forcenewpage% l warp

51   \LWR@printpendingfootnotes% l warp

52   \BlockClass{theorembody#1}\LWR@thisthmstyle% l warp
53   \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
54   \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
55   \ifthm@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 \one \@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% l warp

88 \LWR@printpendingfootnotes% l warp

89 \BlockClass{theorembdy#1}\LWR@thisthmstyle% l warp
90 \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
91 \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
92   \ifthm@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 \@topsep\thm@topsep
105 \@topsepadd\thm@topsepadd
106 \advance\linewidth -\theorem@indent
107 \advance\linewidth -\theorem@rightindent
108 \advance\@totalleftmargin \theorem@indent
109 \parshape \one \@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{th@#1}{\@warning
116     {Unknown theoremstyle '#1'. Using 'plain'}%
117     \theorem@style{plain}%
118     \renewcommand{\LWR@newtheoremstyle}{plain}\% l warp
119   }%
120   {
121     \theorem@style{#1}%
122     \renewcommand{\LWR@newtheoremstyle}{#1}\% l warp
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   \iftthm@tempif
128     \csedef{\LWR@thmstyle#1}{\LWR@newtheoremstyle}\% l warp
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 \atthmcntersep
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}}}\% l warp
141   \fi
142 }
143
144 \gdef\@ynthm#1#2{%
145   \iftthm@tempif
146     \csedef{\LWR@thmstyle#1}{\LWR@newtheoremstyle}\% l warp
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}}}\% l warp
157   \fi
158 }
159
160 \gdef\@othm#1[#2]{%
161   \@ifundefined{c@#2}{\@nocounterr{#2}}%
162   \iftthm@tempif
163     \csedef{\LWR@thmstyle#1}{\LWR@newtheoremstyle}\% l warp
164     \global\@namedef{the#1}{\@nameuse{the#2}}%
165     \expandafter\protected\xdef\csname num@addtheoremline#1\endcsname{%
166       \noexpand\@num@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}}}\% l warp
178  \fi}
179 }

```

#### § 457.4 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@stopars%
183 \LWR@htmlltag{%
184     a id=\textquotedbl\textprint@mbox{autoid-\arabic{LWR@thisautoid}}\textquotedbl%
185 }%
186 \LWR@htmlltag{/a}\LWR@orignewline%
187 \LWR@startpars%
188 }

```

#### § 457.5 \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 th@#1\endcsname{%
192       \def@\begintheorem####1#####2{%
193         \LWR@inctheorem% l warp
194         #2}%
195         \def@\opargbegintheorem####1#####2#####3{%
196           \LWR@inctheorem% l warp
197           #3}%
198     }%
199   }%
200 {\PackageError{\basename}{Theorem style #1 already defined}\@eha}%
201 }

```

## § 457.6 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   ]}%
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}

```

### § 457.7 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

```

### § 457.8 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

```

### § 457.9 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   \atthm{proof}{proof}{#1}%
447 }%
448 {\@endtheorem}
449
450 }{}% amsthm option

```

### § 457.10 Ending a theorem

Patched for css:

```

451 \let\LWR@origendtheorem@\endtheorem
452 \renewcommand{\endtheorem}{%
453 \ifbool{\LWR@ntheoremmarks}{%
454   \ifsetendmark%
455     \InlineClass{theoremendmark}{\csname\InTheoType Symbol\endcsname}%
456     \setendmarkfalse%
457   \fi%
458 }{}%
459 \LWR@origendtheorem% also does \@endtrivlist
460 \ifbool{\LWR@ntheoremmarks}{\global\setendmarktrue}{}%
461   \LWR@printpendingfootnotes% l warp
462 \endBlockClass%
463 }

```

### § 457.11 \NoEndMark

```
464 \gdef\NoEndMark{\global\setendmarkfalse}
```

### § 457.12 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 }
```

### § 457.13 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
```

### § 457.14 Cross-referencing

```
\thref {\langle label \rangle}

500 \newcommand*{\thref}[1]{\cref{#1}}%
```

---

File 349 **lwarf-octave.sty**

### § 458 Package **octave**

(Emulates or patches code by ANDREW A. CASHNER.)

Pkg octave

**octave** is patched for use by **lwarf**.

for HTML output: 1 \LWR@ProvidesPackagePass{octave}[2017/10/31]

Remove the leading 1pt kern:

```
2 \RenewDocumentCommand{\@PrintTicks}{ m }{%
3 \kern-1pt% lwarf
4 \c@TickNum = #1%
5 \loop
6 \c@Tick{}%
7 \advance\c@TickNum by -1
8 \ifnum\c@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{\% lwarf
17             \MakeUppercase{#1}%
18             \IfValueTF{#2}{#2}{\text{\textnormal{2032}}}{\text{\textnormal{2032}}}\text{\textnormal{2032}}%
19         }%
20     }%
21 }%
22 \else%
23 {%
24     \pitchfont{%
25         \LWR@textcurrentfont{\% lwarf
26             \c@GetOctaveTick{\c@OctaveNumber}{#2}{#3}%
27         }%
28     }%
29 }%
30 \fi%
31 }
```

The original was hard to adapt to **lwarf**'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 350 **l warp-orcidlink.sty**

§ 459 Package **orcidlink**

*(Emulates or patches code by LEO C. STEIN.)*

Pkg orcidlink

orcidlink is patched for use by l warp.

**for HTML output:**

```

1 \RequirePackage{l warp-scalerel}
2
3 \LWR@ProvidesPackagePass{orcidlink}[2020/11/21]

4 \renewcommand\orcidlink[1]{%
5   \texorpdfstring{%
6     \%
7     \href{%
8       https://orcid.org/#1}{%
9       \begin{tikzpicture}[yscale=-1, transform shape]
10      \pic{orcidlogo};
11    \end{tikzpicture}}%
12   }{%
13   \begin{tikzpicture}[yscale=-1, transform shape]
14     \pic{orcidlogo};
15   \end{tikzpicture}}%
16 }{%
17 }%
18 \end{tikzimage}}%
19 }%
20 }%
21 }%
22 }%
23
24 \begin{warpMathJax}
25 \CustomizeMathJax{\newcommand{\orcidlink}[1]{}}
26 \end{warpMathJax}

```

---

**File 351 l warp-overpic.sty****§ 460 Package overpic***(Emulates or patches code by ROLF NIEPRASCHK.)*

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{latextimage}%
7   \fontsize{\overpicfontsize}{\overpicfontskip}%
8   \selectfont%
9 }
10
11 \AfterEndEnvironment{overpic}{\end{latextimage}}
12
13 \BeforeBeginEnvironment{Overpic}{%
14   \begin{latextimage}%
15   \fontsize{\overpicfontsize}{\overpicfontskip}%
16   \selectfont%
17 }
18
19 \AfterEndEnvironment{Overpic}{\end{latextimage}}
```

---

**File 352 l warp-pagegrid.sty****§ 461 Package pagegrid**

pagegrid is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pagegrid}[2016/05/16]

```
2 \newcommand*\{\pagegridsetup}{1}{}

---


```

**File 353 l warp-pagenote.sty****§ 462 Package pagenote**

pagenote works as-is, but the page option is disabled.

 **labels** Note that labels in page notes do not appear as expected, even in the print version.

**for HTML output:**

```
1 \DeclareOption{page}{}
2 \LWR@ProvidesPackagePass{pagenote}[2009/09/03]
```

For MATHJAX:

```
3 \begin{warpMathJax}
4 \appto\LWR@syncnotenumbers{\LWR@synconenotenumber{\LWRpagenote}{\thepagenote}}
5 \CustomizeMathJax{\def\LWRpagenote{1}}
6 \CustomizeMathJax{\newcommand{\pagenote}[2][\LWRpagenote]{\{}^{\mathrm{#1}}\}}
7 \end{warpMathJax}
```

There is no `\pagenotemark`, so the following are not required:

```
\providecommand{\pagenotename}{pagenote}
\appto\LWR@syncnotenames{\LWR@synconenotename{\LWRpagenote}{\pagenotename}}
```

#### File 354 **l warp-pagesel.sty**

### § 463 Package **pagesel**

Pkg pagesel pagesel is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{pagesel}[2016/05/16]
```

#### File 355 **l warp-paralist.sty**

### § 464 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 356 l warp-parallel.sty**

§ 465      Package **parallel**

*(Emulates or patches code by MATTHIAS ECKERMANN.)*

parallel is emulated.

Package options are ignored. Footnotes are treated as normal l warp footnotes.

Environment option c gives side-by-side <div>s of class minipage, each of whose width is a percent depending on the given left and right widths, proportional to \ linewidth.

Inside each environment, \ linewidth and \ textwidth are set for the print-output sizes.

**for HTML output:** Discard all options for l warp-parallel:

```
1 \LWR@ProvidesPackageDrop{parallel}[2003/04/13]

2 \newcounter{\LWR@parallel@Lwidth}
3 \newcounter{\LWR@parallel@Rwidth}
4 \newcommand*\{\LWR@parallel@border\}
5
6 \newenvironment*{Parallel}[3][]{%
7     {%
8         \LWR@printpendingfootnotes%
9         \setlength{\ linewidth}{\LWR@userstextwidth}%
10        \setlength{\ textwidth}{\LWR@userstextwidth}%
11        \renewcommand*\{\LWR@parallel@border\}{%
12            \ifstreq{\#1}{v}{%
13                {%
14                    \renewcommand*\{\LWR@parallel@border\}{; border-left: 2px solid black}%
15                }%
16            }%
17            \ifblank{\#2}{%
18                \ifblank{\#3}{%
19                    \setcounter{\LWR@parallel@Lwidth}{45}%
20                    \setcounter{\LWR@parallel@Rwidth}{45}%
21                }%
22                {%
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                }%
31            }%
32            {%
33                \ifblank{\#3}{%
34                    \setcounter{\LWR@parallel@Lwidth}{%
35                        90*\ratio{\#2}{\ linewidth}%
36                }%
37            }%
38        }%
39    }%
40}
```

```

37          \setlength{\LWR@templengthone}{\linewidth-#2}%
38          \setcounter{LWR@parallel@Rwidth}{%
39              90*\ratio{\LWR@templengthone}{\linewidth}%
40          }%
41      }% {x}{}
42      {%
43          \setcounter{LWR@parallel@Lwidth}{%
44              90*\ratio{#2}{\linewidth}%
45          }%
46          \setcounter{LWR@parallel@Rwidth}{%
47              90*\ratio{#3}{\linewidth}%
48          }%
49      }% {x}{x}
50  }% #2 non-blank
51 }
52 {%
53     \ParallelAtEnd%
54     \renewcommand*{\ParallelAtEnd}{}%
55     \LWR@printpendingfootnotes%
56 }
57
58 \newcommand*{\ParallelLText}[1]{%
59     \begin{BlockClass}[
60         width:\arabic{\LWR@parallel@Lwidth}\% ; % space
61         padding: .5ex 1\% ; % space
62     ]{\minipage}%
63     #1%
64     \end{BlockClass}%
65 }
66
67 \newcommand*{\ParallelRText}[1]{%
68     \begin{BlockClass}[
69         width:\arabic{\LWR@parallel@Rwidth}\% ; % space
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 357 **lwarf-parcolumns.sty**§ 466 Package **parcolumns**

(Emulates or patches code by JONATHAN SAUER.)

**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  $6 \times 9$  inch page, with \linewidth divided by the number of columns.

for HTML output: Discard all options for lwarf-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     {%
21         \begin{LWR@setvirtualpage}*{#2}%
22         \setcounter{LWR@parcolumns@numcols}{#2}%
23         \setcounter{LWR@parcolumns@thiscol}{1}%
24         \boolfalse{LWR@parcolumns@started}%
25         \boolfalse{LWR@parcolumns@rule}%
26         \setcounter{LWR@parcolumns@width}{%
27             85/#2
28         }%
29         \setkeys{LWRparcols}{#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 358 l warp-parnotes.sty

§ 467 Package **parnotes**

(Emulates or patches code by CHELSEA HUGHES.)

Pkg parnotes

parnotes is supported with some patches.

**for HTML output:** 1 \LWR@ProvidesPackagePass{parnotes}[2019/07/23]

```

2 \long\def\PN@parnote@real#1#2{%
3   \parnotemark{#1}%
4   % Unless this is the first parnote in \PN@text, add a separator first
5   \unless\ifx\PN@text\empty\g@addto@macro\PN@text{\parnoteintercmd}\fi
6   % Redefine \currentlabel to the parnote label, so \label works
7   \g@addto@macro\PN@text{%
8     \phantomsection%
9     \def\@currentlabel{#1}%
10    \def\cref@currentlabel{} \l warp
11    [parnotemark][\arabic{parnotemark}][]\theparnotemark%
12  }%
13 }%
14 \g@addto@macro\PN@text{%
15   \LWR@textcurrentfont{} \l warp

```

```

16           \parnotemark{#1}\nolineskip\thinspace#2%
17       }%
18   }%
19 }
20
21 \def\PN@parnotes@real{%
22 \ifPN@inparnotes
23 \else
24     \LWR@stoppars%

```

Avoid nested paragraphs:

```

25     \addtocounter{\LWR@spandepth}{1}%
26     % We call \par later, so this avoids recursion with \PN@parnotes@auto
27     \PN@inparnotestrue
28     \unless\ifvmode\par\fi
29     % Avoid page breaks between a paragraph and its parnotes
30     \nopagebreak\addvspace{\parnotevskip}%
31     \begin{BlockClass}(note){footnotes}%
32         l warp
33         \leavevmode\LWR@orignewline%

```

Typeset the parnote inside its own group to avoid global changes:

```

33     {%
34         \parnotefmt{\PN@text}%
35     }%
36     \leavevmode\LWR@orignewline%
37     \end{BlockClass}%
38     l warp
39
40     \leavevmode\LWR@orignewline%
41     \global\def\PN@text{}%
42     %
43     % These can be enabled or disabled by package options
44     %
45     \PN@disable@indent
46     \PN@reset@optional
47     \PN@inparnotesfalse

```

Reenable normal paragraph handling:

```

46     \addtocounter{\LWR@spandepth}{-1}%
47 \fi
48 }

49 \newbool{\LWR@parnotes@doingauto}
50 \boolfalse{\LWR@parnotes@doingauto}

51 \def\PN@parnotes@auto{%
52     \ifbool{\LWR@parnotes@doingauto}{%
53         \ifx\@currenvir\@PN@autopn
54             \unless\ifPN@inparnotes
55                 \unless\ifx\PN@text\empty
56                     \expandafter\PN@parnotes@real

```

```

57           \fi
58       \fi
59   \fi
60 }{}}%
61 }

```

Replace original logic due to the use of new L<sup>A</sup>T<sub>E</sub>Xparagraph hook handling:

```

62 \renewenvironment{autopn}%
63   {\booltrue{LWR@parnotes@doingauto}}%
64   {\PN@parnotes@auto}%

```

If `cleveref` is in use, name the new notes:

```

65 \AtBeginDocument{
66   \ifdef{\crefname}{%
67     \crefname{parnotemark}{paragraph note}{paragraph notes}%
68     \Crefname{parnotemark}{Paragraph note}{Paragraph notes}%
69   }{}%
70 }

```

To nullify the footnotes where necessary:

```

71 \apptocmd{\LWR@nullifyfootnotes}{%
72   \renewcommand{\parnote}[2][]{\%}
73   \renewcommand{\parnotemark[1]}{\%}
74 }{\{}{\}}

```

For MATHJAX:

```

75 \begin{warpMathJax}
76 \providecommand{\parnotename}{parnote}
77 \appto{\LWR@syncnotenumbers}{%
78   \addtocounter{parnotemark}{-1}\% specific to parnotes
79   \LWR@synconenotenumber{\LWRparnote}{\theparnotemark}\%
80   \addtocounter{parnotemark}{1}\% specific to parnotes
81 }
82 \appto{\LWR@syncnotenames}{\LWR@synconenotename{\LWRparnote}{\parnotename}}
83 \CustomizeMathJax{\def{\LWRparnote}{1}}
84 \CustomizeMathJax{\newcommand{\parnote}[2][\LWRparnote]{\{}^{\mathrm{\#1}}\}}
85 \CustomizeMathJax{\newcommand{\parnotemark}[1][\LWRparnote]{\{}^{\mathrm{\#1}}\}}
86 \end{warpMathJax}

```

### File 359 lwarf-parskip.sty

§ 468 Package **parskip**

Pkg **parskip**

**parskip** is ignored.

**for HTML output:** Discard all options for **lwarf-parskip**.

```
1 \LWR@ProvidesPackageDrop{parskip}[2001/04/09]
```

---

File 360 **l warp-pbalance.sty**

§ 469 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 361 **l warp-pbox.sty**

§ 470 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{\settominwidth}[3][\columnwidth]{%
8 \setwidht{#2}{#3}%
9 }
10
11 \newcommand{\widthofpbox}[1]{%
12 \widthof{#1}%
13 }
```

---

File 362 **l warp-pdfcol.sty**

§ 471 Package **pdfcol**

Pkg pdfcol pdfcol is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{pdfcol}[2018/11/01]
2
3 \ltx@newif\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 363 **l warp-pdfcolfoot.sty**

§ 472 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 364 **l warp-pdfcolmk.sty**

§ 473 Package **pdfcolmk**

Pkg pdfcolmk pdfcolmk is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcolmk}[2016/05/16]

---

File 365 **l warp-pdfcolparallel.sty**

§ 474 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 366 **l warp-pdfcolparcolumns.sty**

§ 475      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 367 **l warp-pdfcomment.sty**

§ 476      Package **pdfcomment**

Pkg `pdfcomment` `pdfcomment` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcomment}{2016/06/13}

```
2 \newenvironment{pdfsidelinecomment}[2][]{\{}%
3 \newcommand{\pdfcomment}[2][]{\{}%
4 \newcommand{\pdfmargincomment}[2][]{\{}%
5 \newcommand{\pdfmarkupcomment}[3][]{\#2}%
6 \newcommand{\pdffreetextcomment}[2][]{\{}%
7 \newcommand{\pdfsquarecomment}[2][]{\{}%
8 \newcommand{\pdfcirclecomment}[2][]{\{}%
9 \newcommand{\pdflinecomment}[2][]{\{}%
10 \newcommand{\pdftooltip}[3][]{\#2}%
11 \newcommand{\pdfcommentsetup}[2][]{\{
```

---

```

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 368 **l warp-pdfcrypt.sty**

### § 477 Package **pdfcrypt**

Pkg pdfcrypt pdfcrypt is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pdfcrypt}[2016/05/16]

2 \newcommand*{\pdfcryptsetup}[1]{}

```

---

#### File 369 **l warp-pdflandscape.sty**

### § 478 Package **pdflandscape**

Pkg pdflandscape pdflandscape is ignored.

**for HTML output:** Discard all options for l warp-pdflandscape:

```

1 \LWR@ProvidesPackageDrop{pdflandscape}[2019/12/05]

2 \let\landscape\relax
3 \let\endlandscape\relax
4
5 \newenvironment*{landscape}{}{}

```

---

#### File 370 **l warp-pdfmarginpar.sty**

### § 479 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 371 **l warp-pdfpages.sty**

§ 480 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}{linktodocfit}(){}
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 372 **l warp-pdfprivacy.sty**

#### § 481 Package **pdfprivacy**

Pkg pdfprivacy pdfprivacy is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfprivacy}[2017/12/03]

---

#### File 373 **l warp-pdfrender.sty**

#### § 482 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 374 **l warp-pdfsync.sty**

#### § 483 Package **pdfsync**

(Emulates or patches code by J. LAURENS.)

Pkg pdfsync pdfsync is ignored.

**for HTML output:**

---

Discard all options for l warp-pdfsync:

```
1 \LWR@ProvidesPackageDrop{pdfsync}[2008/01/26]
```

```
2 \newcommand*{\pdfsync}{}  
3 \newcommand*{\pdfsyncstart}{}  
4 \newcommand*{\pdfsyncstop}{}
```

---

### File 375 **l warp-pdftricks.sty**

#### § 484 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\PDFTfigname{\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 376 **l warp-pdflx.sty**

#### § 485 Package **pdflx**

Pkg pdflx

pdflx is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdflx}[2017/05/18]

---

File 377 **l warp-perpage.sty**

§ 486 Package **perpage**

*(Emulates or patches code by DAVID KASTRUP.)*

`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     \iftxcounter{#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 378 **l warp-pfnote.sty**

#### § 487 Package **pfnote**

Pkg pfnote pfnote is ignored.

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

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pfnote}[1999/07/14]

---

### File 379 **l warp-phfqit.sty**

#### § 488 Package **phfqit**

(Emulates or patches code by PHILIPPE FAIST.)

Pkg phfqit phfqit is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{phfqit}[2017/08/16]

```

2 \LetLtxMacro\LWR@origbitstring\bitstring
3
4 \renewcommand\bitstring[1]{%
5 \InlineClass[%text-decoration: overline underline ;
6 ]{\bitstring}{#1}%
8 % \phfqit@bitstring{#1}%
9 }
10
11 \appto\LWR@restoreorigformatting{%
12 \LetLtxMacro\bitstring\LWR@origbitstring%
13 }

```

---

File 380 **l warp-physics.sty**

§ 489 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 \PackageNoteNoLine{l warp, physics}{The MathJax v3 extension will be used}
4 \CustomizeMathJax{\require{physics}}
5 \end{warpMathJax}
```

---

File 381 **l warp-physunits.sty**

§ 490 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}[1][ ]{\mathbf{\mathit{V}}}, \mathbf{\mathit{V}}#1}
7 \CustomizeMathJax{\newcommand{\Volt}[1][ ]{\mathbf{\mathit{V}}}, \mathbf{\mathit{V}}#1}
8 \CustomizeMathJax{\newcommand{\Coulomb}[1][ ]{\mathbf{\mathit{C}}}, \mathbf{\mathit{C}}#1}
9 \CustomizeMathJax{\newcommand{\esu}{\mathbf{\mathit{esu}}}, \mathbf{\mathit{esu}}}
10 \CustomizeMathJax{\newcommand{\Ohm}{\mathbf{\mathit{\Omega}}}, \mathbf{\mathit{\Omega}}}
11 \CustomizeMathJax{\newcommand{\Amp}{\mathbf{\mathit{A}}}, \mathbf{\mathit{A}}}
12 \CustomizeMathJax{\newcommand{\Farad}{\mathbf{\mathit{F}}}, \mathbf{\mathit{F}}}
13 \CustomizeMathJax{\newcommand{\Tesla}{\mathbf{\mathit{T}}}, \mathbf{\mathit{T}}}
14 \CustomizeMathJax{\newcommand{\Gauss}{\mathbf{\mathit{G}}}, \mathbf{\mathit{G}}}
15 \CustomizeMathJax{\newcommand{\Henry}{\mathbf{\mathit{H}}}, \mathbf{\mathit{H}}}
16 \CustomizeMathJax{\newcommand{\eV}{\mathbf{\mathit{eV}}}, \mathbf{\mathit{eV}}}
17 \CustomizeMathJax{\newcommand{\keV}{\mathbf{\mathit{keV}}}, \mathbf{\mathit{keV}}}
18 \CustomizeMathJax{\newcommand{\MeV}{\mathbf{\mathit{MeV}}}, \mathbf{\mathit{MeV}}}
19 \CustomizeMathJax{\newcommand{\J}{\mathbf{\mathit{J}}}, \mathbf{\mathit{J}}}
20 \CustomizeMathJax{\newcommand{\Joule}{\mathbf{\mathit{Joule}}}, \mathbf{\mathit{Joule}}}
21 \CustomizeMathJax{\newcommand{\erg}{\mathbf{\mathit{erg}}}, \mathbf{\mathit{erg}}}
22 \CustomizeMathJax{\newcommand{\kcal}{\mathbf{\mathit{kcal}}}, \mathbf{\mathit{kcal}}}
23 \CustomizeMathJax{\newcommand{\Cal}{\mathbf{\mathit{Cal}}}, \mathbf{\mathit{Cal}}}
24 \CustomizeMathJax{\newcommand{\calorie}{\mathbf{\mathit{calorie}}}, \mathbf{\mathit{calorie}}}
25 \CustomizeMathJax{\newcommand{\BTU}{\mathbf{\mathit{BTU}}}, \mathbf{\mathit{BTU}}}
26 \CustomizeMathJax{\newcommand{\tnt}{\mathbf{\mathit{ton}}, \mathbf{\mathit{of}}, \mathbf{\mathit{TNT}}}, \mathbf{\mathit{ton}}, \mathbf{\mathit{of}}, \mathbf{\mathit{TNT}}}
27 \CustomizeMathJax{\newcommand{\Watt}{\mathbf{\mathit{Watt}}}, \mathbf{\mathit{Watt}}}
```

```
28 \CustomizeMathJax{\newcommand{\hpi}{\mathop{\mathrm{hp}}(I)}}
29 \CustomizeMathJax{\newcommand{\hpm}{\mathop{\mathrm{hp}}(M)}}
30 \CustomizeMathJax{\newcommand{\hp}{\mathop{\mathrm{hp}}}}
31 \CustomizeMathJax{\newcommand{\meter}{\mathop{\mathrm{#1m}}}}
32 \CustomizeMathJax{\newcommand{\m}{\mathop{\mathrm{#1m}}}}
33 \CustomizeMathJax{\newcommand{\km}{\mathop{\mathrm{km}}}}
34 \CustomizeMathJax{\newcommand{\au}{\mathop{\mathrm{au}}}}
35 \CustomizeMathJax{\newcommand{\pc}{\mathop{\mathrm{#1pc}}}}
36 \CustomizeMathJax{\newcommand{\ly}{\mathop{\mathrm{#1ly}}}}
37 \CustomizeMathJax{\newcommand{\cm}{\mathop{\mathrm{cm}}}}
38 \CustomizeMathJax{\newcommand{\nm}{\mathop{\mathrm{nm}}}}
39 \CustomizeMathJax{\newcommand{\ft}{\mathop{\mathrm{ft}}}}
40 \CustomizeMathJax{\newcommand{\inch}{\mathop{\mathrm{in}}}}
41 \CustomizeMathJax{\newcommand{\mi}{\mathop{\mathrm{mi}}}}
42 \CustomizeMathJax{\newcommand{\s}{\mathop{\mathrm{#1s}}}}
43 \CustomizeMathJax{\newcommand{\Sec}{\mathop{\mathrm{#1s}}}}
44 \CustomizeMathJax{\newcommand{\Min}{\mathop{\mathrm{min}}}}
45 \CustomizeMathJax{\newcommand{\h}{\mathop{\mathrm{h}}}}
46 \CustomizeMathJax{\newcommand{\y}{\mathop{\mathrm{#1y}}}}
47 \CustomizeMathJax{\newcommand{\Day}{\mathop{\mathrm{d}}}}
48
49 \CustomizeMathJax{\newcommand{\gm}{\mathop{\mathrm{#1g}}}}
50 \CustomizeMathJax{\newcommand{\kg}{\mathop{\mathrm{kg}}}}
51 \CustomizeMathJax{\newcommand{\lb}{\mathop{\mathrm{lb}}}}
52 \CustomizeMathJax{\newcommand{\amu}{\mathop{\mathrm{amu}}}}
53 \CustomizeMathJax{\newcommand{\N}{\mathop{\mathrm{#1N}}}}
54 \CustomizeMathJax{\newcommand{\Newton}{\mathop{\mathrm{#1N}}}}
55 \CustomizeMathJax{\newcommand{\dyne}{\mathop{\mathrm{#1dyn}}}}
56 \CustomizeMathJax{\newcommand{\lbf}{\mathop{\mathrm{lbf}}}}
57 \CustomizeMathJax{\newcommand{\kmps}{\mathop{\mathrm{km}}\mathop{\mathrm{s}}^{-1}}}
58 \CustomizeMathJax{\newcommand{\kmph}{\mathop{\mathrm{km}}\mathop{\mathrm{h}}^{-1}}}
59 \CustomizeMathJax{\newcommand{\mps}{\mathop{\mathrm{#1m}}\mathop{\mathrm{s}}^{-1}}}
60 \CustomizeMathJax{\newcommand{\miph}{\mathop{\mathrm{mi}}\mathop{\mathrm{h}}^{-1}}}
61 \CustomizeMathJax{\newcommand{\kts}{\mathop{\mathrm{kts}}}}
62
63 \CustomizeMathJax{\newcommand{\mpss}{\mathop{\mathrm{#1m}}\mathop{\mathrm{s}}^{-2}}}
64 \CustomizeMathJax{\newcommand{\gacc}{\mathop{\mathrm{g}}}}
65 \CustomizeMathJax{\newcommand{\ftpss}{\mathop{\mathrm{ft}}\mathop{\mathrm{s}}^{-2}}}
66 \CustomizeMathJax{\newcommand{\K}{\mathop{\mathrm{#1K}}}}
67 \CustomizeMathJax{\newcommand{\Kelvin}{\mathop{\mathrm{#1K}}}}
68 \CustomizeMathJax{\newcommand{\Celcius}{\mathop{\circ}\mathop{\mathrm{C}}}}
69 \CustomizeMathJax{\newcommand{\Rankine}{\mathop{\circ}\mathop{\mathrm{R}}}}
70 \CustomizeMathJax{\newcommand{\Fahrenheit}{\mathop{\circ}\mathop{\mathrm{F}}}}
71
72 \CustomizeMathJax{\newcommand{\rpm}{\mathop{\mathrm{rev}}\mathop{\mathrm{Min}}^{-1}}}
73
74 \CustomizeMathJax{\newcommand{\Hz}{\mathop{\mathrm{#1Hz}}}}
75 \CustomizeMathJax{\newcommand{\barP}{\mathop{\mathrm{#1bar}}}}
76 \CustomizeMathJax{\newcommand{\atm}{\mathop{\mathrm{atm}}}}
77 \CustomizeMathJax{\newcommand{\Pa}{\mathop{\mathrm{#1Pa}}}}
78 \CustomizeMathJax{\newcommand{\mmHg}{\mathop{\mathrm{mmHg}}}}
79 \CustomizeMathJax{\newcommand{\inHg}{\mathop{\mathrm{inHg}}}}
80 \CustomizeMathJax{\newcommand{\lbsi}{\mathop{\mathrm{psi}}}}
81 \CustomizeMathJax{\newcommand{\lbsf}{\mathop{\mathrm{psf}}}}
82 \CustomizeMathJax{\newcommand{\Ba}{\mathop{\mathrm{#1Ba}}}}
83 \CustomizeMathJax{\newcommand{\Torr}{\mathop{\mathrm{#1Torr}}}}
84 \CustomizeMathJax{\newcommand{\mol}{\mathop{\mathrm{mol}}}}
85 \end{warpMathJax}
```

---

File 382 **l warp-picinpar.sty**

§ 491 Package **picinpar**

(Emulates or patches code by FRIEDHELM SOWA.)

Pkg picinpar

picinpar is patched for use by l warp.

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 383 l warp-pifont.sty

#### § 492 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 384 **l warp-pinlabel.sty**

§ 493      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 385 **l warp-placeins.sty**

§ 494      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 386 **l warp-plarydshln.sty**

§ 495      Package **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 387 **l warp-plexst.sty**

§ 496      Package **plex**

plex is preloaded by jtarticle and related classes.

---

**for HTML output:**

```

1 \LWR@loadbefore{plext}
2
3 \LWR@ProvidesPackagePass{plext}[2017/07/21]

4 \let\tate\relax
5
6 \DeclareExpandableDocumentCommand{\rensucci}{s o m}{#3}
7
8 \% \layoutfloat{width,height}[pos]#4
9 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}
10
11 \% \DeclareLayoutCaption{type} <dir>(width)[pos1pos2]
12 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d> d() o}{}
13
14 \LetLtxMacro\pcaption\caption
15
16 \% \layoutcaption<dir>(width)[pos]
17 \DeclareDocumentCommand{\layoutcaption}{d> d() o}{}
18
19 \let\captiondir\relax

```

Add the optional <t/y> direction:

```

20 \RenewDocumentEnvironment{\LWR@HTML@minipage}{d> 0{t} 0{} 0{t} m}
21   {\LWR@HTML@sub@minipage{#2}{#3}{#4}{#5}}
22   {\endLWR@HTML@sub@minipage}
23
24 \RenewDocumentCommand{\LWR@HTML@parbox}{d> 0{t} 0{} 0{t} m +m}
25 {
26 \LWR@traceinfo{parbox of width #4}%
27 \begin{minipage}[#2][#3][#4]{#5}%
28 #6
29 \end{minipage}%
30 }
31
32 \% \pbox <t/y> [width] [l/r] {contents}
33 \RenewDocumentCommand{\pbox}{d> 0{0pt} 0{c} m}{%
34 \global\booltrue{\LWR@minipagefullwidth}%
35 \parbox{#2}{#4}%
36 }

```

picture, as modified by pext, is encapsulated by the lwarp core.

---

File 388 **lwarp-plextarydshln.sty**

§ 497      Package **plextarydshln**

Pkg plectarydshln      plectarydshln is emulated by lwarp-arydshln.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{plextarydshln}[2018/10/20]

2 \LWR@origRequirePackage{lwarp-arydshln}

```

---

File 389 **l warp-plextblcolortbl.sty**

§ 498 Package **plextblcolortbl**

Pkg plextblcolortbl plextblcolortbl is emulated by l warp-colortbl.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{plextblcolortbl}[2018/09/19]

2 \LWR@origRequirePackage{l warp-colortbl}

---

File 390 **l warp-plimsoll.sty**

§ 499 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 391 **l warp-prelim2e.sty**

§ 500 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 392 l warp-prettyref.sty****§ 501 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 \newreformat{fig}{Figure \ref{#1}}
3 \newreformat{tab}{Table \ref{#1}}
```

---

**File 393 l warp-preview.sty****§ 502 Package 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 394 l warp-psfrag.sty****§ 503 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 `\teximage` 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 `\teximage` captures the modified image from the document.

---

```

2 \BeforeBeginEnvironment{psfrags}{%
3   \begin{ lateximage }[-psfrags-\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{psfrags}{\end{ lateximage }}

```

---

File 395 **l warp-psfragx.sty**

§ 504 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{ lateximage }[-psfragx-\PackageDiagramAltText]%
4     \mbox{\pfx@overpix{\#1}{\#2}\endpfx@overpix}%
5   \end{ lateximage }%
6 }
7
8 \def\@@@overpix[#1]<#2>[#3]#4{%
9   \begin{ lateximage }[-psfragx-\PackageDiagramAltText]%
10    \pfx@overpix{\#1,ovpfgd={#2},ovpbgd={#3}}{#4}%
11 }
12
13 \def\endoverpix{%
14   \endpfx@overpix%
15   \end{ lateximage }%
16 }

```

---

File 396 **l warp-pst-eps.sty**

§ 505 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 397 **l warp-pstool.sty**

§ 506 Package **pstool**

*(Emulates or patches code by ZEBB PRIME, WILL ROBERTSON.)*

Pkg pstool

pstool is patched for use by l warp.

\graphicspath is ignored, and the file directory must be stated.

⚠ **path and filename**

The filename must not have a file extension.

Use

Enter ⇒ **l warpmk html**

followed by

Enter ⇒ **l warpmk l images**

.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pstool}[2018/01/20]

Each image is placed inside a `lateximage` to capture the results of `psfrag`.

```

2 \renewcommand\pstool@alwaysprocess[3][]{%
3   \begin{lateximage}[-pstool-\~\PackageDiagramAltText]{%
4     \includegraphics{#2.pdf}}%
5   \end{lateximage}%
6 }
7 \LetLtxMacro\pstool@neverprocess\pstool@alwaysprocess
8 \LetLtxMacro\pstool@maybeprocess\pstool@alwaysprocess
9
10 \renewcommand\pstool@@psfragfig[4]{%
11   \begin{lateximage}[-pstool-\~\PackageDiagramAltText]{%
12     \includegraphics{#2.pdf}}%
13   \end{lateximage}%
14 }
```

File 398 **l warp-pstricks.sty**

§ 507 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 399 **l warp-pxatbegshi.sty**

§ 508 Package **pxatbegshi**

Pkg pxatbegshi **pxatbegshi** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxatbegshi}[2017/11/04]

2 \LWR@origRequirePackage{l warp-atbegshi}

---

File 400 **l warp-pxeveryshi.sty**

§ 509 Package **pxeveryshi**

Pkg pxeveryshi **pxeveryshi** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxeveryshi}[2012/05/19]

2 \LWR@origRequirePackage{l warp-everyshi}

---

File 401 **l warp-pxfonts.sty**

§ 510 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 402 **l warp-pxftnright.sty**

§ 511 Package **pxftnright**

Pkg pxftnright **pxftnright** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxftnright}[2017/02/28]

---

```
2 \LWR@origRequirePackage{l warp-fnright}
```

---

File 403 **l warp-pxjahyper.sty**

§ 512 Package **pxjahyper**

Pkg pxjahyper **pxjahyper** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxjahyper}[2018/07/15]

---

File 404 **l warp-quotchap.sty**

§ 513 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 405 **l warp-quoting.sty**

#### § 514 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@stoppars}
9   {}
10 {\LWR@patcherror{quoting}{endquoting}}

```

---

#### File 406 **l warp-ragged2e.sty**

#### § 515 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*{\justifying}={}
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}{\justifying}{\endjustifying}

```

---

#### File 407 **l warp-realscripts.sty**

### § 516 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       { {\LWR@addfontfeature{VerticalPosition=Inferior}\#1} }
9       { \fontspec_if_feature:nTF {+sinf}
10         { {\LWR@addfontfeature{VerticalPosition=ScientificInferior}\#1} }
11         { \fakesubscript{\#1} }
12       }
13     }
14     { \fontspec_if_aat_feature:nnTF {10} {2}
15       { {\LWR@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} mm} {%
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 408 **l warp-refcheck.sty**

§ 517 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\checkunlstd{}
9 \def\ignoreunlstd{}
10 \newcommand*\refcheckxrdoc[2][]{}
```

---

File 409 **l warp-register.sty**

§ 518 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}
3   {\centering}
4   {%
5     \begin{center}%
6       \begin{ lateximage }[-register-\~\PackageDiagramAltText]%
7     }
8   {}%
9   {\LWR@patcherror{register}{register}}
10
11 \xpatchcmd{\endregister}
12   {\leftskip}
13   {%
```

---

```

14      \end{lateximage}\end{center}%
15      \leftskip%
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 410 **l warp-relsize.sty**

§ 519      Package **relsize**

*(Emulates or patches code by DONALD ARSENEAU, 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 minumum 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\realscale{\LWR@realscale}
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*{\realscale}[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 411 **lwarf-repeatingindex.sty**

§ 520 Package **repeatingindex**

**repeatingindex** is emulated for **lwarf**.

 **style file** **lwarf** must be used with a special style file:

```
\usepackage[makeindex,makeindexStyle={lwarf_repeatingindex}]{lwarf}
```

where **lwarf\_repeatingindex.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 412 `l warp-repltext.sty`

§ 521 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 413 `l warp-resizegather.sty`

§ 522 Package **resizegather**

Pkg `resizegather` `resizegather` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{resizegather}[2016/05/16]

```

2 \newcommand*{\resizegathersetup}[1]{}

```

---

**File 414 l warp-returntogrid.sty**

§ 523    Package **returntogrid**

Pkg **returntogrid**                  **returntogrid** is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{returntogrid}[2018/08/21]
2 \NewDocumentCommand{returntogrid}{ O {} }{ {} }
3 \NewDocumentCommand{returntogridsetup}{ m }{ {} }
4 \NewDocumentCommand{showdebugpagegrid}{ {} }{ {} }
```

---

**File 415 l warp-rlepsf.sty**

§ 524    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}%
2 \xpretocmd{\relabelbox}
3   {\begin{ lateximage}}
4   {}
5   {\LWR@patcherror{rlepsf}{relabelbox}}
6 
7 \xapptocmd{\endrelabelbox}
8   {\end{ lateximage}}
9   {}
10 {\LWR@patcherror{rlepsf}{endrelabelbox}}
```

---

**File 416 l warp-rmathbr.sty**

§ 525    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}{\nobreak}}
6 \end{warpMathJax}
```

---

**File 417 l warp-rmpage.sty****§ 526 Package rmpage**

Pkg rmpage rmpage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{rmpage}[1997/09/29]

---

**File 418 l warp-romanbar.sty****§ 527 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 419 l warp-romanbarpagenumber.sty****§ 528 Package romanbarpagenumber**

Pkg romanbarpagenumber romanbarpagenumber is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{romanbarpagenumber}[2015/02/06]

---

**File 420 l warp-rotating.sty****§ 529 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 421 **lwarf-rotfloat.sty**

§ 530 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 422 **l warp-rviewport.sty**

### § 531 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 423 **l warp-savetrees.sty**

### § 532 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 424 **l warp-scalefnt.sty**

### § 533 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 425 **l warp-scalerel.sty**

§ 534 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 426 **l warp-schemata.sty**

§ 535 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}{\origschema\schema}
3 \LetLtxMacro{\LWR@schemata}{\origSchema\Schema}
4
5 \renewcommand{\schema}[3][open]{%
6   \begin{lateximage}[-schemata-\~\PackageDiagramAltText]%
7     \LWR@print@normalsize%
```

---

```

8     \LWR@schemata@origschema[#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 427 **l warp-scrextend.sty**

§ 536 Package **scrextend**

Pkg scrextend

**scrextend** is emulated.

This package may be loaded standalone, but is also loaded automatically if **koma-script** classes are in use. **\DeclareDocumentCommand** is used to overwrite the **koma-script** definitions.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrextend}[2020/01/24]

```

2 \DeclareDocumentCommand{\setkomafont}{m m}{}
3 \DeclareDocumentCommand{\addkomafont}{m m}{}
4 \DeclareDocumentCommand{\usekomafont}{m}{}
5
6 \DeclareDocumentCommand{\usefontofkomafont}{m}{}
7 \DeclareDocumentCommand{\useencodingofkomafont}{m}{}
8 \DeclareDocumentCommand{\usesizeofkomafont}{m}{}
9 \DeclareDocumentCommand{\usefamilyofkomafont}{m}{}
10 \DeclareDocumentCommand{\useseriesofkomafont}{m}{}
11 \DeclareDocumentCommand{\useshapeofkomafont}{m}{}
12
13 \providecommand*\coverpagetopmargin(){}
14 \providecommand*\coverpagebottommargin(){}
15 \providecommand*\coverpageleftmargin(){}
16 \providecommand*\coverpagerightmargin(){}
17
```

Title page:

```

18 \AtBeginDocument{
19     \let\LWR@koma@orig@maketitle\maketitle
20     \DeclareDocumentCommand{\maketitle}{o}{\LWR@koma@orig@maketitle}
21 }
22
23 \providecommand*\@maketitle{}
24 \renewrobustcmd*\@maketitle{%
25     \ifdefvoid{\@titlehead}{}{%
26         \begin{BlockClass}{titlehead}%
27             \@titlehead%
28         \end{BlockClass}%
29     }%
30     \ifdefvoid{\@subject}{}{%
31         \begin{BlockClass}{subject}%

```

```
32      \@subject%
33      \end{BlockClass}%
34  }%
35  \LWR@stopars%
36  \LWR@htmlltag{\LWR@tagtitle}%
37  \@title%
38  \LWR@htmlltag{\LWR@tagtitleend}%
39  \ifdefvoid{\@subtitle}{}{%
40      \begin{BlockClass}{subtitle}%
41      \@subtitle%
42      \end{BlockClass}%
43  }%
44  \LWR@startpars%
45  \begin{BlockClass}{author}%

46  \renewcommand*\{\\cr\}{}%
47  \renewcommand*\{\\crlcr\}{}%
48  \renewcommand*\{\\noalign\}{}%

49  \renewcommand{\and}{%
50      \end{BlockClass}%
51      \begin{BlockClass}{oneauthor}%
52  }%
53  \begin{BlockClass}{oneauthor}%
54      \@author%
55      \end{BlockClass}%
56  \end{BlockClass}%
57  \begin{BlockClass}{titledate}%
58  \@date%
59  \end{BlockClass}%
60  \ifdefvoid{\@published}{}{%
61      \begin{BlockClass}{published}%
62      \@published%
63      \end{BlockClass}%
64  }%
65 }
66
67 \AddSubtitlePublished
68
69 \DeclareDocumentCommand{\extratitle}{m}{}%
70 \DeclareDocumentCommand{\frontispiece}{m}{}%
71
72 \def\@titlehead{}%
73 \DeclareDocumentCommand{\titlehead}{m}{\gdef\@titlehead{\#1}}%
74
75 \def\@subject{}%
76 \DeclareDocumentCommand{\subject}{m}{\gdef\@subject{\#1}}%
77
78 % \subtitle and \published are defined by \AddSubtitlePublished
79
80 \DeclareDocumentCommand{\publishers}{m}{\published{\#1}}%
81
82 \DeclareDocumentCommand{\uppertitleback}{m}{}%
83 \DeclareDocumentCommand{\lowertitleback}{m}{}%
84 \DeclareDocumentCommand{\dedication}{m}{}%
85
86 \DeclareDocumentCommand{\ifthispageodd}{m m}{\#1}%
87
88 \DeclareDocumentCommand{\cleardoublepageusingstyle}{m}{}%
89 \DeclareDocumentCommand{\cleardoubleemptypage}{}{}
```

```
90 \DeclareDocumentCommand{\cleardoubleplainpage}{}{}
91 \DeclareDocumentCommand{\cleardoublestandardpage}{}{}
92 \DeclareDocumentCommand{\cleardoubleoddpage}{}{}
93 \DeclareDocumentCommand{\cleardoubleoddpageusingstyle}{m}{}
94 \DeclareDocumentCommand{\cleardoubleoddemptypage}{}{}
95 \DeclareDocumentCommand{\cleardoubleoddplainpage}{}{}
96 \DeclareDocumentCommand{\cleardoubleoddstandardpage}{}{}
97 \DeclareDocumentCommand{\cleardoubleevenpage}{}{}
98 \DeclareDocumentCommand{\cleardoubleevenpageusingstyle}{m}{}
99 \DeclareDocumentCommand{\cleardoubleevenemptypage}{}{}
100 \DeclareDocumentCommand{\cleardoubleevenplainpage}{}{}
101 \DeclareDocumentCommand{\cleardoubleevenstandardpage}{}{}

102
103 \DeclareDocumentCommand{\multiplefootnoteseparator}{}{%
104   \begingroup\let\thefootnotemark\multfootsep\@makefnmark\endgroup
105 }
106
107 \DeclareDocumentCommand{\multfootsep}{}{,}
108
109 \DeclareDocumentCommand{\footref}{m}{%
110   \begingroup
111     \unrestored@protected@xdef\@thefnmark{\ref{\#1}}%
112   \endgroup
113   \footnotemark
114 }
115
116 \DeclareDocumentCommand{\deffootnote}{o m m}{}
117 \DeclareDocumentCommand{\deffootnotemark}{m}{}
118 \DeclareDocumentCommand{\setfootnoterule}{o m}{}
119 \DeclareDocumentCommand{\raggedfootnote}{}{}

120 \DeclareDocumentCommand{\dictum}{o m}{%
121   \begin{LWR@BlockClassWP}{\LWR@print@mbox{text-align:right}}{}{dictum}%
122   #2
123   \IfValueT{\#1}{%
124     \LWR@stopars%
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       \end{BlockClass}%
131     }%
132   }%
133 }%
134
135 \DeclareDocumentCommand{\dictumwidth}{}{}
136 \DeclareDocumentCommand{\dictumauthorformat}{m}{(\#1)}%
137 \DeclareDocumentCommand{\dictumrule}{}{}
138 \DeclareDocumentCommand{\raggeddictum}{}{}
139 \DeclareDocumentCommand{\raggeddictumtext}{}{}
140 \DeclareDocumentCommand{\raggeddictumauthor}{}{}

141
142 \DeclareDocumentEnvironment{labeling}{o m}{%
143 {%
144   \def\sc@septext{\#1}%
145   \list{}{}%
146   \let\makelabel\labelinglabel%
147 }%
148 {
```

```

149 \endlist
150 }
151
152 \DeclareDocumentCommand{\labelinglabel}{m}{%
153 #1 \qquad \sc@septext%
154 }
155
156 \let\addmargin\relax
157 \let\endaddmargin\relax
158 \cslet{addmargin*}{\relax}
159 \cslet{endaddmargin*}{\relax}

160 \NewDocumentEnvironment{addmargin}{s O{} m}
161 {
162 \LWR@stoppars%
163 \setlength{\LWR@templengthtwo}{#3}
164 \ifblank{#2}
165 {
166   \begin{BlockClass}[
167     \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthtwo}} ;
168     \LWR@print@mbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
169   ]{addmargin}
170 }
171 {
172   \setlength{\LWR@templengthone}{#2}
173   \begin{BlockClass}[
174     \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ;
175     \LWR@print@mbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
176   ]{addmargin}
177 }
178 }
179 {\end{BlockClass}\LWR@startpars}

```

Ref to create a starred environment:

<https://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment>

```

180
181 \ExplSyntaxOn
182 \cs_new:cpx {addmargin*} {\addmargin*}
183 \cs_new_eq:cN {endaddmargin*} \endaddmargin
184 \ExplSyntaxOff
185
186 \DeclareDocumentCommand{\marginline}{m}{\marginpar{#1}}

```

#### File 428 **lwarf-scrhack.sty**

§ 537      Package **scrhack**

Pkg scrhack                    scrhack is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{scrhack}[2018/03/30]

---

**File 429 l warp-scrlayer.sty**

§ 538      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{footheight}{\newlength\footheight}{}
54 \DeclareDocumentCommand{\automark}{s o m}{}
55 \DeclareDocumentCommand{\manualmark}{m}{}
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 430 **l warp-scrlayer-notecolumn.sty**

§ 539 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 431 **l warp-scrlayer-scrpage.sty**

§ 540 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{\tfoot}{s o m}{}
19 \NewDocumentCommand{\cfoot}{s o m}{}
20 \NewDocumentCommand{\ifoot}{s o m}{}

21 \NewDocumentCommand{\automark}{som}{}
22 \newcommand*{\manualmark}{}

23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}

24 \let\headmark\leftmark
25 \providecommand{\pnumfont}{\normalfont}%
26 \ DeclareRobustCommand{\pagemark}{\pnumfont{\thepage}}% 

27 \newcommand*{\defpairofpagestyles}[3][]{}
28 \newcommand*{\newpairofpagestyles}[3][]{}
29 \newcommand*{\renewpairofpagestyles}[3][]{}
30 \newcommand*{\providepairofpagestyles}[3][]{}

31 \newcommand*{\clearmainofpairofpagestyles}{}
32 \newcommand*{\clearplainofpairofpagestyles}{}
33 \newcommand*{\clearpairofpagestyles}{}
34 \newcommand*{\clearscrheadings}{}
35 \newcommand*{\clearscrheadfoot}{}
36 \newcommand*{\clearscrplain}{}

37 \NewDocumentCommand{\deftriplepagestyle}{m o o m m m m m}{}
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 432 l warp-scrpage2.sty**

§ 541      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{footheight}{\newlength\footheight}{}  
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 433 l warp-section.sty****§ 542 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 434 l warp-sectionbreak.sty****§ 543 Package sectionbreak**

(Emulates or patches code by MICHAL HOFTICH.)

Pkg sectionbreak sectionbreak is patched for use by l warp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{sectionbreak}[2018-01-03]
```

```
2 \renewcommand\asterism{\HTMLunicode{2042}}
3
4 \renewcommand\pre@sectionbreak{}
5 \renewcommand\post@sectionbreak{}
6
7 \renewcommand\print@sectionbreak[1]{%
8 \begin{center}}
9 #1
10 \end{center}
11 }
12
```

File 435 **lwarp-sectsty.sty**

§ 544 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*\{\minisecfont} [1] {}
14 \newcommand*\{\allsectionsfont}[1] {}
15 \newcommand{\nohang}{}
```

\sectionrule is only to be used in \*font commands, thus it is ignored.

```
16 \newcommand*\sectionrule{[5]{}}  
17  
18 \def\ulemheading#1#2{}
```

File 436 **lwarp-selectp.sty**

## § 545 Package **selectp**

Pkg selectp

`selectp` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{selectp} no date given

```
2 \newcommand*{\outputonly}[1]{}
```

---

File 437 **l warp-semantic-markup.sty**

§ 546 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@subsingleDollar*%
17   {#1/#2}% alt tag
18   {musfig}% addl' hashing
19   {%
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 438 **l warp-seqsplit.sty**

§ 547 Package **seqsplit**

(Emulates or patches code by BORIS VEYTSMAN.)

**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 439 **l warp-setspace.sty**

§ 548 Package **setspace**

(Emulates or patches code by ROBIN FAIRBAIRNS.)

setspace is emulated.

Discard all options for l warp-setspace:

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{setspace}[2011/12/19]
2
3 \newcommand*{\setstretch}[1]{}
4 \newcommand*{\SetSingleSpace}[1]{}
5 \newcommand*{\singleSpacing}{}
6 \newcommand*{\onehalfSpacing}{}
7 \newcommand*{\doubleSpacing}{}
8
9 \newenvironment*{singleSpace}
10 {
11 \LWR@forceNewPage
12 \BlockClass{singleSpace}
13 }
14 {\endBlockClass}
15
16 \newenvironment*{singleSpace*}
17 {
18 \LWR@forceNewPage
19 \BlockClass{singleSpace}
20 }
21 {\endBlockClass}
22
23 \newenvironment*{spacing}[1]{
24 }
25 ){
26
27 }
28
29 \newenvironment*{onehalfSpace}
30 {
31 \LWR@forceNewPage
32 \BlockClass{onehalfSpace}
33 }
34 {\endBlockClass}
35
36 \newenvironment*{doubleSpace}
37 {
38 \LWR@forceNewPage
39 \BlockClass{doubleSpace}
40 }
41 {\endBlockClass}
```

---

**File 440 l warp-shadethm.sty**

§ 549      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@formattede{shadebox}
```

---

**File 441 l warp-shadow.sty**

§ 550      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 442 l warp-shapepar.sty**

§ 551      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 lateximage, 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 443 **l warp-showidx.sty**

§ 552 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 444 **l warp-showkeys.sty**

§ 553 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 445 **l warp-showlabels.sty**

§ 554 Package **showlabels**

Pkg showlabels showlabels is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{showlabels}[2021/10/27]

```
2 \providecommand{\showlabelfont}{}{}
3 \providecommand{\showlabelsetlabel}[1]{}{}
4 \newcommand*\showlabels[2][]{}
5 \newcommand*\showlabelrefline{}{}
6 \newcommand*\showlabelsinline{}{}
```

---

**File 446 l warp-showtags.sty**

§ 555      Package **showtags**

Pkg showtags                          **showtags** is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{showtags}%
  no version is given

2 \newcommand{\thecitetag}[1]{}
```

---

---

**File 447 l warp-shuffle.sty**

§ 556      Package **shuffle**

(Emulates or patches code by JULIAN GILBEY AND ANTOINE LEJAY.)

Pkg shuffle                          **shuffle** is emulated for SVG math, and also emulated for MATHJAX.

The font used for **shuffle** may not render correctly when converted to SVG math, so a picture environment drawing is used instead.

For MATHJAX, the Unicode character is used, and for \cshuffle a \bar is added.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{shuffle}[2008/10/27]
  2 \LWR@origRequirePackage{l warp-common-mathjax-overlaysymbols}

  3 \newcommand*\LWR@shuffle@start{%
  4   \hspace*{.2em}
  5   \begin{picture}(.75,0.65)
  6   \setlength{\unitlength}{1em}
  7   \put(0,0){\line(1,0){.75}}
  8   \put(0,0){\line(0,1){.5}}
  9   \put(.375,0){\line(0,1){.5}}
 10   \put(.75,0){\line(0,1){.5}}
 11 }
 12
 13 \newcommand*\LWR@shuffle@finish{%
 14   \end{picture}
 15   \hspace*{.75em}
 16   \hspace*{.2em}
 17 }
 18
 19 \newcommand*\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{\&#x29E2}}}}}
31 \CustomizeMathJax{\newcommand{\cshuffle}{%
32   \mathbin{\text{\LWRoverlaysymbols{\raise{.6ex}{-}}{\text{\scriptsize\texttt{\&#x29E2}}}}}%
33 }%
34 \end{warpMathJax}
```

---

File 448 **l warp-sidecap.sty**

§ 557 Package **sidecap**

(Emulates or patches code by ROLF NIEPRASCHK, HUBERT GÄSSELEIN.)

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>  
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:cpn {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:cpn {SCfigure*} {\SCfigure*}
18 \cs_new_eq:cn {endSCfigure*} \endSCfigure
19 \ExplSyntaxOff
20
21
22 \newenvironment*{wide}{}{}
```

---

File 449 **l warp-sidenotes.sty**

§ 558 Package **sidenotes**

(Emulates or patches code by ANDY THOMAS, OLIVER SCHEBAUM.)

Pkg sidenotes

Patched for **l warp**.

**for HTML output:**

Load the original package:

```
1 \LWR@ProvidesPackagePass{sidenotes}
```

The following patch **sidenotes** for use with **l warp**.

An ARIA note role is not assigned since the caption is an important part of the figure.

```
\sidecaption
  * [<entry>] [<offset>] {<text>}
  2 \RenewDocumentCommand \sidecaption {s o o m}
  3 {
  4   \LWR@stoppars
  5   \begingroup
  6   \captionsetup{style=sidecaption}%
  7   \IfBooleanTF{#1}
  8   { % starred
  9     \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}%
 10     \caption*{#4}%
 11     \end{BlockClass}
 12   }
 13   { % unstarred
 14     \IfNoValueOrEmptyTF{#2}
 15     {\def@sidenotes@sidecaption@tof{#4}}
 16     {\def@sidenotes@sidecaption@tof{#2}}
 17     \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}%
 18     \caption[\@sidenotes@sidecaption@tof]{#4}
 19     \end{BlockClass}
 20   }
 21   \endgroup
 22   \LWR@startpars
 23 }
```

Borrowed from the **l warp** version of **keyfloat**:

```
24 \NewDocumentEnvironment{KFLTsidenotes@marginfloat}{O{-1.2ex} m}
25 {%
26   \start
27   \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{}{marginblock}%
28   \renewcommand*{\@capttype}{#2}%
29 }%
30 \endLWR@BlockClassWP%
31 }
32
33 \RenewDocumentEnvironment{marginfigure}{o}
34 {\begin{KFLTsidenotes@marginfloat}{figure}}
35 {\end{KFLTsidenotes@marginfloat}}
36
37 \RenewDocumentEnvironment{marginable}{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>X 2<sub>&</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@synconenotenumber{\LWR@sidenote}{\thesidenote}}
50 \appto\LWR@syncnotenames{\LWR@synconenotename{\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 450 **lwarf-simplebnf.sty**

## § 559 Package **simplebnf**

(Emulates or patches code by JAY LEE.)

Pkg simplebnf

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}{lcl}
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  \end{center}
48 }
49 { }
50
51 \ExplSyntaxOff

```

#### File 451 **l warp-SIunits.sty**

§ 560 Package **SIunits**

(Emulates or patches code by MARCEL HELDOORN.)

**SIunits** 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 `lateximage`, and each will have the alt tag set according to `\MathImageAltText`, which defaults to `(math image)`.

For MATHJAX, individual units used in text will appear as SVG images, since `\ensuremath` is used in the original definitions, and `\ensuremath` often has expressions which do not work well in MATHJAX, so it is always forced to an SVG image. If, however, `\unit` is used, the result is expressed with MATHJAX instead of an SVG image.

**for HTML output:** 1 \LWR@ProvidesPackagePass{SIunits}[2007/12/02]

Patched for copy/paste with the HTML alt tag:

```

2 \ifbool{mathjax}{
3     \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
4         \LWR@subsingle$*% l warp
5         {%
6             \textbackslash{}unit%
7             \{ \LWR@HTMLsanitizedetokenized{\detokenize{\#1}}\}%
8             \{ \LWR@HTMLsanitizedetokenized{\detokenize{\#2}}\} extra space
9         }%
10        {SIunits} add'l hashing
11        {%
12            \#1\,\{#2\}%
13        } contents
14    }
15 }{%
16     \not MathJax
17     \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
18         @inunitcommandtrue% original
19         \LWR@subsingle$*% l warp
20         {%
21             \textbackslash{}unit\{ \LWR@HTMLsanitizedetokenized{\detokenize{\#1}}\}%
22             \{ \LWR@HTMLsanitizedetokenized{\detokenize{\#2}}\} extra space
23         }%
24         {SIunits} add'l hashing
25         {%
26             \LWR@origensuredmath% l warp modification
27             \SI@fstyle{%
28                 \#1\@\qsk\period@active{\#2}%
29             }% original
30         } contents
31         @inunitcommandfalse% original
32     }
33 }{%
34 \LWR@formatted{unit}

```

For MATHJAX:

```

35 \begin{warpMathJax}
36 \LWR@info{processingmathjax}{SIunits}
37
38 \CustomizeMathJax{\newcommand{\one}{}}
39 \CustomizeMathJax{\newcommand{\meter}{metre}}
40 \CustomizeMathJax{\newcommand{\deka}{deca}}
41 \CustomizeMathJax{\newcommand{\dekad}{decad}}
42 \CustomizeMathJax{\newcommand{\per}{/}}
43 \CustomizeMathJax{\newcommand{\usk}{;}}
44 \CustomizeMathJax{\newcommand{\unit}[2]{\#1,\#2}}
45 \CustomizeMathJax{\newcommand{\power}[2]{\#1^{\#2}}}
46
47 \AtBeginDocument{%
48     \if@redefsquare
49         \CustomizeMathJax{\renewcommand{\square}[1]{\power{\#1}{2}}}
50     \else
51         \if@defsquaren
52             \CustomizeMathJax{\newcommand{\squaren}[1]{\power{\#1}{2}}}
53         \else
54             \CustomizeMathJax{\renewcommand{\square}[1]{\power{\#1}{2}}}
55     \fi %\if@defsquaren
56     \fi %\if@redefsquare
57 }      %\AtBeginDocument
58

```

```
59 \CustomizeMathJax{\newcommand{\squared}{^{^2}}}
60 \CustomizeMathJax{\newcommand{\cubic}[1]{^{\power{#1}{3}}}}
61 \CustomizeMathJax{\newcommand{\cubed}{^{^3}}}
62 \CustomizeMathJax{\newcommand{\fourth}[1]{^{\power{#1}{4}}}}
63 \CustomizeMathJax{\newcommand{\reciprocal}[1]{^{\power{#1}{-1}}}}
64 \CustomizeMathJax{\newcommand{\rp}{\reciprocal}}
65 \CustomizeMathJax{\newcommand{\rpsquare}[1]{^{\power{#1}{-2}}}}
66 \CustomizeMathJax{\newcommand{\rpsquared}{^{^-2}}}
67 \CustomizeMathJax{\newcommand{\rpcubic}[1]{^{\power{#1}{-3}}}}
68 \CustomizeMathJax{\newcommand{\rpscubed}{^{^-3}}}
69 \CustomizeMathJax{\newcommand{\rpfourth}[1]{^{\power{#1}{-4}}}}
70 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
71 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
72 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
73 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
74 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
75 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
76 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
77 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
78 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
79 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
80 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
81 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
82 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
83 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
84 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
85 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
86 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
87 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
88 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
89 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
90 \CustomizeMathJax{\newcommand{\yoctod}{^{\power{10}{-24}}}}
91 \CustomizeMathJax{\newcommand{\zeptod}{^{\power{10}{-21}}}}
92 \CustomizeMathJax{\newcommand{\attod}{^{\power{10}{-18}}}}
93 \CustomizeMathJax{\newcommand{\femtod}{^{\power{10}{-15}}}}
94 \CustomizeMathJax{\newcommand{\picod}{^{\power{10}{-12}}}}
95 \CustomizeMathJax{\newcommand{\nanod}{^{\power{10}{-9}}}}
96 \CustomizeMathJax{\newcommand{\microd}{^{\power{10}{-6}}}}
97 \CustomizeMathJax{\newcommand{\millid}{^{\power{10}{-3}}}}
98 \CustomizeMathJax{\newcommand{\centid}{^{\power{10}{-2}}}}
99 \CustomizeMathJax{\newcommand{\decid}{^{\power{10}{-1}}}}
100 \CustomizeMathJax{\newcommand{\decad}{^{\power{10}{1}}}}
101 \CustomizeMathJax{\newcommand{\hectod}{^{\power{10}{2}}}}
102 \CustomizeMathJax{\newcommand{\kilod}{^{\power{10}{3}}}}
103 \CustomizeMathJax{\newcommand{\megad}{^{\power{10}{6}}}}
104 \CustomizeMathJax{\newcommand{\gigad}{^{\power{10}{9}}}}
105 \CustomizeMathJax{\newcommand{\terad}{^{\power{10}{12}}}}
106 \CustomizeMathJax{\newcommand{\petad}{^{\power{10}{15}}}}
107 \CustomizeMathJax{\newcommand{\exad}{^{\power{10}{18}}}}
108 \CustomizeMathJax{\newcommand{\zettad}{^{\power{10}{21}}}}
109 \CustomizeMathJax{\newcommand{\yottad}{^{\power{10}{24}}}}
110 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
111 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
112 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kilo}\mathrm{gram}}}
113 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
114 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
115 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
116 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
117 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
118 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
```

```
119 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}}
120 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
121 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
122 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
123 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
124 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
125 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
126 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
127 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
128 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
129 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
130 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
131 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
132 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
133 \CustomizeMathJax{\newcommand{\degreecelcius}{\mathrm{\u00b0C}}}
134 \CustomizeMathJax{\newcommand{\celsius}{\mathrm{C}}}
135 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
136 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
137 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
138 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
139 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
140
141 \ifdef{\radianbase}%
142 \CustomizeMathJax{\newcommand{\radianbase}{%
143   {\mathrm{metre}\mathrm{usk}\mathrm{reciprocal}\mathrm{metre}}}}
144 \CustomizeMathJax{\newcommand{\steradianbase}{%
145   {\mathrm{squaremetre}\mathrm{usk}\mathrm{rpsquare}\mathrm{metre}}}}
146 \CustomizeMathJax{\newcommand{\hertzbase}{%
147   {\mathrm{reciprocal}\mathrm{second}}}}
148 \CustomizeMathJax{\newcommand{\newtonbase}{%
149   {\mathrm{metre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{second}\mathrm{rpsquared}}}}
150 \CustomizeMathJax{\newcommand{\pascalbase}{%
151   {\mathrm{reciprocal}\mathrm{metre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{second}\mathrm{rpsquared}}}}
152 \CustomizeMathJax{\newcommand{\joulebase}{%
153   {\mathrm{squaremetre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{second}\mathrm{rpsquared}}}}
154 \CustomizeMathJax{\newcommand{\wattbase}{%
155   {\mathrm{squaremetre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{rpscubic}\mathrm{second}}}}
156 \CustomizeMathJax{\newcommand{\coulombbase}{%
157   {\mathrm{ampere}\mathrm{usk}\mathrm{second}}}}
158 \CustomizeMathJax{\newcommand{\voltbase}{%
159   {\mathrm{squaremetre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{rpscubic}\mathrm{second}\mathrm{usk}\mathrm{reciprocal}\mathrm{ampere}}}}
160 \CustomizeMathJax{\newcommand{\faradbase}{%
161   {\mathrm{rpsquare}\mathrm{metre}\mathrm{usk}\mathrm{reciprocal}\mathrm{kilogram}\mathrm{usk}\mathrm{fourth}\mathrm{second}\mathrm{usk}\mathrm{ampere}\mathrm{scaled}}}}
162 \CustomizeMathJax{\newcommand{\ohmbase}{%
163   {\mathrm{squaremetre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{rpscubic}\mathrm{second}\mathrm{usk}\mathrm{rpsquare}\mathrm{ampere}}}}
164 \CustomizeMathJax{\newcommand{\siemensbase}{%
165   {\mathrm{rpsquare}\mathrm{metre}\mathrm{usk}\mathrm{reciprocal}\mathrm{kilogram}\mathrm{usk}\mathrm{cubic}\mathrm{second}\mathrm{usk}\mathrm{ampere}\mathrm{scaled}}}}
166 \CustomizeMathJax{\newcommand{\weberbase}{%
167   {\mathrm{squaremetre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{second}\mathrm{rpsquared}\mathrm{usk}\mathrm{reciprocal}\mathrm{ampere}}}}
168 \CustomizeMathJax{\newcommand{\teslabase}{%
169   {\mathrm{kilogram}\mathrm{usk}\mathrm{second}\mathrm{rpsquared}\mathrm{usk}\mathrm{reciprocal}\mathrm{ampere}}}}
170 \CustomizeMathJax{\newcommand{\henrybase}{%
171   {\mathrm{squaremetre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{second}\mathrm{rpsquared}\mathrm{usk}\mathrm{rpsquare}\mathrm{ampere}}}}
172 \CustomizeMathJax{\newcommand{\celsiusbase}{%
173   {\mathrm{kelvin}}}}
174 \CustomizeMathJax{\newcommand{\lumenbase}{%
175   {\mathrm{candela}\mathrm{usk}\mathrm{squaremetre}\mathrm{usk}\mathrm{rpsquare}\mathrm{metre}}}}
176 \CustomizeMathJax{\newcommand{\luxbase}{%
177   {\mathrm{candela}\mathrm{usk}\mathrm{squaremetre}\mathrm{usk}\mathrm{rpfourth}\mathrm{metre}}}}
178 \CustomizeMathJax{\newcommand{\becquerelbase}{%
```

```
179      {\hertzbase}}
180 \CustomizeMathJax{\newcommand{\graybase}%
181     {\squaremetre\usk\second\rpsquared}}
182 \CustomizeMathJax{\newcommand{\sievertbase}%
183     {\graybase}}
184 \CustomizeMathJax{\newcommand{\katalbase}%
185     {\rp\second\usk\mole}}
186 }{}
187
188 \ifdef{\derradian}{%
189 \CustomizeMathJax{\newcommand{\derradian}%
190     {\metre\usk\reciprocal\metre}}
191 \CustomizeMathJax{\newcommand{\dersteradian}%
192     {\squaremetre\usk\rpsquare\metre}}
193 \CustomizeMathJax{\newcommand{\derhertz}%
194     {\reciprocal\second}}
195 \CustomizeMathJax{\newcommand{\dernewton}%
196     {\metre\usk\kilogram\usk\second\rpsquared}}
197 \CustomizeMathJax{\newcommand{\derpascal}%
198     {\newton\usk\rpsquare\metre}}
199 \CustomizeMathJax{\newcommand{\derjoule}%
200     {\newton\usk\metre}}
201 \CustomizeMathJax{\newcommand{\derwatt}%
202     {\joule\usk\reciprocal\second}}
203 \CustomizeMathJax{\newcommand{\dercoulomb}%
204     {\ampere\usk\second}}
205 \CustomizeMathJax{\newcommand{\dervolt}%
206     {\watt\usk\reciprocal\ampere}}
207 \CustomizeMathJax{\newcommand{\derfarad}%
208     {\coulomb\usk\reciprocal\volt}}
209 \CustomizeMathJax{\newcommand{\derohm}%
210     {\volt\usk\reciprocal\ampere}}
211 \CustomizeMathJax{\newcommand{\dersiemens}%
212     {\ampere\usk\reciprocal\volt}}
213 \CustomizeMathJax{\newcommand{\derweber}%
214     {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
215 \CustomizeMathJax{\newcommand{\dertesla}%
216     {\weber\usk\rpsquare\metre}}
217 \CustomizeMathJax{\newcommand{\derhenry}%
218     {\weber\usk\reciprocal\ampere}}
219 \CustomizeMathJax{\newcommand{\dercelsius}%
220     {\kelvin}}
221 \CustomizeMathJax{\newcommand{\derlumen}%
222     {\candela\usk\steradian}}
223 \CustomizeMathJax{\newcommand{\derlux}%
224     {\lumen\usk\rpsquare\metre}}
225 \CustomizeMathJax{\newcommand{\derbecquerel}%
226     {\derhertz}}
227 \CustomizeMathJax{\newcommand{\dergray}%
228     {\joule\usk\reciprocal\kilogram}}
229 \CustomizeMathJax{\newcommand{\dersievert}%
230     {\dergray}}
231 \CustomizeMathJax{\newcommand{\derkatal}%
232     {\katalbase}}
233 }{}
234
235 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
236 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
237 \CustomizeMathJax{\newcommand{\day}{\mathrm{d}}}
238 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
```

```
239 \CustomizeMathJax{\newcommand{\paminute}{^{\prime}}}
240 \CustomizeMathJax{\newcommand{\arcminute}{^{\prime\prime}}}
241 \CustomizeMathJax{\newcommand{\pasecond}{^{\prime\prime\prime}}}
242 \CustomizeMathJax{\newcommand{\arcsecond}{^{\prime\prime\prime\prime}}}
243 \CustomizeMathJax{\newcommand{\ton}{\mathrm{t}}}
244 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
245 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
246 \CustomizeMathJax{\newcommand{\litre}{\mathrm{l}}}
247 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
248 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
249 \CustomizeMathJax{\newcommand{\curie}{\mathrm{Ci}}}
250 \CustomizeMathJax{\newcommand{\rad}{\mathrm{rad}}}
251 \CustomizeMathJax{\newcommand{\arad}{\mathrm{rd}}}
252 \CustomizeMathJax{\newcommand{\rem}{\mathrm{rem}}}
253 \CustomizeMathJax{\newcommand{\roentgen}{\mathrm{R}}}
254 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{eV}}}
255 \CustomizeMathJax{\newcommand{\atomicmass}{\mathrm{u}}}
256 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
257 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{Da}}}
258 \CustomizeMathJax{\newcommand{\are}{\mathrm{a}}}
259 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{hecto}are}}
260 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
261 \CustomizeMathJax{\newcommand{\bbar}{\mathrm{bar}}}
262 \CustomizeMathJax{\newcommand{\gal}{\mathrm{Gal}}}
263 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\mu{u}nicode{x212B}}}}
264 \CustomizeMathJax{\newcommand{\rperminute}{\mathrm{r}\per minute}}
265 \CustomizeMathJax{\newcommand{\rpersecond}{\mathrm{r}\per second}}
266 \CustomizeMathJax{\newcommand{\squaremetre}{\mathrm{metre}^2}}
267 \CustomizeMathJax{\newcommand{\cubicmetre}{\mathrm{cubic}metre}}
268 \CustomizeMathJax{\newcommand{\graypersecond}{\mathrm{gray}\per second}}
269 \CustomizeMathJax{\newcommand{\graypersecondnp}{\mathrm{gray}usk\reciprocal second}}
270 \CustomizeMathJax{\newcommand{\metrepersquaresecond}{\mathrm{metre}\per second squared}}
271 \CustomizeMathJax{\newcommand{\metrepersquaresecondnp}{\mathrm{metre}usk\second rpsquared}}
272 \CustomizeMathJax{\newcommand{\joulepermole}{\mathrm{joule}\per mole}}
273 \CustomizeMathJax{\newcommand{\joulepermolenp}{\mathrm{joule}usk\reciprocal mole}}
274 \CustomizeMathJax{\newcommand{\molepercubicmetre}{\mathrm{mole}\per cubic metre}}
275 \CustomizeMathJax{\newcommand{\molepercubicmetrenp}{\mathrm{mole}usk\rpcubic metre}}
276 \CustomizeMathJax{\newcommand{\radianpersquaresecond}{\mathrm{radian}\per second squared}}
277 \CustomizeMathJax{\newcommand{\radianpersquaresecondnp}{\mathrm{radian}usk\second rpsquared}}
278 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecond}{%
279     \mathrm{kilogram}usk\squaremetre\per second%
280 }}
281 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecondnp}{%
282     \mathrm{kilogram}usk\squaremetre\usk\reciprocal second%
283 }}
284 \CustomizeMathJax{\newcommand{\radianpersecond}{\mathrm{radian}\per second}}
285 \CustomizeMathJax{\newcommand{\radianpersecondnp}{\mathrm{radian}usk\reciprocal second}}
286 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetre}{\mathrm{squaremetre}\per cubic metre}}
287 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetrenp}{%
288     \mathrm{squaremetre}usk\rpcubic metre%
289 }}
290 \CustomizeMathJax{\newcommand{\katalpercubicmetre}{\mathrm{katal}\per cubic metre}}
291 \CustomizeMathJax{\newcommand{\katalpercubicmetrenp}{\mathrm{katal}usk\rpcubic metre}}
292 \CustomizeMathJax{\newcommand{\coulombpermol}{\mathrm{coulomb}\per mole}}
293 \CustomizeMathJax{\newcommand{\coulombpermolnp}{\mathrm{coulomb}usk\reciprocal mole}}
294 \CustomizeMathJax{\newcommand{\amperepersquaremetre}{\mathrm{ampere}\per squaremetre}}
295 \CustomizeMathJax{\newcommand{\amperepersquaremetrenp}{\mathrm{ampere}usk\rpsquare metre}}
296 \CustomizeMathJax{\newcommand{\kilogrampercubicmetre}{\mathrm{kilogram}\per cubic metre}}
297 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrenp}{\mathrm{kilogram}usk\rpcubic metre}}
298 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecond}{%
```

```
299      \squaremetre\per\newton\usk\second%
300  }}
301 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecondnp}{%
302   \squaremetre\usk\reciprocal\newton\usk\reciprocal\second%
303  }}
304 \CustomizeMathJax{\newcommand{\pascalsecond}{\pascal\usk\second}}
305 \CustomizeMathJax{\newcommand{\coulombpercubicmetre}{\coulomb\per\cubic\metre}}
306 \CustomizeMathJax{\newcommand{\coulombpercubicmetrenp}{\coulomb\usk\rpcubic\metre}}
307 \CustomizeMathJax{\newcommand{\amperemetresecond}{\ampere\usk\metre\usk\second}}
308 \CustomizeMathJax{\newcommand{\voltpermetre}{\volt\per\metre}}
309 \CustomizeMathJax{\newcommand{\voltpermetrenp}{\volt\usk\reciprocal\metre}}
310 \CustomizeMathJax{\newcommand{\coulombpersquaremetre}{\coulomb\per\squaremetre}}
311 \CustomizeMathJax{\newcommand{\coulombpersquaremetrenp}{\coulomb\usk\rpsquare\metre}}
312 \CustomizeMathJax{\newcommand{\faradpermetre}{\farad\per\metre}}
313 \CustomizeMathJax{\newcommand{\faradpermetrenp}{\farad\usk\reciprocal\metre}}
314 \CustomizeMathJax{\newcommand{\ohmmetre}{\ohm\usk\metre}}
315 \CustomizeMathJax{\newcommand{\kilowatthour}{\kilo\watt\hour}}
316 \CustomizeMathJax{\newcommand{\wattpersquaremetre}{\watt\per\squaremetre}}
317 \CustomizeMathJax{\newcommand{\wattpersquaremetrenp}{\watt\usk\rpsquare\metre}}
318 \CustomizeMathJax{\newcommand{\joulepersquaremetre}{\joule\per\squaremetre}}
319 \CustomizeMathJax{\newcommand{\joulepersquaremetrenp}{\joule\usk\rpsquare\metre}}
320 \CustomizeMathJax{\newcommand{\newtonpercubicmetre}{\newton\per\cubic\metre}}
321 \CustomizeMathJax{\newcommand{\newtonpercubicmetrenp}{\newton\usk\rpcubic\metre}}
322 \CustomizeMathJax{\newcommand{\newtonperkilogram}{\newton\per\kilogram}}
323 \CustomizeMathJax{\newcommand{\newtonperkilogramnp}{\newton\usk\reciprocal\kilogram}}
324 \CustomizeMathJax{\newcommand{\jouleperkelvin}{\joule\per\kelvin}}
325 \CustomizeMathJax{\newcommand{\jouleperkelvinnp}{\joule\usk\reciprocal\kelvin}}
326 \CustomizeMathJax{\newcommand{\jouleperkilogram}{\joule\per\kilogram}}
327 \CustomizeMathJax{\newcommand{\jouleperkilogramnp}{\joule\usk\reciprocal\kilogram}}
328 \CustomizeMathJax{\newcommand{\coulombperkilogram}{\coulomb\per\kilogram}}
329 \CustomizeMathJax{\newcommand{\coulombperkilogramnp}{\coulomb\usk\reciprocal\kilogram}}
330 \CustomizeMathJax{\newcommand{\squaremetrepersecond}{\squaremetre\per\second}}
331 \CustomizeMathJax{\newcommand{\squaremetrepersecondnp}{%
332   \squaremetre\usk\reciprocal\second%
333  }}
334 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecond}{%
335   \squaremetre\per\second\squared%
336  }}
337 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecondnp}{%
338   \squaremetre\usk\second\rpsquared%
339  }}
340 \CustomizeMathJax{\newcommand{\kilogrammetrepersecond}{%
341   \kilogram\usk\metre\per\second%
342  }}
343 \CustomizeMathJax{\newcommand{\kilogrammetrepersecondnp}{%
344   \kilogram\usk\metre\usk\reciprocal\second%
345  }}
346 \CustomizeMathJax{\newcommand{\candelapersquaremetre}{\candela\per\squaremetre}}
347 \CustomizeMathJax{\newcommand{\candelapersquaremetrenp}{\candela\usk\rpsquare\metre}}
348 \CustomizeMathJax{\newcommand{\amperepermetre}{\ampere\per\metre}}
349 \CustomizeMathJax{\newcommand{\amperepermetrenp}{\ampere\usk\reciprocal\metre}}
350 \CustomizeMathJax{\newcommand{\joulepertesla}{\joule\per\tesla}}
351 \CustomizeMathJax{\newcommand{\jouleperteslap}{\joule\usk\reciprocal\tesla}}
352 \CustomizeMathJax{\newcommand{\henrypermetre}{\henry\per\metre}}
353 \CustomizeMathJax{\newcommand{\henrypermetrenp}{\henry\usk\reciprocal\metre}}
354 \CustomizeMathJax{\newcommand{\kilogrampersecond}{\kilogram\per\second}}
355 \CustomizeMathJax{\newcommand{\kilogrampersecondnp}{\kilogram\usk\reciprocal\second}}
356 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecond}{%
357   \kilogram\per\squaremetre\usk\second%
358  }}
```

```
359 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecondnp}{%
360     \kilogram\usk\rpsquare\metre\usk\reciprocal\second%
361 }}
```

```
362 \CustomizeMathJax{\newcommand{\kilogrampersquaremetre}{\kilogram\per\squaremetre}}
363 \CustomizeMathJax{\newcommand{\kilogrampersquaremetrenp}{\kilogram\usk\rpsquare\metre}}
364 \CustomizeMathJax{\newcommand{\kilogrampermetre}{\kilogram\per\metre}}
365 \CustomizeMathJax{\newcommand{\kilogrampermetrenp}{\kilogram\usk\reciprocal\metre}}
366 \CustomizeMathJax{\newcommand{\joulepermolekelvin}{\joule\per\mole\usk\kelvin}}
367 \CustomizeMathJax{\newcommand{\joulepermolekelvinnp}{%
368     \joule\usk\reciprocal\mole\usk\reciprocal\kelvin%
369 }}
```

```
370 \CustomizeMathJax{\newcommand{\kilogramperkilo}{\kilogram\per\kilo\mole}}
371 \CustomizeMathJax{\newcommand{\kilogramperkilomolnp}{%
372     \kilogram\usk\kilo\reciprocal\mole%
373 }}
```

```
374 \CustomizeMathJax{\newcommand{\kilogramsquaremetre}{\kilogram\usk\squaremetre}}
375 \CustomizeMathJax{\newcommand{\kilogramsquaremetrenp}{\kilogramsquaremetre}}
376 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecond}{%
377     \kilogram\usk\metre\per\second\squared%
378 }}
```

```
379 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecondnp}{%
380     \kilogram\usk\metre\usk\second\rpsquared%
381 }}
```

```
382 \CustomizeMathJax{\newcommand{\newtonpersquaremetre}{\newton\per\squaremetre}}
383 \CustomizeMathJax{\newcommand{\newtonpersquaremetrenp}{\newton\usk\rpsquare\metre}}
384 \CustomizeMathJax{\newcommand{\persquaremetresecond}{\per\squaremetre\usk\second}}
385 \CustomizeMathJax{\newcommand{\persquaremetresecondnp}{%
386     \rpsquare\metre\usk\reciprocal\second%
387 }}
```

```
388 \CustomizeMathJax{\newcommand{\wattperkilogram}{\watt\per\kilogram}}
389 \CustomizeMathJax{\newcommand{\wattperkilogramnp}{\watt\usk\reciprocal\kilogram}}
390 \CustomizeMathJax{\newcommand{\wattpercubicmetre}{\watt\per\cubic\metre}}
391 \CustomizeMathJax{\newcommand{\wattpercubicmetrenp}{\watt\usk\rpcubic\metre}}
392 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradian}{%
393     \watt\per\squaremetre\usk\steradian%
394 }}
```

```
395 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradiannp}{%
396     \watt\usk\rpsquare\metre\usk\rp\steradian%
397 }}
```

```
398 \CustomizeMathJax{\newcommand{\joulepermilekilvin}{\joule\per\kilogram\usk\kelvin}}
399 \CustomizeMathJax{\newcommand{\joulepermilekilvinnp}{%
400     \joule\usk\reciprocal\kilogram\usk\reciprocal\kelvin%
401 }}
```

```
402 \CustomizeMathJax{\newcommand{\squaremetreperkilogram}{\squaremetre\per\kilogram}}
403 \CustomizeMathJax{\newcommand{\rpsquaremetreperkilogram}{%
404     \squaremetre\usk\reciprocal\kilogram%
405 }}
```

```
406 \CustomizeMathJax{\newcommand{\cubicmetreperkilogram}{\cubic\metre\per\kilogram}}
407 \CustomizeMathJax{\newcommand{\rpcubicmetreperkilogram}{%
408     \cubic\metre\usk\reciprocal\kilogram%
409 }}
```

```
410 \CustomizeMathJax{\newcommand{\newtonpermetre}{\newton\per\metre}}
411 \CustomizeMathJax{\newcommand{\newtonpermetrenp}{\newton\usk\reciprocal\metre}}
412 \CustomizeMathJax{\newcommand{\Celsius}{\text{\textnormal{C}}}}
413 \CustomizeMathJax{\newcommand{\wattpermetrekelvin}{\watt\per\metre\usk\kelvin}}
414 \CustomizeMathJax{\newcommand{\wattpermetrekelvinnp}{%
415     \watt\usk\reciprocal\metre\usk\reciprocal\kelvin%
416 }}
```

```
417 \CustomizeMathJax{\newcommand{\newtonmetre}{\newton\usk\metre}}
418 \CustomizeMathJax{\newcommand{\newtonmetrenp}{\newton\metre}}}
```

---

```

419 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecond}{%
420     \squaremetre\per\cubic\second%
421 }%
422 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecondnp}{%
423     \squaremetre\usk\rpcubic\second%
424 }%
425 \CustomizeMathJax{\newcommand{\metrepersecond}{\metre\per\second}%
426 \CustomizeMathJax{\newcommand{\metrepersecondnp}{\metre\usk\reciprocal\second}%
427 \CustomizeMathJax{\newcommand{\joulepercubicmetre}{\joule\per\cubicmetre}%
428 \CustomizeMathJax{\newcommand{\joulepercubicmetrep}{\joule\usk\rpcubic\metre}%
429 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulomb}{%
430     \kilogram\per\cubic\metre\usk\coulomb%
431 }%
432 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulombnp}{%
433     \kilogram\usk\rpcubic\metre\usk\reciprocal\coulomb%
434 }%
435 \CustomizeMathJax{\newcommand{\cubicmetrepersecond}{\cubicmetre\per\second}%
436 \CustomizeMathJax{\newcommand{\rpcubicmetrepersecond}{\cubicmetre\usk\reciprocal\second}%
437 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetre}{%
438     \kilogram\per\second\usk\cubicmetre%
439 }%
440 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetrep}{%
441     \kilogram\usk\reciprocal\second\usk\rpcubic\metre%
442 }%
443 \end{warpMathJax}

```

---

#### File 452 **l warp-siunitx.sty**

§ 561 Package **siunitx**

(Emulates or patches code by JOSEPH WRIGHT.)

Pkg siunitx

siunitx is patched for use by l warp, and is emulated for MATHJAX.

|                         |  |
|-------------------------|--|
| <b>for HTML output:</b> | <pre> 1 \providecommand\DeclareRelease[3]{} 2 \providecommand\DeclareCurrentRelease[2]{} 3 4 \DeclareRelease{2}{2010-05-23}{l warp-siunitx-v2.sty} 5 \DeclareRelease{v2}{2010-05-23}{l warp-siunitx-v2.sty} 6 \DeclareCurrentRelease{}{2021-05-17} 7 8 \RequirePackage{xcolor}% for \convertcolorspec 9 10 \LWR@ProvidesPackagePass{siunitx}[2022-02-15] 11 12 \ExplSyntaxOn  13 \cs_set_protected:Npn \siunitx_number_format:nN #1#2 14 { 15     \group_begin: 16         \bool_if:NTF \l_siunitx_number_parse_bool 17         { 18             \siunitx_number_parse:nN {#1} \l__siunitx_number_parsed_tl 19             \siunitx_number_process:NN \l__siunitx_number_parsed_tl \l_siunitx_number_parsed_tl 20                 \tl_set:Nx \l_siunitx_number_outputted_tl 21                 { \siunitx_number_output:N \l__siunitx_number_parsed_tl } 22         } </pre> |
|-------------------------|--|

```

23      {
24          \tl_set:Nn \l_siunitx_number_outputted_tl
25          {
26              \LWR@subsingle dollar{%
27                  \textbackslash( % space
28                  \LWR@HTMLsanitizeddetokenized{%
29                      \detokenize{\#1}%
30                  } \textbackslash)%
31                  }%
32                  {siunitx unparsed}%
33                  {\ensuremath{\#1}}%
34          }
35      }
36  \exp_args:NNN \group_end:
37  \tl_set:Nn #2 \l_siunitx_number_outputted_tl
38 }

39 \cs_set_protected:Npn \__siunitx_compound_unparsed:n #1
40 {
41     \tl_if_blank:nF {\#1}
42     { \seq_put_right:Nn \l_siunitx_compound_tmp_seq
43         {
44             \LWR@subsingle dollar{%
45                 \textbackslash( % space
46                 \LWR@HTMLsanitizeddetokenized{%
47                     \detokenize{\#1}%
48                 } \textbackslash)%
49                 }%
50                 {siunitx unparsed}%
51                 {\ensuremath{\#1}}%
52         }
53     }
54 }

```

If not in a `\teximage`, always use text mode. Ignore current text font if resetting text family, series, and shape.

```

55 \cs_set_protected:Npn \__siunitx_print_aux:nn #1#2
56 {
57     \tl_if_empty:cTF { \l_siunitx_print_ #1 _color_tl }
58     { \use:n }
59     { \exp_args:Nv \textcolor { \l_siunitx_print_ #1 _color_tl } }
60     {
61         \ifnumcomp{\value{\LWR@teximagedepth}}{>}{0}%
62         {
63             \use:c
64             {
65                 \l_siunitx_print_
66                 \tl_use:c { \l_siunitx_print_ #1 _mode_tl } :n
67             }
68             {\#2}
69         }
70     {
71         \bool_lazy_all:nTF%    l warp
72         {
73             {\l_siunitx_print_text_family_bool}
74             {\l_siunitx_print_text_series_bool}
75             {\l_siunitx_print_text_shape_bool}
76         }
77         {%
78             %% No font control if reset-text-family/series/shape
79         }
80     }
81 }

```

```

78          \use:c
79          {
80              siunitx_print_%
81                  text%
82                  :n%
83                  }%
84                  {\#2}%
85          }
86          {
87              \LWR@textcurrentfont{%
88                  \use:c
89                  {
90                      siunitx_print_%
91                      text%
92                      :n%
93                      }%
94                      {\#2}%
95                  }
96          }
97      }
98  }
99 }
```

To determine whether to make a complex root be italic or upright, `\l_siunitx_complex_output_root_tl` is compared to `\LWR@siunitx@complexrmi/j`, and the css style is set appropriately.

```

100 \newcommand*{\LWR@siunitx@complexrootstyle}{textrm}
101
102 \newcommand*{\LWR@siunitx@complexrmi}{\mathrm{i}}
103 \newcommand*{\LWR@siunitx@complexrmj}{\mathrm{j}}
104
105 \newcommand*{\LWR@siunitx@setcomplexroot}{%
106     \renewcommand*{\LWR@siunitx@complexrootstyle}{textit}%
107     \ifdefequal{\l_siunitx_complex_output_root_tl}{\LWR@siunitx@complexrmi}%
108         {\renewcommand*{\LWR@siunitx@complexrootstyle}{textrm}}%
109         {}%
110     \ifdefequal{\l_siunitx_complex_output_root_tl}{\LWR@siunitx@complexrmj}%
111         {\renewcommand*{\LWR@siunitx@complexrootstyle}{textrm}}%
112         {}%
113 }

114 \cs_set_protected:Npn \__siunitx_complex_format_auxii:n #1
115 {
116     \LWR@siunitx@setcomplexroot%                                         l warp
117     \__siunitx_complex_format_units:n {\#1}
118     \tl_if_empty:N \l_siunitx_complex_real_tl
119     { \exp_after:wN \__siunitx_complex_drop_exponent:nnnnnn \l_siunitx_complex_real_tl }
120     \exp_after:wN \__siunitx_complex_format_sign:nnnnnn \l_siunitx_complex_img_tl
121     \tl_set:Nx \l_siunitx_complex_tmp_tl
122     { \siunitx_number_output:NN \l_siunitx_complex_img_tl \q_nil }
123     \exp_after:wN \__siunitx_complex_extract_exponent:w \l_siunitx_complex_tmp_tl \q_stop
124     \tl_set:Nx \l_siunitx_complex_tmp_tl
125     {
126         \bool_lazy_or:nnTF
127         {
128             \bool_lazy_and_p:nn
129             { \l_siunitx_number_bracket_ambiguous_bool }
130             { ! \tl_if_empty_p:N \l_siunitx_complex_exp_tl }
131         }
```

```

132      {
133          ! \bool_lazy_any_p:n
134          {
135              { \tl_if_blank_p:n {#1} }
136              { \tl_if_empty_p:N \l_siunitx_complex_real_tl }
137              { \tl_if_empty_p:N \l_siunitx_complex_img_tl }
138          }
139      }
140      { \__siunitx_complex_format_bracket:n }
141      { \use:n }
142      {
143          \siunitx_number_output:N \l_siunitx_complex_real_tl
144          \exp_not:V \l_siunitx_complex_sign_tl
145          \bool_if:NF \l_siunitx_complex_root_after_bool
146          {
147              \InlineClass{\LWR@siunitx@complexrootstyle}{% l warp
148                  {
149                      \exp_not:V \l_siunitx_complex_output_root_tl
150                  }
151              }
152          \exp_not:V \l_siunitx_complex_tmp_tl
153          \bool_if:NT \l_siunitx_complex_root_after_bool
154          {
155              \InlineClass{\LWR@siunitx@complexrootstyle}{% l warp
156                  {
157                      \exp_not:V \l_siunitx_complex_output_root_tl
158                  }
159              }
160          }
161          \exp_not:V \l_siunitx_complex_exp_tl
162      }
163  }

```

{⟨1: deg/min/sec character⟩} {⟨2: ?⟩} {⟨3: ?⟩} {⟨4: integer part of angle⟩} {⟨5: decimal point character⟩} {⟨6: decimal part of angle⟩} {⟨7: ?⟩} {⟨8: ?⟩}

If not in a `lateximage`, print a simplified verison without the box measurement things which conflict with `l warp`:

```

164 \cs_set_protected:Npn \__siunitx_angle_arc_print_auxii:nw
165 #1#2 \q_nil #3 \q_nil #4 \q_nil #5 \q_nil #6 \q_nil #7 \q_nil #8 \q_stop
166 {
167     \mode_if_math:TF
168     {
169         \bool_set_true:N \l_siunitx_angle_tmp_bool
170         \bool_set_false:N \l_siunitx_angle_tmp_bool
171     }
172     \siunitx_print_number:n {#2#3#4}
173     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
174         \l warp
175         \tl_if_blank:nTF {#6}
176         {
177             \__siunitx_angle_arc_print_auxvi:n {#1}
178             {
179                 \hbox_set:Nn \l_siunitx_angle_marker_box
180                 {
181                     \__siunitx_angle_arc_print_auxiii:n
182                     \siunitx_print_number:n {#5}
183                 }
184                 \hbox_set:Nn \l_siunitx_angle_unit_box
185                 {
186                     \__siunitx_angle_arc_print_auxiii:n
187                 }
188             }
189         }
190     }
191 
```

```

185          \siunitx_unit_format:nN {#1} \l_siunitx_angle_tmp_tl
186          \siunitx_print_unit:V \l_siunitx_angle_tmp_tl
187          \skip_horizontal:n { -\scriptspace }
188      }
189  }
190 \dim_compare:nNnTF { \box_wd:N \l_siunitx_angle_marker_box } >
191 { \box_wd:N \l_siunitx_angle_unit_box }
192 {
193     \l_siunitx_angle_arc_print_auxiv:NN
194     \l_siunitx_angle_marker_box
195     \l_siunitx_angle_unit_box
196 }
197 {
198     \l_siunitx_angle_arc_print_auxiv:NN
199     \l_siunitx_angle_unit_box
200     \l_siunitx_angle_marker_box
201 }
202 \hbox_set_to_wd:Nnn \l_siunitx_angle_marker_box
203 \l_siunitx_angle_tmp_dim
204 {
205     \hbox_overlap_right:n
206     { \box_use_drop:N \l_siunitx_angle_marker_box }
207     \hbox_overlap_right:n
208     { \box_use_drop:N \l_siunitx_angle_unit_box }
209     \tex_hfil:D
210 }
211 \box_use:N \l_siunitx_angle_marker_box
212 \skip_horizontal:N \scriptspace
213 \siunitx_print_number:n {#6}
214 }
215 }%

```

{⟨1: deg/min/sec character⟩} {⟨2: ?⟩} {⟨3: ?⟩} {⟨4: integer part of angle⟩} {⟨5: decimal point character⟩} {⟨6: decimal part of angle⟩} {⟨7: ?⟩} {⟨8: ?⟩}

```

216     %% lwarp: not in a lateximage, simplify for HTML
217     \tl_if_blank:nTF {#6}
218     { \l_siunitx_angle_arc_print_auxvi:n {#1} }
219     {
220         \l_siunitx_angle_arc_print_auxiii:n
221         {
222             \siunitx_print_number:n {#5}
223         }
224         \l_siunitx_angle_arc_print_auxiii:n
225         {
226             \siunitx_unit_format:nN {#1} \l_siunitx_angle_tmp_tl
227             \siunitx_print_unit:V \l_siunitx_angle_tmp_tl
228         }
229         \siunitx_print_number:n {#6}
230     }
231 }%
232 }%

```

If not in a `lateximage`, print a simple inline fraction, avoiding the use of SVG math:

```

233 \cs_set_protected:Npn \l_siunitx_print_text_fraction:Nnn #1#2#3
234 {
235     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{% lwarp
236     }%
237     \ensuremath

```

```

238      {
239          #1
240          { \mbox { \_\_siunitx\_print\_text\_replace:n {#2} } }
241          { \mbox { \_\_siunitx\_print\_text\_replace:n {#3} } }
242      }
243  }%
244  {%
245      { \mbox { \_\_siunitx\_print\_text\_replace:n {#2} } }% l warp
246      /% l warp
247      { \mbox { \_\_siunitx\_print\_text\_replace:n {#3} } }% l warp
248  }% l warp
249  }

```

If not in a `\textrimage`, print a `\textsubscript`:

```

250 \cs_set_protected:Npn \_\_siunitx\_unit\_format\_qualifier\_subscript:
251  {
252      \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
253  {%
254      \_\_siunitx\_unit\_format\_font:
255      \tl_set:Nx \l_\_siunitx\_unit\_part\_tl
256      {
257          \c_\_siunitx\_unit\_math\_subscript\_tl
258          {
259              \exp_not:V \l_\_siunitx\_unit\_font\_tl
260              { \exp_not:V \l_\_siunitx\_unit\_part\_tl }
261          }
262      }
263  }%
264  {%
265      l warp simplified for HTML:
266      \_\_siunitx\_unit\_format\_font:
267      \tl_set:Nx \l_\_siunitx\_unit\_part\_tl
268      {
269          \textsubscript
270          {
271              \exp_not:V \l_\_siunitx\_unit\_font\_tl
272              { \exp_not:V \l_\_siunitx\_unit\_part\_tl }
273          }
274      }
275  }
276 \cs_set_protected:Npn \siunitx_quantity:nn #1#2
277  {
278      \group_begin:
279      \siunitx_unit_options_apply:n {#2}
280      \tl_if_blank:nTF {#1}
281      {
282          \siunitx_unit_format:nN {#2} \l_\_siunitx\_quantity\_unit\_tl
283          \siunitx_print_unit:V \l_\_siunitx\_quantity\_unit\_tl
284      }
285      {
286          \bool_if:NTF \l_\_siunitx\_number\_parse\_bool
287          { \_\_siunitx\_quantity\_parsed:nn {#1} {#2} }
288          {
289              \tl_set:Nn \l_\_siunitx\_quantity\_number\_tl {
290                  \LWR@subsingle dollar{%
291                      \textbackslash( % space
292                      \LWR@HTMLsanitizeddetokenized{%
293                          \detokenize{#1}}%

```

```

294           } \textbackslash)%                                lwarp
295       }%
296       {siunitx unparsed}%
297       {\ensuremath{\#1}}%                                lwarp
298   }
299   \siunitx_unit_format:nN {\#2} \l_siunitx_quantity_unit_tl
300   \siunitx_quantity_print:VV
301   \l_siunitx_quantity_number_tl \l_siunitx_quantity_unit_tl
302 }
303 }
304 \group_end:
305 }
```

\cancel for HTML does not work yet.

```

306 \newcommand*{\LWR@siunitx@nocancel}[1]{%
307     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
308         {\cancel{\#1}}%  SVG
309         {\#1}%          HTML
310     }%
311     \AtBeginDocument{%
312     \l_siunitx_unit_set_symbolic:Npnn \cancel
313     { }%
314     { \l_siunitx_unit_parse_special:n { \cancel } }%
315     { \l_siunitx_unit_parse_special:n { \LWR@siunitx@nocancel } }%    lwarp
316     }%
317 }
```

For HTML, use a simple unaligned \num:

```

318 \newcommand{\LWR@HTML@tablenum}[2][]{\num[#1]{#2}}
319 \LWR@formatted{tablenum}
```

For HTML, the S column is simplified to a c column. Keys are set locally, allowing drop-exponent, etc.

```

320 \AtBeginDocument{%
321 \HTMLnewcolumntype{S}[1][]{>{\begingroup\sisetup{\#1}c<\endgroup}}
322 }
```

To define simplified units for HTML:

```

\HTMLDeclareSIUnit [<options>] <name> <definition>

323 \NewDocumentCommand{\HTMLDeclareSIUnit}{o +m m}
324 {
325     \ifcsdef{ __siunitx_unit_ \token_to_str:N #2 :w }{%
326         {}%
327     }{%
328         \PackageError{lwarp}{%
329             First~use\MessageBreak
330             \space\space\protect\DeclareSIUnit{%
331                 \token_to_str:N#2}{...}\MessageBreak
332             before~using\MessageBreak
333             \space\space\protect\HTMLDeclareSIUnit{%
334                 \token_to_str:N#2}{...}%
335         }%
336     }
```

```

337          {%
338              See~the~Lwarp~manual~section~about~special~cases,~
339              regarding~\siunitx.%}
340          }
341      }
342 \csNewCommandCopy{cs
343     { __orig_#1_\token_to_str:N #2 :w }
344     { __#1_\token_to_str:N #2 :w }
345 \DeclareSIUnit[#1]{#2}
346     {
347         \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}
348             {\csuse{ __orig_#1_\token_to_str:N #2 :w }}}
349             {#3}
350     }
351 }

352 \ExplSyntaxOff

```

HTML versions for existing units:

```

353 \AtBeginDocument{
354 \HTMLDeclareSIUnit\celsius{\LWR@siunitx@textcelsius}
355 \HTMLDeclareSIUnit\arcminute{\LWR@siunitx@textprime}
356 \HTMLDeclareSIUnit\arcsecond{\LWR@siunitx@textdblprime}
357 \HTMLDeclareSIUnit\elementarycharge{\textit{e}}
358 %
359 \HTMLDeclareSIUnit\clight{\text{\textit{c}}\text{\textsubscript{0}}}}
360 \HTMLDeclareSIUnit\bohr{\text{\textit{a}}\text{\textsubscript{0}}}}
361 \HTMLDeclareSIUnit\electronmass{\text{\textit{m}}\text{\textsubscript{e}}}}
362 \HTMLDeclareSIUnit\hartree{\text{\textit{E}}\text{\textsubscript{h}}}}
363 \HTMLDeclareSIUnit\planckbar{\LWR@siunitx@textplanckbar}
364 }% \AtBeginDocument

```

Initial options:

```

365 \AtBeginDocument{
366 \sisetup{
367     per-mode=symbol,    % fraction is not seen by pdftotext
368     angle-symbol-degree = {\LWR@siunitx@textdegree},
369     angle-symbol-minute = {\LWR@siunitx@textprime} ,
370     angle-symbol-second = {\LWR@siunitx@textdblprime} ,
371 }
372 }

```

Load late patches for lltjp-siunitx:

```

373 \AtBeginDocument{
374 \ifdef{\ltj@allalchar}
375     {\LWR@origRequirePackage{lwarp-lltjp-siunitx}}
376     {}
377 }

```

For MATHJAX:

```

378 \LWR@origRequirePackage{lwarp-common-mathjax-siunitx}
379
380 \CustomizeMathJax{\let\unit\si}
381 \CustomizeMathJax{\let\qty\SI}
382 \CustomizeMathJax{\let\qtylist\SIlist}

```

---

```

383 \CustomizeMathJax{\let\qtyrange\SIrange}
384 \CustomizeMathJax{\let\numproduct\num}
385 \CustomizeMathJax{\let\qtyproduct\SI}
386 \CustomizeMathJax{\let\complexnum\num}
387 \CustomizeMathJax{\newcommand{\complexqty}[3][]{(\complexnum{#2})\si{#3}}}

```

Pass `range-phrase` to `common-mathjax-siunitx`:

```

388 \ExplSyntaxOn
389 \AtBeginDocument{
390 \edef\LWR@siunitx@rangephrase{\l_siunitx_range_phrase_tl}
391 \expandafter\CustomizeMathJax\expandafter{%
392     \expandafter\def\expandafter\lWR@siunitxrangephrase%
393     \expandafter{\LWR@siunitx@rangephrase}%
394 }
395 }
396 \ExplSyntaxOff

```

---

### File 453 **l warp-siunitx-v2.sty**

§ 562 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**.  
**siunitx** is well supported by **l warp**.

**Limitations** Some general limitations:

**fractions** Due to *pdftotext* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

\cancel is not currently supported for **siunitx v3**.

Negative values are not automatically colored.

**⚠ tabular** Tabular S and s columns are rendered as simple c columns, although key settings will be set. If using scientific notation, table-format, table-align-uncertainty, drop-exponent, etc.. use \tablenum for each cell. This is especially required for drop-exponent, without which the value will be shown incorrectly.

**⚠ table-auto-round** table-auto-round is ignored.

**Math rendering** Math may be rendered in several ways in the same document:

**For math mode with svg display:** The original siunitx code is used while generating the SVG image.

**For HTML text mode:** lwarf uses siunitx code patched for HTML, and simplified units.

**For math expressions while using MATHJAX:** A limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. The result usually looks fine, and otherwise is enough to get the meaning across.

**Custom units** siunitx allows customized units:

`\DeclareSIUnit {name} {definition}`

`\DeclareSIUnit` declares a version of the unit for the print version. This is also used when the unit is printed in SVG math or a `\latextimage`. It is also used for HTML if an HTML-specific version is not defined with `\HTMLDeclareSIUnit`.

`\DeclareSIUnit\myunit{\ensuremath{\text{m}}_y}`

`\HTMLDeclareSIUnit {name} {definition}`

⚠ v3 only! Use this after the print unit has been defined. For siunitx v3, `\HTMLDeclareSIUnit` declares a simplified version of the unit for HTML, for example if the print-mode unit uses TeX boxes or `\ensuremath`:

`\HTMLDeclareSIUnit\myunit{\text{m}\textsubscript{y}}`

It is also possible to provide a custom unit for MATHJAX:

`\CustomizeMathJax{\newcommand{\myunit}{\text{m}}_y}`

**Predefined units** Most units work as-is with HTML. For the following units, lwarf has already set `\HTMLDeclareSIUnit`: `\celsius`, `\arcminute`, `\arcsecond`, `\elementarycharge`, `\clight`, `\bohr`, `\electronmass`, `\hartree`, `\planckbar`.

⚠ MathJax

### Document modifications required for MATHJAX

⚠ \sisetup

- Place `\sisetup` in the preamble before `\begin{document}`. Changes made later may be ignored, especially with MATHJAX. The MATHJAX emulation also ignores most macro options.

⚠ complex numbers

- Complex numbers are displayed as entered, ignoring `output-complex-root`.

custom units

- Custom units may be added with `\CustomizeMathJax`. For example, from `lwarf-common-mathjax-siunitx`:

```
\CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_{\mathrm{h}}}}
\CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\AA}}}
```

⚠ 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.

- For `\numlist`, the argument is printed as text as-is, so use space between semicolons for improved readability.
- If using `parse-numbers = false`, also use `\num` or `\qty`. `siunitx=siunitx>Missing $ inserted.`

**⚠ Missing \$ inserted**

Also see [MATHJAX option](#), section 8.7.4.

**for HTML output:**

```
1 \RequirePackage{xcolor}%
2   for \convertcolorspec
3 \LWR@ProvidesPackagePass{siunitx}[=v2]%
4 2021-04-17
5
6 \AtBeginDocument{%
7   % in case textcomp was not loaded
8   \DeclareSIUnit\bohr{\textit{a}\textsubscript{0}}
9   \DeclareSIUnit\clight{\textit{c}\textsubscript{0}}
10  \DeclareSIUnit\elementarycharge{\textit{e}}
11  \DeclareSIUnit\electronmass{\textit{m}\textsubscript{e}}
12  \DeclareSIUnit\hartree{\textit{E}\textsubscript{h}}
13  \DeclareSIUnit\planckbar{\LWR@siunitx@textplanckbar}
14
15 }%
```

Support the S and s column types:

```
12 \AtBeginDocument{
13 \HTMLnewcolumntype{S}[1][]{}{\begingroup\sisetup{#1}c<\endgroup}
14 \HTMLnewcolumntype{s}[1][]{}{\begingroup\sisetup{#1}c<\endgroup}
15 }
```

`\@ensuredmath` is not supported inside an `\hbox`, so it must temporarily be restored to its original. Similar for `\mbox`. SVG math is created explicitly when necessary, using `\LWR@subsingle$`.

```
16
17 \ExplSyntaxOn
18 %
```

Modified to use the print version of `\@ensuredmath` to avoid having a `\textrimage` each time.

```
19 \AtBeginDocument{
20 \cs_set_protected:Npn \__siunitx_print_text:
21 {
22   \LetLtxMacro\@ensuredmath\LWR@origensuredmath%           l warp
23   \tl_replace_all:Nnn \l__siunitx_print_arg_tl { - }
24   { \textminus }
25   \__siunitx_print_text_aux:
26   \tl_replace_all:Nnn \l__siunitx_print_arg_tl { \mp }
27   { \ensuremath { \mp } }
28   \tl_remove_all:Nn \l__siunitx_print_arg_tl { \mathord }
29   \cs_set_eq:NN \PrintSubscript \__siunitx_print_text_sub:n
30   \cs_set_eq:NN \PrintSuperscript \__siunitx_print_text_super:n
31   \__siunitx_print_text_aux:NnN
```

```

32      _ { math_subscript }  \_siunitx_print_text_sub:n
33      _ { active }        \_siunitx_print_text_sub:n
34      ^ { math_superscript } \_siunitx_print_text_super:n
35      ^ { active }        \_siunitx_print_text_super:n
36      \q_recursion_tail ? ?
37      \q_recursion_stop
38      \l_siunitx_print_arg_tl
39  }
40 }
```

Modified to set set `HTML \textcolor` if not black:

```

41 \cs_new_protected:Npn \LWR@HTML@_siunitx_print_aux:
42  {
43    \text
44    {
45      \_siunitx_ensure_ltr:n
46      {
47        \color@begingroup
48%
49        \_siunitx_color:
50        \_siunitx_font_shape:
51        \_siunitx_font_weight:
52        \use:c
53        {
54          \_siunitx_ \l_siunitx_print_type_tl -
55          text \l_siunitx_font_family_tl :
56        }
57%
57%       \bool_if:NTF \l_siunitx_font_math_mode_bool
58%       {
59%         \_siunitx_print_math:
60%       }
61       {
62         \LWR@findcurrenttextcolor% l warp
63         \ifdefstring{\LWR@tempcolor}{000000}% l warp
64           {\_siunitx_print_text:}% l warp
65           {% l warp
66             \LWR@textcurrentcolor% l warp
67             \_siunitx_print_text:
68             }% l warp
69             }% l warp
70           }
71         \color@endgroup
72%
73       }
74     }
75   }
76 \LWR@formatted{\_siunitx_print_aux:}
77
78 \cs_new_protected:Npn \LWR@HTML@_siunitx_set_math_fam:n #1 {
79   \group_begin:
80%   \LetLtxMacro\@ensuredmath\LWR@origensuredmath% l warp
81%   \LetLtxMacro\mbox\LWR@print@mbox% l warp
82%   \hbox_set:Nn \l_siunitx_tmp_box
83%   {
84%     \ensuremath
85%     {
86%       \use:c { math #1 }
87%       {
```

```

88           \int_const:cn { c__siunitx_math #1 _int } { \fam }
89           }
90       }
91 %   }
92 \group_end:
93 }
94 \LWR@formatted{__siunitx_set_math_fam:n}
95
96 \cs_new_protected:Npn \LWR@HTML@__siunitx_combined_output:n #1 {
97 %
98     \group_begin:% lwarp
99     \bool_if:NTF \l__siunitx_number_parse_bool
100    {
101        \tl_clear:N \l__siunitx_number_out_tl
102        \bool_set_false:N \l__siunitx_number_compound_bool
103        \__siunitx_number_output_parse:n {#1}
104    }
105    {

```

For parse-numbers=false:

```

106     \__siunitx_unit_output_pre_print:
107     \begingroup%                                lwarp
108         \boolfalse{mathjax}%                  lwarp
109 %     \__siunitx_print:nn { number } { \ensuremath {#1} } }
110         \LWR@singledollar%                lwarp
111             {%
112                 \textbackslash( % space
113                 \LWR@HTMLsanitizeddetokenized{%
114                     \detokenize{#1}%
115                 } \textbackslash)%            lwarp
116             }
117             {siunitx}%
118             {%
119                 \__siunitx_print:nn { number } {%
120                     \LWR@origensuredmath{#1}%
121                 }%
122             }%
123             \endgroup%                      lwarp
124             \__siunitx_unit_output_print:
125         }
126     \group_end:% lwarp
127 %
128 }
129 \LWR@formatted{__siunitx_combined_output:n}

```

For parse-numbers=false:

```

130 \cs_new_protected:Npn \LWR@HTML@__siunitx_range_numbers_aux:n #1
131  {
132     \bool_if:NTF \l__siunitx_number_parse_bool
133     {
134         \tl_clear:N \l__siunitx_number_out_tl
135         \tl_clear:N \l__siunitx_number_out_saved_tl
136         \bool_set_false:N \l__siunitx_number_compound_bool
137         \__siunitx_number_output_parse:n {#1}
138         \bool_if:NT \l__siunitx_number_compound_bool
139             { \msg_error:nnx { siunitx } { multi-part-range } {#1} }
140     }
141     {

```

```

142      \__siunitx_unit_output_pre_print:
143      \begingroup%
144          \boolfalse{mathjax}%
145          \__siunitx_print:nn { number } {#1}           lwarp
146              \LWR@subsingle dollar%                   lwarp
147              {%
148                  \textbackslash( % space
149                  \LWR@HTMLsanitizeddetokenized{%
150                      \detokenize{#1}%
151                  } \textbackslash)%
152              }%
153              {siunitx}%
154              {%
155                  \__siunitx_print:nn { number } {%
156                      \LWR@origensuredmath{#1}%
157                  }%
158              }%
159          \endgroup%
160          \__siunitx_unit_output_print:
161      }%
162  }%
163 \LWR@formatted{\__siunitx_range_numbers_aux:n}

```

For parse-numbers=false:

```

164 \cs_new_protected:Npn \LWR@HTML{\__siunitx_angle_print_direct_aux:nn #1#2 {
165   \tl_if_empty:nF {#1}
166   {
167     \tl_set:Nn \l__siunitx_unit_tl {#2}
168     \begingroup%
169         \boolfalse{mathjax}%
170         \__siunitx_print:nn { number } {#1}           lwarp
171             \LWR@subsingle dollar%                   lwarp
172             \textbackslash( % space
173             \LWR@HTMLsanitizeddetokenized{%
174                 \detokenize{#1}%
175             } \textbackslash)%
176             }%
177             {siunitx}%
178             {%
179                 \__siunitx_print:nn { number } {%
180                     \LWR@origensuredmath{#1}%
181                 }%
182             }%
183         \endgroup%
184         \__siunitx_unit_output_print:
185     }%
186   }%
187 \LWR@formatted{\__siunitx_angle_print_direct_aux:nn}
188 %

```

For quotients, the fraction code is replaced by the symbol code:

```

189 \cs_new_protected:Npn \LWR@HTML{\__siunitx_number_output_quotient_fraction: {
190   \bool_set_true:N \l__siunitx_number_compound_bool
191   \__siunitx_number_output_quotient_aux_i:
192   \tl_set_eq:NN \l__siunitx_number_out_tl
193   \l__siunitx_number_numerator_tl
194   \tl_put_right:NV \l__siunitx_number_out_tl \l__siunitx_output_quotient_tl
195   \tl_put_right:NV \l__siunitx_number_out_tl

```

```

196     \l_siunitx_number_denominator_tl
197     \_siunitx_number_output_single_aux:
198 }
199 \LWR@formatted{\_siunitx_number_output_quotient_fraction:}

```

For units, the fraction code is replaced by the symbol code:

```

200 \cs_new_protected:Npn \LWR@HTML{\_siunitx_unit_format_fraction_fraction: {
201   \_siunitx_unit_format_fraction_symbol_aux:
202   \int_compare:nNnT { \l_siunitx_unit_denominator_int } > { 1 }
203   {
204     \bool_if:NT \l_siunitx_unit_denominator_bracket_bool
205     {
206       \tl_put_left:NV \l_siunitx_unit_denominator_tl \l_siunitx_bracket_open_tl
207       \tl_put_right:NV \l_siunitx_unit_denominator_tl \l_siunitx_bracket_close_tl
208     }
209   }
210   \tl_set_eq:NN \l_siunitx_unit_tl \l_siunitx_unit_numerator_tl
211   \tl_put_right:NV \l_siunitx_unit_tl \l_siunitx_per_symbol_tl
212   \tl_put_right:NV \l_siunitx_unit_tl \l_siunitx_unit_denominator_tl
213 }
214 \LWR@formatted{\_siunitx_unit_format_fraction_fraction:}

215 \cs_new_protected:Npn \LWR@HTML{\_siunitx_angle_print_astronomy_aux: {
216   \prop_get:NnNT \l_siunitx_number_out_prop { mantissa-integer }
217   \l_siunitx_tmpa_tl
218   { \_siunitx_print:nV { number } \l_siunitx_tmpa_tl }
219   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
220   {%
221     \hbox_set:Nn \l_siunitx_angle_marker_box
222     {
223       \_siunitx_print:nn { number } { \l_siunitx_output_decimal_tl }
224     }
225     \hbox_set:Nn \l_siunitx_angle_unit_box
226     {
227       \_siunitx_print:nV { unit } \l_siunitx_unit_tl
228       \skip_horizontal:n { -\scriptspace }
229     }
230     \_siunitx_angle_print_astronomy_aux:n { marker }
231     \_siunitx_angle_print_astronomy_aux:n { unit }
232     \hbox_set:Nn \l_siunitx_angle_marker_box
233     {
234       \box_use:N \l_siunitx_angle_marker_box
235       \box_use:N \l_siunitx_angle_unit_box
236     }
237     \dim_compare:nNnTF
238     { \l_siunitx_angle_marker_dim } > { \l_siunitx_angle_unit_dim }
239     { \_siunitx_angle_print_astronomy_marker: }
240     { \_siunitx_angle_print_astronomy_unit: }
241   }%
242   {%
243     \_siunitx_print:nn { number } { \l_siunitx_output_decimal_tl }
244     \_siunitx_print:nV { unit } \l_siunitx_unit_tl
245   }%
246   \prop_get:NnNT \l_siunitx_number_out_prop { mantissa-decimal }
247   \l_siunitx_tmpa_tl
248   { \_siunitx_print:nV { number } \l_siunitx_tmpa_tl }
249 }
250 \LWR@formatted{\_siunitx_angle_print_astronomy_aux:}

```

```

251 \cs_new_protected:Npn \LWR@HTML@__siunitx_textsuperscript:n #1 {\textsuperscript{#1}}
252 \LWR@formatted{__siunitx_textsuperscript:n}
253
254 \cs_new_eq:NN \LWR@HTML@__siunitx_print_text_super:n \textsuperscript
255 \LWR@formatted{__siunitx_print_text_super:n}
256
257 \cs_new_eq:NN \LWR@HTML@__siunitx_print_text_sub:n \textsubscript
258 \LWR@formatted{__siunitx_print_text_sub:n}

```

\LWR@origenduresmath is added here in case the user asks for \mathrm, etc. for output-exponent-marker.

```

259 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_format_final_exponent: {
260   \prop_get:NnN \l__siunitx_number_out_prop { exponent }
261   \l__siunitx_tmpa_tl
262   \tl_if_empty:NTF \l__siunitx_output_exponent_tl
263   {
264     \tl_set:Nx \l__siunitx_tmpa_tl
265     { ^ { \exp_not:V \l__siunitx_tmpa_tl } }
266     \tl_put_left:NV \l__siunitx_tmpa_tl \l__siunitx_exponent_base_tl
267   }
268   {
269     \tl_set:Nx \l__siunitx_tmpa_tl
270     {
271       \LWR@origensuredmath{%
272         \exp_not:V \l__siunitx_output_exponent_tl
273       }%
274       \mathord
275       \exp_not:V \l__siunitx_tmpa_tl
276     }
277   }
278   \prop_put:NnV \l__siunitx_number_out_prop { exponent-result }
279   \l__siunitx_tmpa_tl
280 }
281 \LWR@formatted{__siunitx_number_format_final_exponent:}

```

\LWR@origensuredmath is added here to avoid using an image for the exponent product.

```

282 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_format_final_combined: {
283   __siunitx_number_format_brackets:n { mantissa }
284   \prop_get:NnN \l__siunitx_number_out_prop { mantissa-result }
285   \l__siunitx_tmpa_tl
286   \tl_if_empty:NT \l__siunitx_output_exponent_tl
287   {
288     \tl_put_right:Nx \l__siunitx_tmpa_tl
289     {
290       \exp_not:N \LWR@origensuredmath%
291       {
292         \bool_if:NTF \l__siunitx_tight_bool
293           { { \exp_not:V \l__siunitx_exponent_product_tl } }
294           { { } \exp_not:V \l__siunitx_exponent_product_tl { } }
295       }
296     }
297   }
298   \prop_get:NnN \l__siunitx_number_out_prop { exponent-result }
299   \l__siunitx_tmpb_tl
300   \tl_put_right:NV \l__siunitx_tmpa_tl \l__siunitx_tmpb_tl
301   \prop_put:NnV \l__siunitx_number_out_prop { result }

```

```

302     \l_siunitx_tmpa_tl
303     \prop_put:Nnn \l_siunitx_number_out_prop
304     { result-bracket-exponent } { true }
305 }
306 \LWR@formatted{__siunitx_number_format_final_combined:}

```

\LWR@origensuredmath is added here to avoid using an image for the exponent product.

```

307 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_output_parts_aux: {
308   \bool_if:NTF \l_siunitx_multi_repeat_bool
309   {
310     \prop_if_in:NnT \l_siunitx_number_out_prop { mantissa-result }
311     {
312       \__siunitx_number_output_parts_aux:n { mantissa }
313       \__siunitx_number_output_parts_aux:n { complex }
314     }
315   \prop_get:NnNT \l_siunitx_number_out_prop { exponent-result }
316   \l_siunitx_tmpa_tl
317   {
318     \prop_if_in:NnT \l_siunitx_number_out_prop { mantissa-result }
319     {
320       \tl_put_left:Nx \l_siunitx_tmpa_tl
321       {
322         \exp_not:N \LWR@origensuredmath
323         {
324           \bool_if:NTF \l_siunitx_tight_bool
325             { { \exp_not:V \l_siunitx_exponent_product_tl } }
326             { { } \exp_not:V \l_siunitx_exponent_product_tl { } }
327         }
328       }
329     \prop_put:NnV \l_siunitx_number_out_prop { exponent }
330     \l_siunitx_tmpa_tl
331   }
332   \__siunitx_number_output_parts_print:n { exponent }
333 }
334 }
335 { \__siunitx_number_output_single: }
336 }
337 \LWR@formatted{__siunitx_number_output_parts_aux:}

```

\LWR@origensuredmath is added here to avoid using an image for the exponent product.

```

338 \cs_new_protected:Npn \LWR@HTML@__siunitx_unit_output_print: {
339   \int_compare:nNnF { \l_siunitx_unit_prefix_int } = { 0 }
340   {
341     \tl_set:Nx \l_siunitx_tmpa_tl
342     {
343       \bool_if:NTF \l_siunitx_tight_bool
344       {
345         \exp_not:N \LWR@origensuredmath%      lwarp
346         { { \exp_not:V \l_siunitx_exponent_product_tl } }
347       }
348       {
349         \exp_not:N \LWR@origensuredmath%      lwarp
350         { { } \exp_not:V \l_siunitx_exponent_product_tl { } }
351       }
352     \int_use:N \l_siunitx_unit_prefix_base_int
353     ^ { \int_use:N \l_siunitx_unit_prefix_int }

```

```

354      }
355      \__siunitx_print:nV { number } \l_siunitx_tmpa_tl
356    }
357    \tl_if_empty:NF \l_siunitx_unit_tl
358    {
359      \__siunitx_unit_output_number_sep:
360      \__siunitx_print:nV { unit } \l_siunitx_unit_tl
361    }
362 }
363 \LWR@formatted{\__siunitx_unit_output_print:}

```

\LWR@origensuredmath is added here to avoid using an image for the exponent product.

```

364 \cs_new_protected:Npn \LWR@HTML@__siunitx_range_exponent:
365  {
366    \bool_if:NT \l_siunitx_process_fixed_bool
367    {
368      \tl_set_eq:NN \l_siunitx_tmpa_tl \l_siunitx_exponent_product_tl
369      \bool_if:NT \l_siunitx_tight_bool
370      {
371        \tl_set:Nx \l_siunitx_tmpa_tl
372        { \exp_not:N \mathord \exp_not:o \l_siunitx_tmpa_tl }
373      }
374      \tl_set:Nx \l_siunitx_tmpa_tl
375      {
376        \exp_not:N \LWR@origensuredmath {%
377          \exp_not:o \l_siunitx_tmpa_tl %
378        }
379        10 \exp_not:N \PrintSuperscript
380        { \int_use:N \l_siunitx_process_fixed_int }
381      }
382      \__siunitx_print:nV { number } \l_siunitx_tmpa_tl
383    }
384  }
385 \LWR@formatted{\__siunitx_range_exponent:}

```

\LWR@origensuredmath is added here to avoid using an image for the exponent product.

```

386 \cs_new_protected:Npn \LWR@HTML@__siunitx_table_print_S_reserved_exponent_product:
387  {
388    \tl_set_eq:NN \l_siunitx_tmpb_tl \l_siunitx_exponent_product_tl
389    \bool_if:NT \l_siunitx_tight_bool
390    {
391      \tl_set:Nx \l_siunitx_tmpb_tl
392      { \exp_not:N \mathord \exp_not:o \l_siunitx_tmpb_tl }
393    }
394    \tl_set:Nx \l_siunitx_tmpa_tl
395    {
396      \exp_not:N \LWR@origensuredmath { { } \exp_not:o \l_siunitx_tmpb_tl { } }
397      \exp_not:o \l_siunitx_tmpa_tl
398    }
399  }
400 \LWR@formatted{\__siunitx_table_print_S_reserved_exponent_product:}

```

\LWR@origensuredmath is added here to avoid using an image for the output product.

```

401 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_output_product_aux: {
402   \bool_set_true:N \l__siunitx_number_compound_bool
403   \__siunitx_number_preprocess:V \l__siunitx_number_arg_tl
404   \bool_if:NF \l__siunitx_error_bool
405   {
406     \tl_if_empty:NTF \l__siunitx_number_multi_til
407     { \__siunitx_number_output_parse_aux: }
408     { \__siunitx_number_output_quotient: }
409     \tl_if_empty:NTF \l__siunitx_number_next_til
410     {
411       \bool_if:NTF \l__siunitx_tight_bool
412       {
413         \__siunitx_print:nn { number }
414         { \LWR@origensuredmath { \l__siunitx_output_product_tl } }
415       }
416       {
417         \__siunitx_print:nn { number }
418         { \LWR@origensuredmath { { } \l__siunitx_output_product_tl { } } }
419       }
420       \__siunitx_number_output_parse:V \l__siunitx_number_next_til
421     }
422   }
423 }
424 \LWR@formatted{__siunitx_number_output_product_aux:}

```

Used to detect the math font.

```

425 \cs_set_protected:Npn \__siunitx_set_math_fam:n #1 {
426   \group_begin:
427   \hbox_set:Nn \l__siunitx_tmp_box
428   {
429     \LWR@origensuredmath%           lwarp
430     {
431       \use:c { math #1 }
432       {
433         \int_const:cn { c__siunitx_math #1 _int } { \fam }
434       }
435     }
436   }
437   \group_end:
438 }

```

Force \text:

```

439 \cs_set_protected:Npn \__siunitx_range_numbers:nn #1#2
440   {
441     \__siunitx_range_numbers_aux:n {#1}
442     \text{\l__siunitx_range_phrase_tl}%
443     \__siunitx_range_numbers_aux:n {#2}
444   }

```

Force \text:

```

445 \cs_set_protected:Npn \__siunitx_range_unit:nnnn #1#2#3#4 {
446   \__siunitx_unit_parse_options:nn {#1} {#2}
447   \bool_if:NTF \l__siunitx_range_repeat_bool
448   {
449     \__siunitx_unit_in:nn {#1} {#2}
450     \__siunitx_range_numbers_aux:n {#3}
451     \text{\l__siunitx_range_phrase_tl}%

```

```

452      \__siunitx_range_numbers_aux:n {#4}
453    }
454  {
455    \bool_if:NT \l__siunitx_process_fixed_bool
456      { \bool_set_true:N \l__siunitx_process_drop_exponent_bool }
457    \bool_if:NT \l__siunitx_range_brackets_bool
458      { \__siunitx_print:nV { number } \l__siunitx_bracket_open_tl }
459    \__siunitx_range_numbers:nn {#3} {#4}
460    \bool_if:NT \l__siunitx_range_brackets_bool
461      { \__siunitx_print:nV { number } \l__siunitx_bracket_close_tl }
462    \__siunitx_range_exponent:
463    \__siunitx_unit_output_number_sep:
464    \__siunitx_unit_output:nn {#1} {#2}
465  }
466 }

467 \ExplSyntaxOff

468 \AtBeginDocument{
469 \sisetup{
470   detect-mode=true,
471   per-mode=symbol,    % fraction is not seen by pdftotext
472   text-celsius = {\LWR@siunitx{textcelsius}},
473   text-degree = {\LWR@siunitx{textdegree}},
474   text-arcminute = {\LWR@siunitx{textprime}} ,
475   text-arcsecond = {\LWR@siunitx{textdblprime}} ,
476 }
477 }

478 \LWR@origRequirePackage{lwarf-common-mathjax-siunitx}

```

Passing range-phrase to `common-mathjax-siunitx` does not seem to work with v2 using translator as it does with v3 using translations. The range-phrase therefore is set to an en-dash.

```

479 \AtBeginDocument{
480 \CustomizeMathJax{\def\LWR@siunitxrangephrase{\unicode{x2013}}}
481 }

```

#### File 454 **lwarf-common-mathjax-siunitx.sty**

### § 563 Package **common-mathjax-siunitx**

*(Emulates or patches code by JOSEPH WRIGHT.)*

Pkg `common-mathjax-siunitx` `common-mathjax-siunitx` adds MATHJAX for siunitx and siunitx-v2.

For MATHJAX.

**for HTML output:**  
**MATHJAX**

The following runs much faster as separate `\CusomizeMathJax` calls instead of one single call.

```

1 \begin{warpMathJax}
2 \LWR@infoprocessingmathjax{siunitx}

3 \CustomizeMathJax{\newcommand{\tothe}[1]{^{#1}}}
4 \CustomizeMathJax{\newcommand{\raiseto}[2]{^{#2}{^{#1}}}}

```

Used as an end marker when parsing values:

```
5 \CustomizeMathJax{\newcommand{\LWRsiunitxEND}{}}
```

\ang

```
6 \CustomizeMathJax{\def\LWRsiunitxang#1;#2;#3;#4\LWRsiunitxEND{%
7   \ifblank{#1}{}{\num{#1}\degree}%
8   \ifblank{#2}{}{\num{#2}^{\unicode{x2032}}}\prime%
9   \ifblank{#3}{}{\num{#3}^{\unicode{x2033}}}\dblprime%
10 }%
11 \CustomizeMathJax{\newcommand{\ang}[2][]{\LWRsiunitxang#2;;\LWRsiunitxEND}}
```

\num

\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 macros 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.

The number is split by dimensions (x), then by powers (E, e, D, d), then by plus / minus (+-, \pm), then by plus and minus (+, -), then into pieces before and after the decimal point or decimal comma.

Determine if the number is output with a decimal period or a decimal comma. The enclosing braces tell MATHJAX to not add extra space after the punctuation.

```
12 \ExplSyntaxOn
13 \AtBeginDocument{
14 \ifdefstring{\l_siunitx_output_decimal_tl}{{,}}
15   {\CustomizeMathJax{\def\LWRsiunitxdecimal{,}}}
16   {\CustomizeMathJax{\def\LWRsiunitxdecimal{.}}}
17 }
18 \ExplSyntaxOff
```

Any units which must be distributed across multiple dimensions:

```
19 \CustomizeMathJax{\def\LWRsiunitxdistribunit{}}
```

siunitx accepts either commas or periods as decimal points. \LWRsiunitxprintdecimal splits its input by periods then commas, parsing out before and after sections to print on either side of the decimal point.

\LWRsiunitxENDTWO is used only by \LWRsiunitxprintdecimalsubtwo, to avoid a parsing conflict with the more widely-used \LWRsiunitxEND.

The following splits by decimal commas:

```
20 \CustomizeMathJax{\newcommand{\LWRsiunitxENDTWO}{}}
21
22 \CustomizeMathJax{\def\LWRsiunitxprintdecimalsubtwo#1,#2,#3\LWRsiunitxENDTWO{%
```

If nothing is ahead of the decimal comma, add a leading zero:

```
23 \ifblank{#1}{0}{\mathrm{#1}}%
```

If something is after the decimal comma, print the decimal and the fraction:

```
24 \ifblank{#2}{%
25   {}%
26   {%
27     {\LWRsiunitxdecimal}%
}}
```

```

28           \mathrm{#2}%
29       }%
30 }

```

The following splits by decimal periods:

```

31 \CustomizeMathJax{\def\LWRsiunitxprintdecimalsub#1.#2.#3\LWRsiunitxEND{%
32   \LWRsiunitxprintdecimalsubtwo#1,,\LWRsiunitxENDTWO%
33   \ifblank{#2}{%
34     {}%
35     {%
36       {\LWRsiunitxdecimal}%
37       \LWRsiunitxprintdecimalsubtwo#2,,\LWRsiunitxENDTWO%
38     }%
39   }%
40 }
41 \CustomizeMathJax{\newcommand{\LWRsiunitxprintdecimal}[1]{%
42   \LWRsiunitxprintdecimalsub#1...\LWRsiunitxEND%
43 }}

```

The following splits by +

```

44 \CustomizeMathJax{\def\LWRsiunitxnumplus#1+#2+#3\LWRsiunitxEND{%
45   \ifblank{#2}{%
46     {}%
47     {\LWRsiunitxprintdecimal{#1}%
48     }% no plus
49     {%
50       \ifblank{#1}{%
51         {\LWRsiunitxprintdecimal{#2}}% leading plus, ignore
52         {%
53           {\LWRsiunitxprintdecimal{#1}%
54             \unicode{x02B}% plus sign
55           \LWRsiunitxprintdecimal{#2}%
56         }%
57       }%
58     }%
59   }%
59 }

```

The following splits by -

```

60 \CustomizeMathJax{\def\LWRsiunitxnumminus#1-#2-#3\LWRsiunitxEND{%
61   \ifblank{#2}{%
62     {\LWRsiunitxnumplus#1+++\LWRsiunitxEND}%
63     {%
64       \ifblank{#1}{}{\LWRsiunitxprintdecimal{#1}}%
65       \unicode{x02212}% mathematical minus sign
66       \LWRsiunitxprintdecimal{#2}%
67       \LWRsiunitxdistribunit%
68     }%
69   }%
69 }

```

The following splits by \pm

```

70 \CustomizeMathJax{\def\LWRsiunitxnumpmmacro#1\pm#2\pm#3\LWRsiunitxEND{%
71   \ifblank{#2}{%
72     {\LWRsiunitxnumminus#1---\LWRsiunitxEND}%
73     {%
74       \LWRsiunitxprintdecimal{#1}%
75       \unicode{x0B1}% \pm
76       \LWRsiunitxprintdecimal{#2}%
77       \LWRsiunitxdistribunit%
78     }%
79   }%
79 }

```

The following splits by +-

```

80 \CustomizeMathJax{\def\LWRsiunitxnumpm#1+-#2+-#3\LWRsiunitxEND{%
81     \ifblank{#2}{%
82         {\LWRsiunitxnumpmmacro#1\pm\pm\pm\pm\LWRsiunitxEND}%
83         {%
84             \LWRsiunitxprintdecimal{#1}%
85             \unicode{x0B1} \pm
86             \LWRsiunitxprintdecimal{#2}%
87             \LWRsiunitxdistribunit%
88         }%
89 }%

```

Processes scientific notation. Special handling for a mantissa which is either empty or only a minus sign.

```

90 \CustomizeMathJax{\newcommand{\LWRsiunitxnumscientific}[2]{%
91     \ifblank{#1}{%
92         {}%
93         {%
94             \ifstreq{\#1}{-}{%
95                 {-}%
96                 {\LWRsiunitxprintdecimal{#1}\times}%
97             }%
98             10^{\LWRsiunitxprintdecimal{#2}}%
99             \LWRsiunitxdistribunit%
100 }}}

```

The following splits by D

```
101 \CustomizeMathJax{\def\LWRsiunitxnumD#1D#2D#3\LWRsiunitxEND{%
102     \ifblank{#2}{%
103         {\LWRsiunitxnump#1+-+{\LWRsiunitxEND}}%
104         {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}}%
105 }}
```

The following splits by d

```
106 \CustomizeMathJax{\def\lwr{\siunitx{numd#1#2#3}\siunitx{END}}%
107     \ifblank{#2}%
108         {\lwr\siunitx{numD#1DDD}\lwr\siunitx{END}}%
109         {\mathrm{\lwr\siunitx{numscientific{#1}{#2}}}}%
110 }}
```

The following splits by  $E$

```
111 \CustomizeMathJax{\def\LWRsiunitxnumE{\#1E\#2E\#3}\LWRsiunitxEND{%
112     \ifblank{\#2}{%
113         {\LWRsiunitxnumd{\#1ddd}\LWRsiunitxEND{}}%
114         {\mathrm{\LWRsiunitxnumscientific{\#1}{\#2}}}}%
115 }}
```

The following splits by e

```
116 \CustomizeMathJax{\def\LWRsiunitxnume#1e#2e#3\LWRsiunitxEND{%
117     \ifblank{#2}{%
118         {\LWRsiunitxnumE#1EEE\LWRsiunitxEND}%
119         {\mathrm{\LWRsiunitxnumscientific[#1]{#2}}}%
120     }{}}
```

The following splits by x

```

124      {%
125          \ifblank{#3}{%
126              {%
127                  \LWRsiunitxnume#1eee\LWRsiunitxEND%
128                  \times%
129                  \LWRsiunitxnume#2eee\LWRsiunitxEND%
130              }%
131              {%
132                  \LWRsiunitxnume#1eee\LWRsiunitxEND%
133                  \times%
134                  \LWRsiunitxnume#2eee\LWRsiunitxEND%
135                  \times%
136                  \LWRsiunitxnume#3eee\LWRsiunitxEND%
137              }%
138          }%
139      }}

140 \CustomizeMathJax{\newcommand{\num}[2][]{%
141     \LWRsiunitxnumx#2xxxx\LWRsiunitxEND%
142 }}}

```

\si

 $\langle options \rangle \langle unit \rangle$ 

$\sim$  is converted to a thin space. Not able to convert period to thin space because the period might be in `\raiseto`, for example.

```

143 \CustomizeMathJax{\newcommand{\si}[2][]{%
144     \mathrm{\gsubstitute{#2}{\sim}{,}}%
145 }}}

```

\SI

 $\langle options \rangle \langle value \rangle [\langle prefix \rangle] \langle unit \rangle$ 

`\SI` has a second optional arg, which is parsed using `\ifnextchar`.

```

146 \CustomizeMathJax{\def\LWRsiunitxSIopt{\#2}\#3{%
147     \def\LWRsiunitxdistribunit{\,\si{#3}}%
148     {\#2}\num{#1}%
149     \def\LWRsiunitxdistribunit{}%
150 }%
151
152 \CustomizeMathJax{\newcommand{\LWRsiunitxSI}[2]{%
153     \def\LWRsiunitxdistribunit{\,\si{#2}}%
154     \num{#1}%
155     \def\LWRsiunitxdistribunit{}%
156 }}}

157 \CustomizeMathJax{\newcommand{\SI}[2][]{%
158     \ifnextchar[%
159         {\LWRsiunitxSIopt{\#2}}%
160         {\LWRsiunitxSI{\#2}}%
161 }}}

```

\numlist

 $\langle options \rangle \langle list \rangle$ 

`\numlist` should only be used in text mode. If used in MATHJAX, it is merely printed as text, so add space around the semicolons.

```
162 \CustomizeMathJax{\newcommand{\numlist}[2][]{\text{\#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-phrase.

```
163 \CustomizeMathJax{\newcommand{\numrange}[3][]{%
164     \num{#2}\ \LWRsiunitxrangephrase\ \num{#3}%
165 }}
```

$\text{\SIlist}$

$\text{\SIlist}$  and  $\text{\SIrange}$  should only be used in text mode. If used in MATHJAX, a simple emulation is provided.

```
166 \CustomizeMathJax{\newcommand{\SIlist}[3][]{\text{#2}\,\text{#3}}}
```

$\text{\SIrange}$

```
167 \CustomizeMathJax{\newcommand{\SIrange}[4][]{%
168     \num{#2}\,,\#\!\!4\ \LWRsiunitxrangephrase\ \num{#3}\,,\#\!\!4%
169 }}
```

$\text{\tablenum}$

```
170 \CustomizeMathJax{\newcommand{\tablenum}[2][]{\mathrm{#2}}}
```

```
171 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
172 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
173 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
174 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kg}}}
175 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
176 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
177 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
178 %
179 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
180 \CustomizeMathJax{\newcommand{\degreeCelsius}{\text{\scriptsize{\text{\textnormal{x2103}}}}}}
181 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
182 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
183 \CustomizeMathJax{\newcommand{\gray}{\mathrm{Gy}}}
184 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
185 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
186 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
187 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
188 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
189 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
190 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
191 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
192 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
193 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
194 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
195 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
196 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
197 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
198 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
199 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
200 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
201 \CustomizeMathJax{\newcommand{\day}{\mathrm{d}}}
202 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
203 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{ha}}}
204 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
205 \CustomizeMathJax{\newcommand{\litre}{\mathrm{l}}}
206 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
```

```
207 \CustomizeMathJax{\newcommand{\arcminute}{^\prime}}
208 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
209 \CustomizeMathJax{\newcommand{\arcsecond}{^{\prime\prime}\mathit{\prime}}}
210 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
211 \CustomizeMathJax{\newcommand{\astronomicalunit}{au}}
212 \CustomizeMathJax{\newcommand{\atomicmassunit}{u}}
213 \CustomizeMathJax{\newcommand{\bohr}{\mathit{a}_0}}
214 \CustomizeMathJax{\newcommand{\clight}{\mathit{c}_0}}
215 \CustomizeMathJax{\newcommand{\dalton}{\mathit{D}_{\mathrm{a}}}}
216 \CustomizeMathJax{\newcommand{\electronmass}{\mathit{m}_{\mathrm{e}}}}
217 \CustomizeMathJax{\newcommand{\electronvolt}{\mathit{eV}}}
218 \CustomizeMathJax{\newcommand{\elementarycharge}{\mathit{e}}}
219 \CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_{\mathrm{h}}}}
220 \CustomizeMathJax{\newcommand{\planckbar}{\mathit{h}_{\mathrm{p}}}}
221 \CustomizeMathJax{\newcommand{\angstrom}{\mathit{\AA}}}
222 \CustomizeMathJax{\let\WRorigbar\bar}
223 \CustomizeMathJax{\newcommand{\bar}{\mathit{bar}}}
224 \CustomizeMathJax{\newcommand{\barn}{\mathit{b}}}
225 \CustomizeMathJax{\newcommand{\bel}{\mathit{B}}}
226 \CustomizeMathJax{\newcommand{\decibel}{\mathit{dB}}}
227 \CustomizeMathJax{\newcommand{\knot}{\mathit{kn}}}
228 \CustomizeMathJax{\newcommand{\mmHg}{\mathit{mmHg}}}
229 \CustomizeMathJax{\newcommand{\nauticalmile}{\mathit{M}}}
230 \CustomizeMathJax{\newcommand{\neper}{\mathit{Np}}}
231 %
232 \CustomizeMathJax{\newcommand{\yocto}{\mathit{y}}}
233 \CustomizeMathJax{\newcommand{\zepto}{\mathit{z}}}
234 \CustomizeMathJax{\newcommand{\atto}{\mathit{a}}}
235 \CustomizeMathJax{\newcommand{\femto}{\mathit{f}}}
236 \CustomizeMathJax{\newcommand{\pico}{\mathit{p}}}
237 \CustomizeMathJax{\newcommand{\nano}{\mathit{n}}}
238 \CustomizeMathJax{\newcommand{\micro}{\mathit{\mu}}}
239 \CustomizeMathJax{\newcommand{\milli}{\mathit{m}}}
240 \CustomizeMathJax{\newcommand{\centi}{\mathit{c}}}
241 \CustomizeMathJax{\newcommand{\deci}{\mathit{d}}}
242 \CustomizeMathJax{\newcommand{\deca}{\mathit{da}}}
243 \CustomizeMathJax{\newcommand{\hecto}{\mathit{h}}}
244 \CustomizeMathJax{\newcommand{\kilo}{\mathit{k}}}
245 \CustomizeMathJax{\newcommand{\mega}{\mathit{M}}}
246 \CustomizeMathJax{\newcommand{\giga}{\mathit{G}}}
247 \CustomizeMathJax{\newcommand{\tera}{\mathit{T}}}
248 \CustomizeMathJax{\newcommand{\peta}{\mathit{P}}}
249 \CustomizeMathJax{\newcommand{\exa}{\mathit{E}}}
250 \CustomizeMathJax{\newcommand{\zetta}{\mathit{Z}}}
251 \CustomizeMathJax{\newcommand{\yotta}{\mathit{Y}}}
252 %
253 \CustomizeMathJax{\newcommand{\percent}{\mathit{\%}}}
254 %
255 \CustomizeMathJax{\newcommand{\meter}{\mathit{m}}}
256 \CustomizeMathJax{\newcommand{\metre}{\mathit{m}}}
257 %
258 \CustomizeMathJax{\newcommand{\gram}{\mathit{g}}}
259 \CustomizeMathJax{\newcommand{\kg}{\mathit{kilogram}}}
260 \CustomizeMathJax{\newcommand{\of}[1]{_{\mathit{#1}}}}
261 \CustomizeMathJax{\newcommand{\squared}{^2}}
262 \CustomizeMathJax{\newcommand{\square}[1]{\mathit{#1}^2}}
263 \CustomizeMathJax{\newcommand{\cubed}{^3}}
264 \CustomizeMathJax{\newcommand{\cubic}[1]{\mathit{#1}^3}}
265 \CustomizeMathJax{\newcommand{\per}{/, \mathit{/}}}
```

```
266 \CustomizeMathJax{\newcommand{\celsius}{\unicode{x2103}}}
267 %
268 \CustomizeMathJax{\newcommand{\fg}{\femto\gram}}
269 \CustomizeMathJax{\newcommand{\pg}{\pico\gram}}
270 \CustomizeMathJax{\newcommand{\ng}{\nano\gram}}
271 \CustomizeMathJax{\newcommand{\ug}{\micro\gram}}
272 \CustomizeMathJax{\newcommand{\mg}{\milli\gram}}
273 \CustomizeMathJax{\newcommand{\g}{\gram}}
274 \CustomizeMathJax{\newcommand{\kg}{\kilo\gram}}
275 %
276 \CustomizeMathJax{\newcommand{\amu}{\mathrm{u}}}
277 %
278 \CustomizeMathJax{\newcommand{\pm}{\pico\metre}}
279 \CustomizeMathJax{\newcommand{\nm}{\nano\metre}}
280 \CustomizeMathJax{\newcommand{\um}{\micro\metre}}
281 \CustomizeMathJax{\newcommand{\mm}{\milli\metre}}
282 \CustomizeMathJax{\newcommand{\cm}{\centi\metre}}
283 \CustomizeMathJax{\newcommand{\dm}{\deci\metre}}
284 \CustomizeMathJax{\newcommand{\m}{\metre}}
285 \CustomizeMathJax{\newcommand{\km}{\kilo\metre}}
286 %
287 \CustomizeMathJax{\newcommand{\as}{\atto\second}}
288 \CustomizeMathJax{\newcommand{\fs}{\femto\second}}
289 \CustomizeMathJax{\newcommand{\ps}{\pico\second}}
290 \CustomizeMathJax{\newcommand{\ns}{\nano\second}}
291 \CustomizeMathJax{\newcommand{\us}{\micro\second}}
292 \CustomizeMathJax{\newcommand{\ms}{\milli\second}}
293 \CustomizeMathJax{\newcommand{\s}{\second}}
294 %
295 \CustomizeMathJax{\newcommand{\fmol}{\femto\mol}}
296 \CustomizeMathJax{\newcommand{\pmol}{\pico\mol}}
297 \CustomizeMathJax{\newcommand{\nmol}{\nano\mol}}
298 \CustomizeMathJax{\newcommand{\umol}{\micro\mol}}
299 \CustomizeMathJax{\newcommand{\mmol}{\milli\mol}}
300 \CustomizeMathJax{\newcommand{\mol}{\mol}}
301 \CustomizeMathJax{\newcommand{\kmol}{\kilo\mol}}
302 %
303 \CustomizeMathJax{\newcommand{\pA}{\pico\ampere}}
304 \CustomizeMathJax{\newcommand{\nA}{\nano\ampere}}
305 \CustomizeMathJax{\newcommand{\uA}{\micro\ampere}}
306 \CustomizeMathJax{\newcommand{\mA}{\milli\ampere}}
307 \CustomizeMathJax{\newcommand{\A}{\ampere}}
308 \CustomizeMathJax{\newcommand{\kA}{\kilo\ampere}}
309 %
310 \CustomizeMathJax{\newcommand{\ul}{\micro\litre}}
311 \CustomizeMathJax{\newcommand{\ml}{\milli\litre}}
312 \CustomizeMathJax{\newcommand{\l}{\litre}}
313 \CustomizeMathJax{\newcommand{\hl}{\hecto\litre}}
314 \CustomizeMathJax{\newcommand{\uL}{\micro\liter}}
315 \CustomizeMathJax{\newcommand{\mL}{\milli\liter}}
316 \CustomizeMathJax{\newcommand{\L}{\liter}}
317 \CustomizeMathJax{\newcommand{\hL}{\hecto\liter}}
318 %
319 \CustomizeMathJax{\newcommand{\mHz}{\milli\hertz}}
320 \CustomizeMathJax{\newcommand{\Hz}{\hertz}}
321 \CustomizeMathJax{\newcommand{\kHz}{\kilo\hertz}}
322 \CustomizeMathJax{\newcommand{\MHz}{\mega\hertz}}
323 \CustomizeMathJax{\newcommand{\GHz}{\giga\hertz}}
324 \CustomizeMathJax{\newcommand{\THz}{\tera\hertz}}
325 %
```

```
326 \CustomizeMathJax{\newcommand{\mN}{\milli\newton}}
327 \CustomizeMathJax{\newcommand{\N}{\newton}}
328 \CustomizeMathJax{\newcommand{\kN}{\kilo\newton}}
329 \CustomizeMathJax{\newcommand{\MN}{\mega\newton}}
330 %
331 \CustomizeMathJax{\newcommand{\Pa}{\pascal}}
332 \CustomizeMathJax{\newcommand{\kPa}{\kilo\pascal}}
333 \CustomizeMathJax{\newcommand{\MPa}{\mega\pascal}}
334 \CustomizeMathJax{\newcommand{\GPa}{\giga\pascal}}
335 %
336 \CustomizeMathJax{\newcommand{\mohm}{\milli\ohm}}
337 \CustomizeMathJax{\newcommand{\kohm}{\kilo\ohm}}
338 \CustomizeMathJax{\newcommand{\Mohm}{\mega\ohm}}
339 %
340 \CustomizeMathJax{\newcommand{\pV}{\pico\volt}}
341 \CustomizeMathJax{\newcommand{\nV}{\nano\volt}}
342 \CustomizeMathJax{\newcommand{\uV}{\micro\volt}}
343 \CustomizeMathJax{\newcommand{\mV}{\milli\volt}}
344 \CustomizeMathJax{\newcommand{\V}{\volt}}
345 \CustomizeMathJax{\newcommand{\kV}{\kilo\volt}}
346 %
347 \CustomizeMathJax{\newcommand{\W}{\watt}}
348 \CustomizeMathJax{\newcommand{\uW}{\micro\watt}}
349 \CustomizeMathJax{\newcommand{\mW}{\milli\watt}}
350 \CustomizeMathJax{\newcommand{\kW}{\kilo\watt}}
351 \CustomizeMathJax{\newcommand{\MW}{\mega\watt}}
352 \CustomizeMathJax{\newcommand{\GW}{\giga\watt}}
353 %
354 \CustomizeMathJax{\newcommand{\J}{\joule}}
355 \CustomizeMathJax{\newcommand{\uJ}{\micro\joule}}
356 \CustomizeMathJax{\newcommand{\mJ}{\milli\joule}}
357 \CustomizeMathJax{\newcommand{\kJ}{\kilo\joule}}
358 %
359 \CustomizeMathJax{\newcommand{\eV}{\electronvolt}}
360 \CustomizeMathJax{\newcommand{\meV}{\milli\electronvolt}}
361 \CustomizeMathJax{\newcommand{\keV}{\kilo\electronvolt}}
362 \CustomizeMathJax{\newcommand{\MeV}{\mega\electronvolt}}
363 \CustomizeMathJax{\newcommand{\GeV}{\giga\electronvolt}}
364 \CustomizeMathJax{\newcommand{\TeV}{\tera\electronvolt}}
365 %
366 \CustomizeMathJax{\newcommand{\kWh}{\kilo\watt\hour}}
367 %
368 \CustomizeMathJax{\newcommand{\F}{\farad}}
369 \CustomizeMathJax{\newcommand{\fF}{\femto\farad}}
370 \CustomizeMathJax{\newcommand{\pF}{\pico\farad}}
371 %
372 \CustomizeMathJax{\newcommand{\K}{\mathrm{K}}}
373 %
374 \CustomizeMathJax{\newcommand{\dB}{\mathrm{dB}}}
375 %
376 \CustomizeMathJax{\newcommand{\kibi}{\mathrm{Ki}}}
377 \CustomizeMathJax{\newcommand{\mebi}{\mathrm{Mi}}}
378 \CustomizeMathJax{\newcommand{\gibi}{\mathrm{Gi}}}
379 \CustomizeMathJax{\newcommand{\tebi}{\mathrm{Ti}}}
380 \CustomizeMathJax{\newcommand{\pebi}{\mathrm{Pi}}}
381 \CustomizeMathJax{\newcommand{\exbi}{\mathrm{Ei}}}
382 \CustomizeMathJax{\newcommand{\zebi}{\mathrm{Zi}}}
383 \CustomizeMathJax{\newcommand{\yobi}{\mathrm{Yi}}}
384 \end{warpMathJax}
```

---

File 455 **l warp-skmath.sty**

§ 564 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 **\l3keys**, which does not seem to have an equivalent to **\@ifpackagewith**. To detect package options, comparisons with the following are made to see if various macros have been defined as follows:

```
11 \cs_gset_nopar:Npn \LWR__skmath_imaginary_unit:n #1{#1}
12 \cs_gset_nopar:Npn \LWR__skmath_natural_log_e:{e}
13 \cs_gset_nopar:Npn \LWR__skmath_integral_d:{d}
14 \cs_gset_nopar:Npn \LWR__skmath_total_derivative_d:{d}
```

If notation=iso, use upright, else italic:

```
15 \cs_if_eq:NNTF \__skmath_imaginary_unit:n \LWR__skmath_imaginary_unit:n
16 {
17     \CustomizeMathJax{\newcommand{ii}{\mathit{i}}}
18     \CustomizeMathJax{\newcommand{jj}{\mathit{j}}}
19 }
20 {
21     \CustomizeMathJax{\newcommand{ii}{\mathrm{i}}}
22     \CustomizeMathJax{\newcommand{jj}{\mathrm{j}}}
23 }
```

If notation=iso, use upright, else italic:

```
24 \cs_if_eq:NNTF \__skmath_natural_log_e: \LWR__skmath_natural_log_e:
25 {
26     \CustomizeMathJax{\newcommand{ee}{\mathit{e}}}
27     \CustomizeMathJax{\newcommand{ee}{\mathrm{e}}}
```

**skmath** uses **\DeclarePairedDelimiter** from **mathtools** for **\abs** and **\norm**, and **l warp** 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\LWRskmathpdstarsub#1#2,#3,#4,#5,#6\LWRskmathEND{
32   #1_{#2#3#4#5}%
33 }%
34
35 \CustomizeMathJax{\newcommand{\LWRskmathpdstar}[2]{%
36   \LWRskmathpdstarsub{#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\LWRskmathpddenominator#1^#2^#3\LWRskmathEND{%
44   \ifblank{#1}{}{%
45     \ifblank{#2}{%
46       {\partial{#1}}%
47       {\partial{#1}^{#2}}%
48     }%
49 }}%

```

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. `\LWRskmathpddone` is used to only place a 1 digit if a second or later term does not have a power.

This may not be recursion-safe. (Is there really such as a thing as nested differentials?)

```

50 \CustomizeMathJax{\newcommand{\LWRskmathdonumerator}[5]{%
51   \partial^{}{%
52     \def\LWRskmathpdplus{}{%
53       \LWRskmathpdnumerator#2^{}{}^{}{}\LWRskmathEND%
54     \def\LWRskmathpdplus{+}{%
55       \def\LWRskmathpddone{1}{%
56         \LWRskmathpdnumerator#3^{}{}^{}{}\LWRskmathEND%
57         \LWRskmathpdnumerator#4^{}{}^{}{}\LWRskmathEND%

```

```

58      \LWRskmathpdnumerator#5^{\}^{\}\LWRskmathEND%
59      }%
60      {\#1}%
61 }%
62
63 \CustomizeMathJax{\newcommand{\LWRskmathpddenominator}[4]{%
64     \LWRskmathpdddenominator#1^{\}^{\}\LWRskmathEND%
65     \ifblank{\#2}{\,\,}%
66     \LWRskmathpdddenominator#2^{\}^{\}\LWRskmathEND%
67     \ifblank{\#3}{\,\,}%
68     \LWRskmathpdddenominator#3^{\}^{\}\LWRskmathEND%
69     \ifblank{\#4}{\,\,}%
70     \LWRskmathpdddenominator#4^{\}^{\}\LWRskmathEND%
71 }}}

```

Parse the arguments with up to four commas. Argument 6 contains any leftover commas.

```

72 \CustomizeMathJax{\def{\LWRskmathpdnostarsub#1#2,#3,#4,#5,#6}\LWRskmathEND{%
73     \ifblank{\#3}{\def{\LWRskmathpdone}{\def{\LWRskmathpdone{1}}{%
74         \frac{%
75             {\LWRskmathdonumerator{\#1}{\#2}{\#3}{\#4}{\#5}}%
76             {\LWRskmathdodenominator{\#2}{\#3}{\#4}{\#5}}%
77 }}}}%
78
79 \CustomizeMathJax{\newcommand{\LWRskmathpdnostar}[2]{%
80     \LWRskmathpdnostarsub{\#1}{\#2},,,,\LWRskmathEND%
81 }}}

```

```
82 \CustomizeMathJax{\newcommand{\pd}{\ifstar{\LWRskmathpdstar}{\LWRskmathpdnostar}}}
```

If notation=english or legacy, use slanted, else upright:

```

83 \cs_if_eq:NNTF \__skmath_total_derivative_d: \LWR__skmath_total_derivative_d: %
84     { \CustomizeMathJax{\newcommand{\LWRskmathtd}{\mathit{d}}} }
85     { \CustomizeMathJax{\newcommand{\LWRskmathtd}{\mathrm{d}}} }

86 \CustomizeMathJax{\def{\LWRskmathtdsub#1#2^#3}\LWRskmathEND{%
87     \frac{%
88         {\LWRskmathtd^{\#3}{\#1}}%
89         {\LWRskmathtd^{\#2}{\#3}}%
90 }}}
91
92 \CustomizeMathJax{\newcommand{\td}[2]{%
93     \LWRskmathtdsub{\#1}{\#2^{\}}}\LWRskmathEND%
94 }}}

95 \CustomizeMathJax{\newcommand{\E}[1]{%
96     \operatorname{E}\left[\#1\right]\!%
97 }}}

98 \CustomizeMathJax{\let{\given}{\mid}}
99
100 \CustomizeMathJax{\newcommand{\P}[1]{%
101     \operatorname{P}\left[\#1\right]\!%
102     \left.\right.\!%
103 }}}

```

---

```

104 \CustomizeMathJax{\newcommand{\var}[1]{%
105   \operatorname{Var}\left(\#1\right)}%
106 }%
107
108 \CustomizeMathJax{\newcommand{\cov}[2]{%
109   \operatorname{Cov}\left(\#1,\#2\right)}%
110 }%

```

Common code for  $\sin$  etc:

```

111 \CustomizeMathJax{\newcommand{\LWRskmathtrigtwo}[2][]{%
112   \ifblank{\#1}{}{\^{#1}}%
113   \ifblank{\#2}{}{\left(\#2\right)}%
114 }%
115
116 \CustomizeMathJax{\newcommand{\LWRskmathtrig}[1]{%
117   \operatorname{\#1}%
118   \LWRskmathtrigtwo%
119 }}

120 \CustomizeMathJax{\renewcommand{\sin}{\LWRskmathtrig{sin}}}
121 \CustomizeMathJax{\renewcommand{\arcsin}{\LWRskmathtrig{arcsin}}}
122
123 \CustomizeMathJax{\renewcommand{\cos}{\LWRskmathtrig{cos}}}
124 \CustomizeMathJax{\renewcommand{\arccos}{\LWRskmathtrig{arccos}}}
125
126 \CustomizeMathJax{\renewcommand{\tan}{\LWRskmathtrig{tan}}}
127 \CustomizeMathJax{\renewcommand{\arctan}{\LWRskmathtrig{arctan}}}
128
129 \CustomizeMathJax{\renewcommand{\cot}{\LWRskmathtrig{cot}}}
130
131 \CustomizeMathJax{\renewcommand{\sinh}{\LWRskmathtrig{sinh}}}
132 \CustomizeMathJax{\renewcommand{\cosh}{\LWRskmathtrig{cosh}}}
133 \CustomizeMathJax{\renewcommand{\tanh}{\LWRskmathtrig{tanh}}}

```

Common code for  $\ln$  and  $\log$ :

```

134 \CustomizeMathJax{\newcommand{\LWRskmathlogtwo}[2][]{%
135   \ifblank{\#1}{}{\_{\#1}}%
136   \ifblank{\#2}{}{\left(\#2\right)}%
137 }%
138
139 \CustomizeMathJax{\newcommand{\LWRskmathlog}[1]{%
140   \operatorname{\#1}%
141   \LWRskmathlogtwo%
142 }}

143 \CustomizeMathJax{\renewcommand{\ln}{\LWRskmathlog{ln}}}
144 \CustomizeMathJax{\renewcommand{\log}{\LWRskmathlog{log}}}

145 \CustomizeMathJax{\newcommand{\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         {\text{\textnormal{e}}^{\#1}}
152         {\text{\textnormal{LWRskmathxpparens}}{\#1}}
153         {\text{\textnormal{LWRskmathxpparens}}{\#1}}
154         {\text{\textnormal{LWRskmathxpparens}}{\#1}}
155     }
156
157 \CustomizeMathJax{\renewcommand{\exp}{\ifstar{\text{\textnormal{LWRskmathxpparens}}}{\text{\textnormal{LWRskmathxpnostar}}}}}

```

Common code for \min etc:

```

158 \CustomizeMathJax{\newcommand{\text{\textnormal{LWRskmathminstar}}}[2][]{%
159     \operatorname{\text{\textnormal{LWRskmathminname}}}\%
160     \ifblank{\#1}{}{%
161         _{\mathchoice{\text{\textnormal{mathclap}}{\#1}}{\#1}{\#1}{\#1}}%
162     }%
163     \ifblank{\#2}{}{\#2}%
164   }}

165 \CustomizeMathJax{\newcommand{\text{\textnormal{LWRskmathminnostar}}}[2][]{%
166     \ifblank{\#1}{}{%
167         \operatorname{\text{\textnormal{LWRskmathminname}}}\%
168         {%
169             \underset{\mathchoice{\text{\textnormal{mathclap}}{\#1}}{\#1}{\#1}{\#1}}{%
170                 \operatorname{\text{\textnormal{LWRskmathminname}}}\%
171             }%
172         }%
173         \ifblank{\#2}{}{\left.\#2\right|}%
174   }}

\text{\textnormal{LWRskmathminname}} seems to be recursion-safe since it is used immediately.

```

```

175 \CustomizeMathJax{\newcommand{\text{\textnormal{LWRskmathmin}}}[1]{%
176     \def\text{\textnormal{LWRskmathminname}}{\#1}%
177     \ifstar{\text{\textnormal{LWRskmathminstar}}}{\text{\textnormal{LWRskmathminnostar}}}%
178   }}

179 \CustomizeMathJax{\renewcommand{\min}{\text{\textnormal{LWRskmathmin}}{\min}}}
180 \CustomizeMathJax{\renewcommand{\argmin}{\arg\text{\textnormal{LWRskmathmin}}{\min}}}
181
182 \CustomizeMathJax{\renewcommand{\max}{\text{\textnormal{LWRskmathmin}}{\max}}}
183 \CustomizeMathJax{\renewcommand{\argmax}{\arg\text{\textnormal{LWRskmathmin}}{\max}}}
184 \CustomizeMathJax{\renewcommand{\sup}{\text{\textnormal{LWRskmathmin}}{\sup}}}
185 \CustomizeMathJax{\renewcommand{\inf}{\text{\textnormal{LWRskmathmin}}{\inf}}}

186 \CustomizeMathJax{\let\bar\overline}
187
188 \CustomizeMathJax{\let\vec\boldsymbol}

```

Remember the original definitions:

```

189 \CustomizeMathJax{\let\text{\textnormal{LWRskmathRe}}{\text{\textnormal{Re}}}}
190 \CustomizeMathJax{\let\text{\textnormal{LWRskmathIm}}{\text{\textnormal{Im}}}}

```

Redefine depending on notation=iso:

```

191 \bool_if:NTF\g__skmath_iso_complex_parts_bool{
192     \CustomizeMathJax{\renewcommand{\text{\textnormal{Re}}}[1]{%

```

---

```

193      \LWRskmathRe%
194      \ifblank{\#1}{\left(\#1\right)}%
195  }
196  \CustomizeMathJax{\renewcommand{\Im}[1]{%
197      \LWRskmathIm%
198      \ifblank{\#1}{\left(\#1\right)}%
199  }
200 }{
201  \CustomizeMathJax{\renewcommand{\Re}[1]{%
202      \operatorname{Re}%
203      \ifblank{\#1}{\#1}%
204  }
205  \CustomizeMathJax{\renewcommand{\Im}[1]{%
206      \operatorname{Im}%
207      \ifblank{\#1}{\#1}%
208  }
209 }
210 \ExplSyntaxOff
212 \end{warpMathJax}

```

---

#### File 456 **l warp-slantsc.sty**

§ 565 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 457 **l warp-slashed.sty**

§ 566 Package **slashed**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg slashed

slashed works as-s for HTML SVG math. For MATHJAX, emulation is provided.

for HTML output:

```

1 \LWR@ProvidesPackagePass{slashed}[1997/01/16]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\slashed}[1]{\cancel{#1}}}
4 \end{warpMathJax}

```

---

File 458 **l warp-soul.sty**

§ 567 Package **soul**

(Emulates or patches code by MELCHIOR FRANZ.)

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}{underline}{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*\{\lt}{}

```

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 459 **l warp-soulpos.sty**

§ 568      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\ifulendtype[1]{%
13 \expandafter\@secondoftwo%
14 }
15
16 \newcommand{\ulstarttype}{0}
17 \newcommand{\ulendtype}{0}
18 \newcommand{\ulposttolerance}{0}%
```

---

**File 460 l warp-soulutf8.sty**

§ 569      Package **soulutf8**

Pkg soulutf8      soulutf8 is emulated.

l warp's HTML output naturally supports UTF-8 encoding.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{soulutf8}[2016/05/16]
2 \RequirePackage{soul}

---

**File 461 l warp-splitbib.sty**

§ 570      Package **splitbib**

(Emulates or patches code by NICOLAS MARKEY.)

Pkg splitbib      splitbib is patched for use by l warp.

**for HTML output:**    1 \LWR@ProvidesPackagePass{splitbib}[2005/12/22]

```
2 \def\NMSB@stylebox#1#2{%
3 \begin{BlockClass}[text-align:center ; border: 1px solid black]{splitbibbox}
4     \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
5 \end{BlockClass}
6 }
7
8 \def\NMSB@stylebar#1#2{%
9 \begin{BlockClass}[%
10     text-align:center ;
11     border-top: 1px solid black ;
12     border-bottom: 1px solid black ;
13 ]{splitbibbar}
14     \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
15 \end{BlockClass}
16 }
17
18 \def\NMSB@styledash#1#2{%
19 \begin{BlockClass}[%
20     text-align:center ;
```

---

```

21 ]{splitbibdash}
22   \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{---~#1#2~~--}}
23 \end{BlockClass}
24 }
25
26 \def\NMSB@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 462 **l warp-splitidx.sty**

§ 571 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 692.17 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}%
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 463 **lwarp-srcltx.sty**

§ 572      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 464 **l warp-srctex.sty**

§ 573 Package **srctex**

Pkg srctex **srctex** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{srctex}[2006/11/12]
2 \LWR@origRequirePackage{l warp-srcltx}

---

File 465 **l warp-stabular.sty**

§ 574 Package **stabular**

(Emulates or patches code by SIGITAS TOLUŠIS.)

Pkg stabular **stabular** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{stabular}[2014/03/20]

```
Env stabular [\vpos] {\colspec}

2 \newenvironment{stabular}[2][c]
3 {
4 \begin{tabular}[#1]{#2}
5 \renewcommand{\noalign}[1]{}
6 }
7 \end{tabular}

Env stabular {\width} [\vpos] {\colspec}

8 \NewDocumentEnvironment{stabular*}{m o m}
9 {
10 \begin{tabular}[#2]{#3}
11 \renewcommand{\noalign}[1]{}
12 }
13 \end{tabular}
```

---

File 466 **l warp-stackengine.sty**

§ 575 Package **stackengine**

(Emulates or patches code by STEVEN B. SEGLETES.)

Pkg stackengine **stackengine** is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{stackengine}[2017/02/13]

The original version is necessary for the patched `\@stack` and `\stackanchor`, where nesting `\textrm{image}` does not work:

\@stack uses a `lateximage` with a vertical alignment:

```

10 \LetLtxMacro{\LWR@orig}{\stack}
11
12 \xpatchcmd{\LWR@orig}{\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{\#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 \teximage 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%    l warp
55     \LWR@restoreorigformatting%    l warp
56     \RenewDocumentEnvironment{lateximage}[soso o d()]{\begin{#1}\end{#1}}{\end{#1}} l warp: inside group
57     \expandafter\lWR@gsavebox\csname\sv@name content\endcsname{\#2}%
58     \expandafter\gdef\expandafter#1\expandafter{%
59       \expandafter\begin\expandafter{lateximage\expandafter}\%    l warp
60       \expandafter\usebox\expandafter\%    l warp
61       {\csname\sv@name content\endcsname}%
62       \expandafter\end\expandafter{lateximage\expandafter}\%    l warp
63     }%
64     \endgroup%    l warp
65 }

```

---

#### File 467 **l warp-stackrel.sty**

§ 576      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}[3][]{%
4   \mathrel{\mathop{\#3}\limits_{\#1}^{\#2}}%
5 }%
6
7 \CustomizeMathJax{\newcommand{\stackbin}[3][]{%
8   \mathbin{\mathop{\#3}\limits_{\#1}^{\#2}}%
9 }%
10 \end{warpMathJax}

```

---

#### File 468 **l warp-statex2.sty**

§ 577      Package **statex2**

*(Emulates or patches code by RODNEY A SPARAPANI.)*

Pkg statex2

statex2 is patched for use by lwrap, and emulated for MATHJAX.

⚠ As of this version, option `autobold` does not appear to work for PDF output.

⚠ For MATHJAX, the tilde character `~` does not create `\sim`. Use `\sim` directly.

⚠ Because MATHJAX has limited conditional processing:

- `\wrap` only creates square braces, no matter what its optional arguments.
- `\P`, `\pCau`, `\pN`, and `\pU` do not handle special cases.

⚠ `\and` To have `\and` work if using `\maketitle`, place the following after the start of the document:

```
\newcommand*{\and}{%
  \relax\ifmmode%
    \expandafter\; \mb{\mathrm{and}}\;%
  \else%
    \expandafter\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}[1][]{%
14   \fcolorbox{black}{Dandelion}{\textcolor{white}{\textsf{2nd}}}\%
15   \textbf{\textcolor{Dandelion}{\textsf{\#1}}}\%
16 }
17 \LWR@formatted{Snd}
18
19 \begin{warpMathJax}
20 \LWR@infoprocessingmathjax{statex2}
21
22 \CustomizeMathJax{\newcommand{\cpi}{\boldsymbol{\pi}}}
23 \CustomizeMathJax{\newcommand{\c}[1]{\boldsymbol{\mathsf{#1}}}}
24 \CustomizeMathJax{\newcommand{\sfsl}[1]{\mathsf{#1}}}% not slanted
25
26 \if@manualbold
27 \CustomizeMathJax{\newcommand{\mb}[1]{\boldsymbol{\mathsf{#1}}}}
28 \else
29 \CustomizeMathJax{\newcommand{\mb}[1]{\boldsymbol{\mathsf{#1}}}}
30 \fi
31
32 \CustomizeMathJax{\newcommand{\diag}{\mb{\mathrm{diag}}}}
33 \CustomizeMathJax{\newcommand{\blockdiag}{\mb{\mathrm{blockdiag}}}}
34 \CustomizeMathJax{\newcommand{\erf}{\mb{\mathrm{erf}}}}
```

```

35 \CustomizeMathJax{\newcommand{\logit}{\mb{\mathrm{logit}}}}
36 \CustomizeMathJax{\newcommand{\trace}{\mb{\mathrm{trace}}}}
37
38 \CustomizeMathJax{\newcommand{\chisq}{\mb{\chi^2}}}
39 \CustomizeMathJax{\newcommand{\deriv}[2]{\mb{\frac{\mathrm{d}{}[\mathrm{d}{}[#1]} \mathrm{d}{}[#2]}}\wrap{\mb{#1}}}}
40 \CustomizeMathJax{\newcommand{\derivf}[2]{\mb{\frac{\mathrm{d}{}[\mathrm{d}{}[#1]} \mathrm{d}{}[#2]} \mathrm{d}{}[#1]}}\wrap{\mb{#1}}}}
41 \CustomizeMathJax{\newcommand{\e}[1]{\mb{\mathrm{e}}^{#1}}}
42 \CustomizeMathJax{\newcommand{\E}[2]{\mb{\mathrm{E}}_{\mb{#1}} \_\_ \mb{#1}} \wrap{\mb{#2}}}}
43 \CustomizeMathJax{\newcommand{\ha}{\mb{\frac{\alpha}{2}}}}
44 \CustomizeMathJax{\newcommand{\I}[2]{\%
45     \mb{\mathrm{I}}_{\mb{#1}} \LWRwrapparen{\mb{#2}}}\%
46 }\}
47 \CustomizeMathJax{\newcommand{\IBeta}[2]{\%
48     \mb{\frac{\Gamma_{#1+#2}}{\Gamma_{#1} \Gamma_{#2}}}\%
49 }\}
50 \CustomizeMathJax{\newcommand{\If}{\; \mb{\mathrm{if}} \; ;}}
51 \CustomizeMathJax{\newcommand{\im}{\mb{\mathrm{i}}}}
52 \CustomizeMathJax{\newcommand{\ol}{\overline{}}}
53 \CustomizeMathJax{\newcommand{\ow}{\; \mb{\mathrm{otherwise}} \; ;}}
54 \CustomizeMathJax{\newcommand{\pderiv}[2]{\%
55     \mb{\frac{\partial}{\partial \#1}}\wrap{\mb{#2}}}\%
56 }\}
57 \CustomizeMathJax{\newcommand{\pderivf}[2]{\%
58     \mb{\frac{\partial}{\partial \#2}}\wrap{\mb{#1}}}\%
59 }\}
60 \CustomizeMathJax{\newcommand{\sd}{\mb{\sigma}}}
61 \CustomizeMathJax{\newcommand{\ul}{\underline{}}}
62 \CustomizeMathJax{\newcommand{\V}[2]{\mb{\mathrm{V}}_{\mb{#1}} \_\_ \mb{#2}}\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}{\left( \#1 \right)}\% lwarf
67
68% \CustomizeMathJax{\renewcommand{\sim}{\mb{\sim}}}\% doesn't work,
69% replace <space>~<space> with <space>\sim<space>
70
71 \CustomizeMathJax{\newcommand{\iid}{\; \stackrel{\cdot}{\mathcal{I}} \; \mathcal{I}_{\mathcal{I}} \; ;}}
72 \CustomizeMathJax{\newcommand{\ind}{\; \stackrel{\cdot}{\mathcal{I}} \; \mathcal{I}_{\mathcal{I}} \; ;}}
73 \CustomizeMathJax{\newcommand{\indpr}{\%
74     \; \stackrel{\cdot}{\mathcal{I}} \; \mathcal{I}_{\mathcal{I}} \; \stackrel{\cdot}{\mathcal{P}} \; \mathcal{P}_{\mathcal{I}} \; ;}}
75 \CustomizeMathJax{\newcommand{\post}{\; \stackrel{\cdot}{\mathcal{P}} \; \mathcal{P}_{\mathcal{I}} \; ;}}
76 \CustomizeMathJax{\newcommand{\prior}{\; \stackrel{\cdot}{\mathcal{P}} \; \mathcal{P}_{\mathcal{I}} \; ;}}
77 \CustomizeMathJax{\let\STATEXGamma=\Gamma}
78 \CustomizeMathJax{\renewcommand{\Gamma}[1]{\mb{\STATEXGamma} \LWRwrapparen{\mb{#1}}}}
79 \CustomizeMathJax{\renewcommand{\and}{\; \mathcal{A} \; ;}}
80 \CustomizeMathJax{\newcommand{\H}{\mb{\mathrm{H}}}}
81 \CustomizeMathJax{\renewcommand{\P}[2]{\mb{\mathrm{P}}_{\mb{#1}} \_\_ \mb{#2}}\wrap{\mb{#2}}}}
82 \CustomizeMathJax{\newcommand{\mid}{\; | \; ;}}
83 \CustomizeMathJax{\newcommand{\BetaBin}{\; \mathcal{B} \; ;}}
84 \CustomizeMathJax{\newcommand{\Bin}{\; \mathcal{B} \; ;}}
85 \CustomizeMathJax{\newcommand{\Dirichlet}{\; \mathcal{D} \; ;}}
86 \CustomizeMathJax{\newcommand{\HG}{\; \mathcal{H} \; ;}}
87 \CustomizeMathJax{\newcommand{\BB}{\; \mathcal{B} \; ;}}
88 \CustomizeMathJax{\newcommand{\Dir}{\; \mathcal{D} \; ;}}
89 \CustomizeMathJax{\newcommand{\B}{\; \mathcal{B} \; ;}}
90 \CustomizeMathJax{\newcommand{\BBB}{\; \mathcal{B} \; ;}}
91 \CustomizeMathJax{\newcommand{\BetaBinB}{\; \mathcal{B} \; ;}}
92 \CustomizeMathJax{\newcommand{\BinB}{\; \mathcal{B} \; ;}}
93 \CustomizeMathJax{\newcommand{\DirichletB}{\; \mathcal{D} \; ;}}
94 \CustomizeMathJax{\newcommand{\HG}{\; \mathcal{H} \; ;}}

```

```

95      \mb{\mathrm{Hypergeometric}}\LWRwapparen{\mb{#1,\ #2,\ #3}}%
96  }
97 \CustomizeMathJax{\newcommand{\M}[2]{%
98   \mb{\mathrm{Multinomial}}\LWRwapparen{\mb{#1,\ #2}}%
99  }}
100 \CustomizeMathJax{\newcommand{\NB}[2]{\mb{\mathrm{NegBin}}}\LWRwapparen{\mb{#1,\ #2}}}}
101 \CustomizeMathJax{\newcommand{\Poi}[1]{\mb{\mathrm{Poisson}}}\LWRwapparen{\mb{#1}}}}
102 \CustomizeMathJax{\let\Poisson=\Poi}
103
104 \CustomizeMathJax{\newcommand{\pBB}[4][x]{%
105   \mb{\frac{\Gamma[#2+1]\Gamma[#3+#1]\Gamma[#2+#4-#1]\Gamma[#3+#4]}{\Gamma[#1+1]\Gamma[#2-#1+1]\Gamma[#2+#3+#4]\Gamma[#3]\Gamma[#4]}}%
106   \I[{#1}]\{\{0,\ 1,\ .,\ #2\}\}, \where #3>0,\; #4>0 \and n=1,\ 2,\ .\}%
107 108 \}}
109 \CustomizeMathJax{\newcommand{\pBin}[3][x]{%
110   \mb{\binom{#2}{#1}#3^{#1}}\LWRwapparen{\mb{1-#3}^{#2-#1}}}}%
111   \mb{\I[{#1}]\{\{0,1,\ .,\ #2\}\}, \where p \in (0,\ 1) \and n=1,\ 2,\ .\}%
112 \}}
113 \CustomizeMathJax{\newcommand{\pPoi}[2][x]{%
114   \mb{\frac{1}{#1!}#2^{#1}e^{-#2}}\I[{#1}]\{\{0,\ 1,\ .\}\}, \where #2>0}%
115 \}}
116
117 \CustomizeMathJax{\newcommand{\Cau}[2]{\mb{\mathrm{Cauchy}}}\LWRwapparen{\mb{#1,\ #2}}}}
118 \CustomizeMathJax{\let\Cauchy=\Cau}
119 \CustomizeMathJax{\newcommand{\Chi}[2][]{%
120   \chisq_{\mb{#1}}\LWRwapparen{\mb{#2}}}}%
121 \}}
122 \CustomizeMathJax{\let\Chisq=\Chi}
123 \CustomizeMathJax{\newcommand{\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{Logistic}}}\LWRwapparen{\mb{#1,\ #2}}}}%
137 \}}
138 \CustomizeMathJax{\newcommand{\LogN}[2]{%
139   \mb{\mathrm{Log}\!\!-\!\!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]}\#1^{#2/2-1}\e{-#1/2}%
162   \I[#1]{0,\infty}, \where #2>0%
163 }}
164 \CustomizeMathJax{\newcommand{\pExp}[2][x]{%
165   \frac{1}{2}\e{-#1/#2}\I[#1]{0,\infty},%
166   \where #2>0%
167 }}
168 \CustomizeMathJax{\newcommand{\pGam}[3][x]{%
169   \frac{#3^{#2}}{\Gamma[#2]}\#1^{#2-1}\e{-#3#1}%
170   \I[#1]{0,\infty}, \where #2>0 \and #3>0%
171 }}
172 \CustomizeMathJax{\newcommand{\pN}[3][x]{%
173 %   \ifthenelse{\equal{#2, #3}{0, 1}}{\frac{1}{\sqrt{2\cpi}}}\e{-#1^2/2}%
174 %   {\frac{1}{\sqrt{2\cpi}}\cdot #3}\e{-\lWRwapparen{#1-#2}^2/2 \cdot #3}}%
175 % no test for 0,1, must add \cdot
176 }}% no test for 0,1, must add \cdot
177 \CustomizeMathJax{\newcommand{\pPar}[3][x]{%
178   \frac{#3}{2\lWRwapparen{1+#1/#2}^{#3+1}}\I[#1]{0,\infty},%
179   \where #2>0 \and #3>0%
180 }}
181 \CustomizeMathJax{\newcommand{\pU}[3][x]{%
182 %   \ifthenelse{\equal{#2, #3}{0, 1}}{\I[#1]{0, 1}}{%
183   {\frac{1}{#3-#2}}\I[#1]{#2, #3}, \where #2<#3}}%
184 }}% no special case for 0,1
185
186 \CustomizeMathJax{\newcommand{\=}[1]{\bar{#1}}}
187 \CustomizeMathJax{\let\widehat}
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{d}}{#1}}}
193 \CustomizeMathJax{\newcommand{\ldots}{\mb{\ldots}}}
194 \end{warpMathJax}

```

File 469 **lwarf-statistics.sty**§ 578 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 \bool_if:NT \l_statistics_table_dcc_bool {
62     \tl_put_right:Nx \l_statistics_table_dcc_tl {
63         \exp_not:V \l_tmpa_tl {
64             \exp_not:n { \_statistics_table_dcc_format:n }
65             {
66                 \exp_not:n{ \__statistics_table_allcounts_format:n }
67                 {
68                     \fp_eval:n {
69                         \l_statistics_total_fp
70                         - \l_statistics_curtotal_fp
71                         + #2
72                     }
73                 }
74             }
75         }
76     }
77 }
78 \fp_set:Nn \l_statistics_table_curICF_fp {
79     round(\l_statistics_curtotal_fp
80           / \l_statistics_total_fp,
81           \l_statistics_table_round_int)
82 }
83 \bool_if:NT \l_statistics_table_frequencies_bool {
84     \tl_put_right:Nx \l_statistics_table_frequencies_tl {
85         \exp_not:V \l_tmpa_tl {
86             \exp_not:n { \_statistics_table_frequencies_format:n }
87             {
88                 \exp_not:n{ \__statistics_table_allfreqs_format:n }
89                 {
90                     \fp_eval:n {
91                         \l_statistics_table_curICF_fp
92                         - \l_statistics_table_prevICF_fp
93                     }
94                 }
95             }
96         }
97     }
98 }
99 \bool_if:NT \l_statistics_table_icf_bool {
100    \tl_put_right:Nx \l_statistics_table_icf_tl {
101        \exp_not:V \l_tmpa_tl {
102            \exp_not:n { \_statistics_table_icf_format:n }
103            {
104                \exp_not:n{ \__statistics_table_allfreqs_format:n }
105                { \fp_to_decimal:N \l_statistics_table_curICF_fp }
106            }
107        }
108    }
109 }
110 \bool_if:NT \l_statistics_table_dcf_bool {
111     \tl_put_right:Nx \l_statistics_table_dcf_tl {
```

```

112          \exp_not:V \l_tmpa_tl {
113              \exp_not:n { \__statistics_table_dcf_format:n }
114          {
115              \exp_not:n{ \__statistics_table_allfreqs_format:n }
116              {
117                  \fp_eval:n {
118                      1 - \l__statistics_table_prevICF_fp
119                  }
120              }
121          }
122      }
123  }
124 }
125 \fp_set_eq:NN
126     \l__statistics_table_prevICF_fp
127     \l__statistics_table_curICF_fp
128 }
129 \StopDefiningTabulars% lwarp

```

Redefined using `tabular`. Also, `preline` and `postline` do not work correctly with `lwarp`, which looks for certain tokens to detect `\hlines`, so `\hline` is used instead.

```

130 \cs_set_protected_nopar:Nn \__statistics_table_end: {
131     \tl_set:Nx \l__statistics_table_preamble_tl {
132 %         \exp_not:n { \begin{array}{ }
133         \exp_not:n { \begin{tabular}{ } }% lwarp
134         \exp_not:V \l__statistics_table_valign_tl
135         \exp_not:n { } }
136         { \exp_not:V \l__statistics_table_headcoltype_tl
137             \prg_replicate:nn { \l__statistics_nbvals_int }
138             { \exp_not:V \l__statistics_table_coltype_tl } }
139     }
140     \seq_clear:N \l__statistics_table_contents_seq
141     \clist_map_inline:nn { values, counts, icc, dcc, frequencies, icf, dcf } {
142         \bool_if:cT { \l__statistics_table_##1_bool } {
143             \seq_put_right:Nv
144                 \l__statistics_table_contents_seq
145                 { \l__statistics_table_##1_tl }
146         }
147     }
148 %     $
149     \tl_use:N \l__statistics_table_preamble_tl
150     \hline% lwarp
151 %     \l__statistics_table_preline_tl
152     \seq_use:Nn
153         \l__statistics_table_contents_seq
154         { \l__statistics_table_newline_tl }
155         \\
156 %     \l__statistics_table_postline_tl
157     \hline% lwarp
158 %     \end{array}$
159     \end{tabular}% lwarp
160 }

```

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:c { \l__statistics_table_##1_tl } {
168             \exp_not:N \ensuremath {
169                 \exp_not:N \hbox {
170                     \exp_not:c { \l__statistics_table_##1_name_tl }
171                 }
172             }
173         }
174     }
175 }
```

For the first row. Redefined to use text output:

```

176 \RenewDocumentCommand \__statistics_IN:w { m u{;} u{;} m } {
177 %     \ensuremath{ \left#1 \num{#2} \mathbin{;} \num{#3} \right#4 }
178 #1 #2 ; #3 #4%      l warp
179 }
180
181 \__statistics_setup:nn { table } {
182 %     values/format = \ensuremath{#1},
183     values/format = {#1},%      l warp
184 }
```

Added \ExplSyntaxOn/Off to avoid errors. (In once instance, a double subscript error appeared.)

```

185 \RenewDocumentCommand \StatsGraph { +0{} +m +0{} } {
186     \group_begin:
187     \int_gincr:N \g__statistics_graph_last_int
188     \tl_set:Nx \l_tmpa_tl {
189         \exp_not:n { \g__statistics_graph_xstep_ }
190         \int_use:N \g__statistics_graph_last_int
191         \exp_not:n { _tl }
192     }
193     \tl_if_exist:cTF { \l_tmpa_tl } {
194         \fp_gset:Nn \g__statistics_graph_xstep_fp
195             { \tl_use:c { \l_tmpa_tl } }
196     }{
197         \fp_gset:Nn \g__statistics_graph_xstep_fp { \c_one_int }
198     }
199     \__statistics_setup:nn { graph } { #1, #3 }
200     \tl_if_single:nTF { #2 } {
201         \cs_if_exist:NF #2 { #2 }
202         \tl_set_eq:NN \l__statistics_data_tl #2
203     }{
204         \tl_set:Nn \l__statistics_data_tl { #2 }
205     }
206     \fp_zero:N \l__statistics_graph_maxheight_fp
207     \fp_set:Nn \l__statistics_graph_minvalue_fp { inf }
208     \fp_set:Nn \l__statistics_graph_maxvalue_fp { -inf }
209     \fp_zero:N \l__statistics_total_fp
210     \int_zero:N \l__statistics_nbvals_int
211     \bool_set_true:N \l__statistics_graph_allranges_bool
```

```

212     \keyval_parse:NNV
213         \__statistics_graph_prepare:n
214             \__statistics_graph_prepare:nn
215             \l_statistics_data_tl
216     \tl_clear:N \l_statistics_graph_tikzdata_tl
217     \tl_clear:N \l_statistics_graph_tikzinfo_tl
218     \int_zero:N \l_statistics_currange_int
219     \bool_if:NTF \l_statistics_graph_allranges_bool {
220         \bool_if:NTF \l_statistics_graph_cumulative_bool {
221     \ExplSyntaxOn%    l warp
222         \__statistics_graph_dopicture_cumulative:
223 \ExplSyntaxOff%    l warp
224     }
225 \ExplSyntaxOn%    l warp
226         \__statistics_graph_dopicture_hist:
227 \ExplSyntaxOff%    l warp
228     }
229     }
230 \ExplSyntaxOn%    l warp
231         \__statistics_graph_dopicture_comb:
232 \ExplSyntaxOff%    l warp
233     }
234     \iow_now:Nx \@auxout {
235         \exp_not:n {
236             \ExplSyntaxOn
237             \tl_gset:cn
238         }
239         {
240             \exp_not:n {g_statistics_graph_xstep_}
241             \int_use:N \g_statistics_graph_last_int
242             \exp_not:n {_tl}
243         }
244         {
245             \fp_to_decimal:N \g_statistics_graph_xstep_fp
246         }
247         \exp_not:n {
248             \ExplSyntaxOff
249         }
250     }
251     \group_end:
252 }
253
254 \ExplSyntaxOff

```

---

File 470 **l warp-statmath.sty**

§ 579      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@ProvidesPackage{statmath}[2018/03/08]

```

2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
```

```
5 \LWR@infoprocessingmathjax{statmath}
6
7 \ifdefequal{\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 471 **l warp-steinmetz.sty**

§ 580 Package **steinmetz**

(Emulates or patches code by ENRICO GREGORIO.)

Pkg steinmetz

**steinmetz** is patched for use by **l warp**. Emulation is provided for MATHJAX

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{steinmetz}[2009/06/14]

2 \renewcommand{\phase}[2][]{%
3   \begin{lateximage}*[steinmetz\{\detokenize{\#2}\}]%
4   \ensuremath{\underline{/#2}}%
5   \end{lateximage}%
6 }
7
8 \begin{warpMathJax}
9 \CustomizeMathJax{\newcommand{\phase}[2][]{\underline{/#2}}}
10 \end{warpMathJax}
```

---

#### File 472 **l warp-stfloats.sty**

§ 581 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 473 **l warp-struktex.sty**

#### § 582 Package **struktex**

*(Emulates or patches code by JOBST HOFFMANN.)*

Pkg struktex

struktex is patched for use by l warp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{struktex}

2 \BeforeBeginEnvironment{struktogramm}{%
3   \begin{lateximage}[-struktex-\~\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{struktogramm}{\end{lateximage}}
6
7 \newenvironment{\LWR@HTML@centerNss}{\begin{center}}{\end{center}}
8 \LWR@formattedenv{centerNss}
9
10 \newcommand{\LWR@HTML@CenterNssFile}[1]{%
11   \begin{center}
12   \input{#1.nss}
13   \end{center}
14 }
15 \LWR@formatted{CenterNssFile}
16
17 \newcommand{\LWR@HTML@centerNssfile}{\LWR@HTML@CenterNssFile}
18 \LWR@formatted{centerNssfile}

```

---

### File 474 **l warp-subcaption.sty**

#### § 583 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 475 **lwarp-subfig.sty**

## § 584 Package **subfig**

(Emulates or patches code by STEVEN DOUGLAS COCHRAN.)

Pkg subfig

**subfig** is supported and patched by **lwarp**.

⚠ **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\FBsubohight\relax}}%
14 \tempcnda=\@ne
15 \if@minipage
16   \tempcnda=\z@
17 \else\ifdim\lastskip=\z@\else

```

```

18      \atempcsta=\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%     \atempdima=\wd\@tempboxa
30%     \@ifundefined{FBsc@max}{%
31%         {\global\advance\Xhsiz-\wd\@tempboxa
32%          \dimen@=\ht\@tempboxa
33%          \advance\dimen@\dp\@tempboxa
34%          \ifdim\dimen@>\FBso@max
35%              \global\FBso@max\dimen@
36%          \fi}%

```

Do not use boxes, which interfere with `\ateximages`:

```

37%     \vtop%
38     \bgroup
39%     \vbox%
40     \bgroup
41     \ifcase\@tempcsta
42         \atminipagefalse
43     \or
44%         \vskip\sf@top
45     \or
46         \ifdim \lastskip=z@ \else
47             \attempskipb\sf@top\relax\xaddvskip
48         \fi
49     \fi
50     \sf@ifpositiontop{%
51         \ifx \empty\#3\relax \else
52             \sf@subcaption{\#1}{\#2}{\#3}%
53         \vskip\sf@capskip
54         \vskip\sf@capttopadj
55     \fi\egroup
56     \hrule width0pt height0pt depth0pt
57     \LWR@startpars\ l warp
58% \box\@tempboxa
59%     #4
60%     \LWR@stoppars\ l warp
61%     }{%
62%     \LWR@startpars\ l warp
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@stoppars% l warp
76          \egroup
77          \ifx \empty\relax \else
78 %             \vskip\s@skip
79 %             \hrule width0pt height0pt depth0pt
80             \sf@subcaption{\#1}{\#2}{\#3}%
81         \fi
82     }%
83 %     \vskip\s@skip@bottom
84     \egroup
85     \@ifundefined{FBsc@max}{}%
86     {\addtocounter{FRobj}{-1}%
87     \ifnum\c@FRobj=0\else
88         \subfloatrowsep
89     \fi}%
90     \ifmaincaptiontop\else
91         \global\advance\@nameuse{c@\@capttype}\m@ne
92     \fi
93 \end{minipage}%
94 \LWR@startpars% l warp
95 \endgroup\ignorespaces%
96 }%

```

\sf@subcaption {<1 type>} {<2 lof entry>} {<3 caption>}

```

97 \long\def\sf@subcaption#1#2#3{%
98 \LWR@stoppars% 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     }%
107 \fi
108 \bgroup
109     \ifx \relax#3\relax
110         \let\captionlabelsep=\relax
111     \fi
112 %     \setbox0\vbox{%
113 %         \hb@xt@\the\@tempdima{%
114 %
115 %             \hss
116 %             \parbox[t]{\the\@tempdima}{%
117 %                 \caption@make
118 %                     {\@nameuse{sub\@capttype name}}%
119 %                     {\@nameuse{thesub\@capttype}}%
120 %                     {\#3}%
121 %             }%
122 %             \hss
123 %         }
124 %     }%
125     \@ifundefined{FBsc@max}%
126     {\box0}%
127     {
128     \parbox[t]{\the\@tempdima}{%
129 \LWR@traceinfo{sfsubcap B1}%
130         \LWR@figcaption% l warp
131         \caption@make

```

```

132          {\@nameuse{sub\@capttype name}}%
133          {\@nameuse{thesub\@capttype}}%
134          {\LWR@isolate{\#3}}%

135          \endLWR@figcaption%      l warp
136 \LWR@traceinfo{sfsubcap B2}%      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

{⟨label⟩}

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

{⟨label⟩}

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

[⟨keys/values⟩] {⟨float name⟩}

182 \LetLtxMacro{\LWR@orig@newsubfloat}{\@newsubfloat}

183

184 \def\@newsubfloat[#1]{%

185 \LWR@orig@newsubfloat[#1]{#2}%

186 \renewcommand{\l@sub#2}[2]{\hypertocfloat{2}{sub#2}{\ext@sub#2}{##1}{##2}}%

187 }

Pre-defined for figures and tables:

\l@subfigure

{⟨text⟩} {⟨pagenum⟩}

188 \renewcommand{\l@subfigure}[2]{\hypertocfloat{2}{subfigure}{lof}{#1}{#2}}

\l@subtable

{⟨text⟩} {⟨pagenum⟩}

189 \renewcommand{\l@subtable}[2]{\hypertocfloat{2}{subtable}{lot}{#1}{#2}}

---

#### File 476 **l warp-subfigure.sty**

#### § 585 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\subfigcaptionadj  
16 \newskip\subfigbottomskip  
17 \newdimen\subfigcapmargin  
18 \newskip\subfiglabelskip  
19 \newcommand\*\subcaptionsize{}  
20 \newcommand\*\subcaptionfont{}}

---

```
21 \newcommand*{\subcapfont}{}{}
```

---

File 477 **l warp-subsupscripts.sty**

§ 586      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{\lrsubscriptsC}[5]{%
10    \fourscriptsC{\#1}{\#2}{\#3}{\#4}{\#5}%
11  }
12 }
13 \CustomizeMathJax{%
14   \newcommand{\rlsuperscriptsC}[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{\lrsubscripts}[3]{\fourscripts{\#1}{\#2}{\#3}{}}
25 }
26 \CustomizeMathJax{%
27   \newcommand{\rlsuperscripts}[3]{\fourscripts{\#1}{\#2}{\#3}{\#4}{}}
28 }
29 \CustomizeMathJax{%
30   \newcommand{\twolscripts}[4][-0.16ex]{{}^{\#3}_{\#4}\hspace{\#1}\#2}%
31 }
32 \CustomizeMathJax{%
33   \newcommand{\tworscripts}[4][-0.07ex]{\#2\hspace{\#1}{}^{\#3}_{\#4}}%
34 }
35 \CustomizeMathJax{%
36   \newcommand{\lsubscript}[3][-0.16ex]{\twolscripts{\#1}{\#2}{\#3}{}}
37 }
38 \CustomizeMathJax{%
39   \newcommand{\lsuperscript}[3][-0.16ex]{\twolscripts{\#1}{\#2}{\#3}{}}
40 }
41 \CustomizeMathJax{%
42   \newcommand{\rsubscript}[3][-0.07ex]{\tworscripts{\#1}{\#2}{\#3}{}}
43 }
44 \CustomizeMathJax{%
```

---

```

45      \newcommand{\rsuperscript}[3]{\twoscripts[#1]{#2}{#3}{}}%
46 }
47 \end{warpMathJax}

```

---

File 478 **l warp-supertabular.sty**

§ 587      Package **supertabular**

(*Emulates or patches code by JOHANNES BRAAMS, THEO JURRIENS.*)

**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}[1]{o m}
54 {\minipage{\linewidth}\supertabular{#1}}
55 {\endsupertabular\endminipage}

```

---

### File 479 **l warp-svg.sty**

§ 588      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 480 **l warp-swfigure.sty**

§ 589 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 481 **l warp-sympytex.sty**

§ 590 Package **sympytex**

(Emulates or patches code by TIM MOLTENO.)

Pkg sympytex

sympytex is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{sympytex}[2014/05/16]

```
2 \AfterEndPreamble{
3
4 \AtBeginEnvironment{sympyblock}%
5   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
6   {}%
7   {%
8     \LWR@forcenewpage%
9     \LWR@atbeginverbatim{verbatim}%
10    }%
11 }%
12
13 \AfterEndEnvironment{sympyblock}%
14   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
15   {}%
16   {%
17     \LWR@afterendverbatim%
18   }%
19 }%
20
21 }
```

---

**File 482 l warp-syntonly.sty****§ 591 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 483 l warp-tabfigures.sty****§ 592 Package tabfigures**

Pkg tabfigures tabfigures is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tabfigures}[2012/01/24]

---

**File 484 l warp-tablefootnote.sty****§ 593 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 485 l warp-tables.sty****§ 594 Package tabs**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg    **tables**

**tables** is emulated. `\LWR@hline` is used to handle the optional argument when **tables** is loaded.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{tables}

2 \newdimen\tablinesep
3 \newdimen\arraylinesep
4 \newdimen\extrarulesep

```

---

#### File 486 **l warp-tabularx.sty**

### § 595    Package **tabularx**

(Emulates or patches code by DAVID CARLISLE.)

Pkg    **tabularx**

**tabularx** is emulated by **l warp**.

**for HTML output:** Discard all options for **l warp-tabularx**:

```

1 \LWR@ProvidesPackageDrop{tabularx}[2016/02/03]
2 \RequirePackage{array}

```

`\tabularxcolumn` is ignored. All X columns will be p for now. The width is ignored.

```

3 \def\tabularxcolumn#1{p{#1}}
4 \newcolumntype{X}{p{1in}]

5 \DeclareDocumentEnvironment{tabularx}{m o m}
6   {\tabular{#3}}
7   {\endtabular}
8
9 \DeclareDocumentEnvironment{tabularx*}{m o m}
10  {\tabular{#3}}
11  {\endtabular}

```

---

#### File 487 **l warp-tabulary.sty**

### § 596    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 {\tabular{#3}}
5 {\endtabular}

```

```

6
7 \NewDocumentEnvironment{tabulary*}{m o m}
8 {\begin{array}{#3}}
9 {\end{array}>

10 \newcolumntype{L}{l}
11 \newcolumntype{C}{c}
12 \newcolumntype{R}{r}
13 \newcolumntype{J}{l}

14 \newdimen\tymin
15 \newdimen\tymax
16 \def\tyformat{}

```

### File 488 **l warp-tagpdf.sty**

§ 597      Package **tagpdf**

Pkg tagpdf tagpdf is mostly ignored, but emulates alt text, for images only. (HTML only has alternate text for images.)

(If left enabled for HTML output, tagpdf errors when producing HTML, somehow due to the HTML page numbers.)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tagpdf}[2021-08-27]

```

2 \ExplSyntaxOn
3
4 \tl_new:N \l__uftag_mc_key_label_tl
5
6 \keys_define:nn { __tag / mc }
7 {
8     stash .bool_set:N = \l__tag_mc_key_stash_bool,
9     __artifact-bool .bool_set:N = \l__tag_mc_artifact_bool,
10    __artifact-type .choice:,
11    __artifact-type / pagination .code:n =
12        {},
13    __artifact-type / pagination/header .code:n =
14        {},
15    __artifact-type / pagination/footer .code:n =
16        {},
17    __artifact-type / layout .code:n =
18        {},
19    __artifact-type / page .code:n =
20        {},
21    __artifact-type / background .code:n =
22        {},
23    __artifact-type / notype .code:n =
24        {},
25    __artifact-type / .code:n =
26        {},
27 }
28
29 \keys_define:nn { __tag / mc }
30 {
31     tag .code:n = % the name (H,P,Span) etc

```

```
32      {},  
33  raw .code:n =  
34      {},  
35  alttext .code:n      = % Alt property  
36      {  
37          \gdef\LWR@ThisAltText{\detokenize\expandafter{\#1}}%  
38      },  
39  actualtext .code:n     = % ActualText property  
40      {},  
41  label .tl_set:N       = \l__tag_mc_label_tl,  
42  artifact .code:n      =  
43      {},  
44  artifact .default:n   = {notype}  
45  }  
46  
47 \keys_define:nn { __tag / struct }  
48 {  
49  label .tl_set:N       = \l__tag_struct_key_label_tl,  
50  stash .bool_set:N     = \l__tag_struct_elem_stash_bool,  
51  tag .code:n          = % S property  
52      {},  
53  title .code:n         = % T property  
54      {},  
55  title-o .code:n       = % T property  
56      {},  
57  alttext .code:n       = % Alt property  
58      {  
59          \gdef\LWR@ThisAltText{\detokenize\expandafter{\#1}}%  
60      },  
61  actualtext .code:n     = % ActualText property  
62      {},  
63  lang .code:n          = % Lang property  
64      {},  
65  ref .code:n           = % Lang property  
66      {},  
67  E .code:n              = % E property  
68      {},  
69  }  
70  
71 \keys_define:nn { __tag / struct }  
72 {  
73  AF .code:n            = % AF property  
74      {},  
75 ,AFinline .code:n =  
76      {}  
77 ,AFinline-o .code:n =  
78      {}  
79 }  
80  
81 \keys_define:nn { __tag / struct }  
82 {  
83  attribute-class .code:n =  
84      {}  
85  }  
86  
87 \keys_define:nn { __tag / struct }  
88 {  
89  attribute .code:n = % A property (attribute, value currently a dictionary)  
90      {},  
91  }
```

```
92 \cs_new_protected:Npn \__tag_ref_label:nn #1 #2 %#1 label, #2 name of list mc or struct
93 {
94     @bsphack
95     \ref_label:nv {#1}{c__tag_ref#2_clist}
96     @esphack
97 }
98
99 \cs_generate_variant:Nn \__tag_ref_label:nn {en}
100
101 \cs_new:Npn \__tag_ref_value:nnn #1 #2 #3 %#1 label, #2 attribute, #3 default
102 {
103     \ref_value:nnn {#1}{#2}{#3}
104 }
105 \cs_generate_variant:Nn \__tag_ref_value:nnn {enn}
106 \cs_new:Npn \__tag_ref_value_lastpage:nn #1 #2
107 {
108     \ref_value:nnn {__tag_LastPage}{#1}{#2}
109 }
110
111
112 \NewDocumentCommand \tagpdfsetup { m }{ }
113
114 \cs_set_eq:NN \tagpdfifluatexTF \sys_if_engine_luatex:TF
115 \cs_set_eq:NN \tagpdfifluatexT \sys_if_engine_luatex:T
116 \cs_set_eq:NN \tagpdfifpdftexT \sys_if_engine_pdftex:T
117 \cs_new:Npn \tagpdfget #1 {}
118 \cs_new:Npn \uftag_get:n #1 {}
119
120 \NewDocumentCommand \tagmcifinTF { m m }{ }
121
122 \NewDocumentCommand \tagmcbegin { m }{ %
123     \tag_mc_begin:n {#1} \%ignorespaces
124 }
125
126 \cs_new_protected:Npn \tag_mc_begin:n #1 %#1 keyval
127 {
128     \keys_set:nn { __tag / mc } {#1}
129 }
130
131 \NewDocumentCommand \tagmcend {}{\ThisAltText{}}
132
133 \NewDocumentCommand \tagmcuse { m }{ }
134
135 \cs_new_protected:Nn \uftag_mc_use:n {}
136
137 \NewDocumentCommand \tagstructbegin { m }
138 {
139     \tag_struct_begin:n {#1}
140 }
141
142 \cs_new_protected:Npn \tag_struct_begin:n #1 %#1 key-val
143 {
144     \keys_set:nn { __tag / struct} { #1 }
145 }
146
147
148 \NewDocumentCommand \tagstructend { }
149 {
150     \tag_struct_end:
151 }
```

```

152
153 \cs_new_protected:Nn \tag_struct_end:
154     {\ThisAltText{}}
155
156 \NewDocumentCommand \tagstructuse { m }{ }
157
158 \NewDocumentCommand\ShowTagging { m }
159     {}
160
161 \sys_if_engine_luatex:T
162 {
163     \NewDocumentCommand\pdffakespace { }
164     {}
165 }
166
167 \newcommand\tagpdfparaOn {}
168
169 \newcommand\tagpdfparaOff{}
170
171 \NewDocumentCommand\tagpdfsuppressmarks{m}{}
172
173 \ExplSyntaxOff

```

---

File 489 **l warp-tascmac.sty**§ 598 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 490 **l warp-tcolorbox.sty**

§ 599      Package **tcolorbox**

(*Emulates or patches code by THOMAS F. STURM.*)

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@tcbsolidback ;
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 }
```

Floats 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{l warp}
89             {%
90                 L warp 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\tcbhighmath\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@tcbsolidframe ;
126         color: \LWR@origpound\LWR@tcbcollower ;
127     ]{tcolorboxlower}
128     \tcb@insert@before@lower%
129 }

```

Starred and unstarred `\tcbline` are simple `\hrule`s.

```

130 \AtBeginDocument{
131 \ifdef{\tcbline}{%
132     \newcommand{\LWR@sub@tcbline}{%
133         \begin{BlockClass}\hrule
134         \end{BlockClass}
135     }
136     \newcommand{\LWR@HTML@tcbline}{%
137         \LWR@sub@tcbline\LWR@sub@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 %      \tcbsset{title=#1}
148   \boolfalse{LWR@havetcblower}
149   \LWR@tcolorboxstart\tcolorbox inlineminiplate
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{\tcbbox}[2][]{#2}%
169 }

```

Patches for the subtitle, which is placed inside a <div> of class `tcolorboxsubtitle`.

```

170 \xpatchcmd{\tcbsubtitle}
171   {\begingroup}
172   {\begingroup\let\kvtcb@title\relax\begin{BlockClass}{tcolorboxsubtitle}}
173   {}
174   {\LWR@patcherror{tcolorbox}{tcbsubtitle}}
175
176 \xpatchcmd{\tcbsubtitle}
177   {\endgroup}
178   {\end{BlockClass}\endgroup}
179   {}
180   {\LWR@patcherror{tcolorbox}{tcbsubtitleB}}

```

`\tcboxfit` is the same as `\tcbox`.

```

181 \AtBeginDocument{
182   \ifdef{\tcboxfit}{%
183     \let\LWR@HTML@tcboxfit\tcbox%
184     \LWR@formatted{tcboxfit}
185   }{}%
186 }

```

`\tcbttitle` is patched to support the text font.

```

187 \LetLtxMacro{\LWR@HTML@tcbtitle\tcbtitle
188 \xpatchcmd{\LWR@HTML@tcbtitle}
189   {\kvtcb@before@title\tcbtitletext}
190   {\kvtcb@before@title\LWR@textcurrentfont{\LWR@textcolor{\tcbtitletext}}}
191   {}
192   {\LWR@patcherror{tcolorbox}{LWR@HTML@tcbtitle}}%
193 \LWR@formatted{tcbtitle}

```

List-of:

```
194 \renewcommand*\l@tcolorbox[2]{\hypertocfloat{1}{tcolorbox}{lof}{#1}{#2}}
```

Theorem limitations. An error is printed if the document uses `math`, `ams equation`, etc. `\tcboxmath` and `\tcbhighmath` are ignored for HTML.

```
195 \AtBeginDocument{
196   \pgfkeysifdefined{/tcb/libload/theorems}{
197     \def\LWR@HTML@tcb@hack@amsmath{%
198       \PackageError{lwarp}{%
199         \%
200         tcolorbox ‘‘math’’, ‘‘ams equation’’, and related\MessageBreak
201         are not supported.\MessageBreak
202         \protect\tcboxmath\space and
203         \protect\tcbhighmath\space are emulated.\MessageBreak
204         Enter ‘H’ for possible solutions%
205       }%
206     }%
207     \%
208     Remove tcolorbox math-related options, and instead\MessageBreak
209     use the usual math environments inside each tcolorbox.%%
210   }%
211 }
212 \LWR@formatted{tcb@hack@amsmath}
213
214 % Cause an error if using math:
215 \tcbset{%
216   math upper/.style={before upper*=\tcb@hack@amsmath,after upper*=$},%
217   math lower/.style={before lower*=\tcb@hack@amsmath,after lower*=$},%
218 }
219
220 \appto\LWR@restoreorigformatting{%
221   \tcbset{%
222     math upper/.style={before upper*=$\displaystyle,after upper*=$},%
223     math lower/.style={before lower*=$\displaystyle,after lower*=$},%
224   }%
225 }
226
227 \newcommand{\LWR@HTML@tcboxmath}[2][]{}%
228 \LWR@formatted{tcboxmath}
229 \newcommand{\LWR@HTML@tcbhighmath}[2][]{}%
230 \LWR@formatted{tcbhighmath}
231 \appto\LWR@restoreMathJaxformatting{%
232   \renewcommand{\tcboxmath}[2][]{\boxed{\text{#2}}}\%
233   \renewcommand{\tcbhighmath}[2][]{\boxed{\#2}}\%
234 }
235 }% theorems loaded
236 }% AtBeginDocument
```

For MATHJAX:

```
237 \CustomizeMathJax{\newcommand{\tcbset}[1]{}}
238 \CustomizeMathJax{\newcommand{\tcbsetforeverylayer}[1]{}}
239 \CustomizeMathJax{\newcommand{\tcbox}[2][]{\boxed{\text{#2}}}}
240 \CustomizeMathJax{\newcommand{\tcboxfit}[2][]{\boxed{\#2}}}
241 \CustomizeMathJax{\newcommand{\tcblower}{}}
242 \CustomizeMathJax{\newcommand{\tcbline}{}}
243 \CustomizeMathJax{\newcommand{\tcbtitle}{}}
244 \CustomizeMathJax{\newcommand{\tcbsubtitle}[2][]{\mathrm{#2}}}
245 \CustomizeMathJax{\newcommand{\tcboxmath}[2][]{\boxed{\#2}}}
246 \CustomizeMathJax{\newcommand{\tcbhighmath}[2][]{\boxed{\#2}}}
```

---

File 491 **l warp-tensor.sty**

§ 600 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{\#1{\_}{\#2}}\LWRtensorindicesthree}
4 \CustomizeMathJax{\def\LWRtensorindicesup{\#1{\^}{\#2}}\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 ^ \LWRtensorindicesup \LWRtensorindicesup
8 }
9
10 \CustomizeMathJax{\newcommand{\LWRtensorindicesthree}{}
11   \ifnextchar _ \LWRtensorindicessub \LWRtensorindicessub
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]{\vphantom{\#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             {}^{\LWRtensornucleonnumber_{\#1}}%
24             \mathrm{\#2}%
25         }%
26     }%
27 }

28 \CustomizeMathJax{%
29     \newcommand{\nuclide}[1][]{%
30         \def\LWRtensornucleonnumber{\#1}%
31         \LWRnuclidetwo%
32     }%
33 }
34 \end{warpMathJax}

```

---

#### File 492 **lwarf-termcal.sty**

§ 601      Package **termcal**

*(Emulates or patches code by BILL MITCHELL.)*

Pkg termcal

termcal is patched for use by lwarf.

**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{\cadoaday}
8   {\hbox to \hsize{\calprintdate\hfill\ifclassday\calprintclass\fi}}
9   {%
10     \calprintdate\hfill\ifclassday\calprintclass\fi%
11   }
12   {}
13   {\LWR@patcherror{termcal}{cadoaday}}

```

Change each of two ampersands to call the lwarf 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 493 l warp-textarea.sty****§ 602 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@restoretextarea\empty
```

---

**File 494 l warp-textcomp.sty****§ 603 Package **textcomp****

(Emulates or patches code by FRANK MITTELBACH, ROBIN FAIRBAIRNS, WERNER LEMBERG.)

Pkg **textcomp** **textcomp** is patched for use by l warp.

For MATHJAX, the MATHJAX packge is used.

**§ 603.1 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.

**§ 603.2 Package loading**

**for HTML output:** 1 \LWR@ProvidesPackagePass{textcomp}[2017/04/05]

### § 603.3 HTML symbols

For HTML, use HTML entities or direct Unicode, depending on the engine.

\AtBeginDocument improves support for Lua<sup>L</sup>ATEX and X<sup>E</sup>L<sup>A</sup>TEX.

#### § 603.3.1 pdfL<sup>A</sup>TEX 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@texttwelveudash}{\HTMLunicode{2014}}% emdash
12 \newcommand*{\LWR@HTML@textthreequartersemdash}{\HTMLunicode{2014}}% emdash
13 \newcommand*{\LWR@HTML@textmh}{\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

```

#### § 603.3.2 X<sup>E</sup>L<sup>A</sup>TEX and Lua<sup>L</sup>ATEX symbols

NOTE: Some of the following do not print well in the listing. Consult the .dtx or .sty file for the actual characters.

```

25 \newcommand*{\LWR@HTML@textdegree}{°}
26 \newcommand*{\LWR@HTML@textcelsius}{℃}
27 \newcommand*{\LWR@HTML@textohm}{Ω}
28 \newcommand*{\LWR@HTML@textmu}{μ}
29 \newcommand*{\LWR@HTML@textlquill}{ℓ}
30 \newcommand*{\LWR@HTML@textrquill}{₽}
31 \newcommand*{\LWR@HTML@textcircledP}{®}
32 \newcommand*{\LWR@HTML@texttwelveudash}{—}% emdash
33 \newcommand*{\LWR@HTML@textthreequartersemdash}{—}% emdash
34 \newcommand*{\LWR@HTML@textmh}{₪}
35 \newcommand*{\LWR@HTML@textnaira}{₦}
36 \newcommand*{\LWR@HTML@textpeso}{₱}
37 \newcommand*{\LWR@HTML@textrecipe}{₹}
38 \newcommand*{\LWR@HTML@textinterrobang}{⁇}
39 \newcommand*{\LWR@HTML@textinterrobangdown}{⁇}
40 \newcommand*{\LWR@HTML@textperthousand}{‰}
41 \newcommand*{\LWR@HTML@textpertenthousand}{‰}
42 \newcommand*{\LWR@HTML@textbaht}{฿}
43 \newcommand*{\LWR@HTML@textdiscount}{٪}
44 \newcommand*{\LWR@HTML@textservicemark}{℠}
45 \fi

```

```

46
47 \LWR@formatted{textdegree}
48 \LWR@formatted{textcelsius}
49 \LWR@formatted{textohm}
50 \LWR@formatted{textmu}
51 \LWR@formatted{textlquill}
52 \LWR@formatted{textrquill}
53 \LWR@formatted{textcircledP}
54 \LWR@formatted{texttwelveudash}
55 \LWR@formatted{textthreequartersemdash}
56 \LWR@formatted{textmho}
57 \LWR@formatted{textnaira}
58 \LWR@formatted{textpeso}
59 \LWR@formatted{textrecipe}
60 \LWR@formatted{textinterrobang}
61 \LWR@formatted{textinterrobangdown}
62 \LWR@formatted{textperthousand}
63 \LWR@formatted{textpertenthousand}
64 \LWR@formatted{textbaht}
65 \LWR@formatted{textdiscount}
66 \LWR@formatted{textservicemark}

```

#### § 603.4 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}{\textcircled{D}}%
101   \renewcommand*{\textcelsius}{\textcircled{C}}%
102   \renewcommand*{\textohm}{\textcircled{\Omega}}%
103   \renewcommand*{\textmu}{\textcircled{\mu}}%
104   \renewcommand*{\textlquill}{\textcircled{l}}%
105   \renewcommand*{\textrquill}{\textcircled{r}}%
106   \renewcommand*{\textcircledP}{\textcircled{P}}%
107   \renewcommand*{\texttwelvedash}{\textcircled{12}}%
108   \renewcommand*{\textthreequartersemdash}{\textcircled{3\frac{1}{4}}}%
109   \renewcommand*{\textmho}{\textcircled{M\Omega}}%
110   \renewcommand*{\textnaira}{\textcircled{N\textperthousand}}%
111   \renewcommand*{\textpeso}{\textcircled{\$}}%
112   \renewcommand*{\textrecipe}{\textcircled{R}}%
113   \renewcommand*{\textinterrobang}{\textcircled{!}}%
114   \renewcommand*{\textinterrobangdown}{\textcircled{!-}}%
115   \renewcommand*{\textperthousand}{\textcircled{,}}%
116   \renewcommand*{\textpertenthousand}{\textcircled{.}}%
117   \renewcommand*{\textbaht}{\textcircled{\textperthousand B}}%
118   \renewcommand*{\textdiscount}{\textcircled{-}}%
119   \renewcommand*{\textservicemark}{\textcircled{TM}}%
120   \renewcommand*{\textcircled}[1]{\textcircled{#1}}%
121   \renewcommand*{\capitalcedilla}[1]{\textcircled{#1}}%
122   \renewcommand*{\capitalogonek}[1]{\textcircled{#1}}%
123   \renewcommand*{\capitalgrave}[1]{\textcircled{#1}}%
124   \renewcommand*{\capitalacute}[1]{\textcircled{#1}}%
125   \renewcommand*{\capitalcircumflex}[1]{\textcircled{#1}}%
126   \renewcommand*{\capitaltilde}[1]{\textcircled{#1}}%
127   \renewcommand*{\capitaldieresis}[1]{\textcircled{#1}}%
128   \renewcommand*{\capitalhungarumlaut}[1]{\textcircled{#1}}%
129   \renewcommand*{\capitalring}[1]{\textcircled{#1}}%
130   \renewcommand*{\capitalcaron}[1]{\textcircled{#1}}%
131   \renewcommand*{\capitalbreve}[1]{\textcircled{#1}}%
132   \renewcommand*{\capitalmacron}[1]{\textcircled{#1}}%
133   \renewcommand*{\capitaldotaccent}[1]{\textcircled{#1}}%
134 }% FilenameNullify
135
136 }% AtBeginDocument

```

For MATHJAX:

```

137 \CustomizeMathJax{\require{textcomp}}

```

File 495 **lwarf-textfit.sty**

§ 604 Package **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 496 **l warp-textpos.sty**

§ 605      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()}{\begin{#1}\begin{#2}\begin{#3}}
3 \NewDocumentEnvironment{textblock*}{m o r()}{\begin{#1}\begin{#2}\begin{#3}}{%
4 \newcommand*{\TPGrid}[3][]{\begin{#1}\begin{#2}\begin{#3}}
5 \def\TPShowGrid{\@ifstar{\@TPShowGrid}{\@TPShowGrid}}
6 \def\@TPShowGrid#1#2{%
7 \NewDocumentCommand{\TPMargin}{s o}{\begin{#1}\begin{#2}\begin{#3}}{%
8 \newcommand*{\textblockcolour}[1]{\color{#1}}
9 \newcommand*{\textblockrulecolour}[1]{\color{#1}}
10 \newcommand*{\textblockcolor}[1]{\color{#1}}
11 \newcommand*{\textblockrulecolor}[1]{\color{#1}}
12 \newcommand*{\tekstblokkulur}[1]{\color{#1}}
13 \newcommand*{\tekstblokrulekulur}[1]{\color{#1}}
14 \newlength{\TPHorizModule}
15 \newlength{\TPVertModule}
16 \newlength{\TPboxrulesize}
17 \newcommand{\textblocklabel}[1]{\color{#1}}
18 \newcommand*{\showtextsize}{\color{#1}}
19 \newcommand{\textblockorigin}[2]{\color{#1}}
20 \newcommand*{\TPOptions}[1]{\color{#1}}
21 \newcommand*{\TPReferencePosition}[1]{\color{#1}}
```

---

File 497 **l warp-theorem.sty**

§ 606 Package **theorem**

(Emulates or patches code by FRANK MITTELBACH.)

theorem is patched for use by l warp.

---

Table 21: Theorem package—css styling of theorems and proofs

**Theorem:** <div> of class theorembody<theoremstyle>

**Theorem Header:** <span> of class theoremheader

where <theoremstyle> is plain, break, etc.

---

for HTML output: 1 \LWR@ProvidesPackagePass{theorem}[2014/10/28]

### § 606.1 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     \theoremstyle{plain}%
7     \renewcommand{\LWR@newtheoremstyle}{plain}\% l warp
8   }%
9   {%
10    \theoremstyle{#1}%
11    \renewcommand{\LWR@newtheoremstyle}{#1}\% l warp
12  }%
13  \begingroup
14    \csname th@\the\theoremstyle \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\@ifdefinable\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\@ynthm#1#2{%
34     \expandafter\@ifdefinable\csname #1\endcsname
35  {
36     \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% l warp
37     \@definecounter{#1}%
38     \expandafter\xdef\csname the#1\endcsname{@thmcounter{#1}}%
39     \def@tempa{\global\@namedef{#1}}\expandafter \atempa
40     \expandafter{\csname th@\the \theorem@style \expandafter
41         \endcsname \the \theorem@bodyfont \@thm{#1}{#2}%
42     \global \expandafter \let \csname end#1\endcsname \endtheorem
43     \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% l warp
44  }
45
46 \gdef\@othm#1[#2]#3{%
47     \expandafter\ifx\csname c@#2\endcsname\relax
48     \@nocounterr{#2}%
49     \else
50     \expandafter\@ifdefinable\csname #1\endcsname
51  {
52     \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% l warp
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 \@thm{#2}{#3}%
58     \global \expandafter \let \csname end#1\endcsname \endtheorem
59     \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% l warp
60  }%
61 \fi}

```

## § 606.2 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 \qquad ##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{theorembody}\LWR@thisthmstyle% l warp
145 \trivlist
146 @topsep \theorempreskipamount % used by first \item
147 @topsepadd \theorempostskipamount % used by \endparenv
148 \@ifnextchar [%%
149 {\@ythm{#1}{#2}}%
150 {\@begintheorem{#2}{\csname the#1\endcsname}\ignorespaces}}%
151
152 \gdef\@endtheorem{%
153 \endtrivlist

154 \LWR@printpendingfootnotes% l warp

155 \endBlockClass
156 }
```

---

#### File 498 **l warp-thinsp.sty**

§ 607 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 499 **l warp-thm-listof.sty**

§ 608 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 \IfPackageAtLeastTF{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@mklstcmd}{%
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@mklstcmd}}%
30 }
```

## File 500 l warp-thm-restate.sty

§ 609 Package **thm-restate**

(Emulates or patches code by ULRICH M. SCHWARZ.)

Pkg thm-restate

thm-restate is part of thmtools, and is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{thm-restate}[2020/08/01]

```

2 \xpatchcmd{\thmt@restatable}{%
3   {\@ifstar{%
4     {\edef\LWR@thisthmstyle{#2}\@ifstar{%
5       {}%
6       {\LWR@patcherror{thm-restate}{thmt@restatable}}}}}}}
```

---

**File 501 l warp-thmbox.sty****§ 610 Package thmbox***(Emulates or patches code by EMMANUEL BEFFARA.)*

Pkg thmbox

thmbox is emulated for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{thmbox}[2005/04/24]

```
2 \renewenvironment{thmbox}[2][]%
3   {%
4     \begin{BlockClass}{thmbox}
5     \begin{BlockClass}{thmboxtitle}
6     #2
7     \end{BlockClass}
8   }
9   {\end{BlockClass}}
10
11 \renewenvironment{proof}[1][]
12   {%
13     \begin{BlockClass}{thmboxproof}%
14     \InlineClass{thmboxproofname}{\proofname\ #1\unskip\,,:}
15   }
16   {%
17     \qquad\HTMLUnicode{220E}% end of proof symbol
18     \end{BlockClass}
19   }
20
21 \renewenvironment{example}[1][\examplename]%
22   {%
23     \begin{BlockClass}{thmboxexample}%
24     \InlineClass{thmboxexamplename}{\#1\,,:}
25   }
26   {\end{BlockClass}}
27
28 \renewenvironment{leftbar}[1][]
29   {\begin{BlockClass}{thmboxleftbar}}
30   {\end{BlockClass}}
```

---

**File 502 l warp-thmtools.sty****§ 611 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 503 **l warp-threadcol.sty**

#### § 612 Package **threadcol**

Pkg `threadcol` `threadcol` is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{threadcol}[2013/01/06]%
2 \newcommand{\setthreadname}[1]{}

```

### File 504 **l warp-threeparttable.sty**

#### § 613 Package **threeparttable**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg `threeparttable` `threeparttable` is emulated.

Table note are contained inside a css `<div>` of class `tnotes`. If `enumitem` is used, the note item labels are also individually highlighted with an additional css `<span>` of class `tnoteitemheader`, otherwise they are plain text.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{threeparttable}[2003/06/13]

```

Env `threeparttable`  $[\langle alignment \rangle]$

```

2 \newenvironment*{threeparttable}[1][b]%
3   {\def\@capttype{table}}%
4   {}

```

Env `tablenotes`  $[\langle options \rangle]$

```

5 \newenvironment*{tablenotes}[1]{}%
6 {%
7 \LWR@forcenewpage%
8 \BlockClass{tnotes}%
9 \description%
10 }%
11 {%
12 \enddescription%
13 \endBlockClass%
14 }

```

```
\tnote
  {<text>}

15 \newcommand{\tnote}[1]{\LWR@html\span{sup}{#1}}


Env measuredfigure
  [<alignment>]

16 \newenvironment*{measuredfigure}[1][t]
17   {\def\@captype{figure}}
18   {}
```

---

File 505 **l warp-threeparttablex.sty**

## § 614 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, l warp 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 506 **l warp-thumb.sty**§ 615 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 507 **l warp-thumbs.sty**§ 616 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{\thumbsnophantom}{}

```

File 508 **l warp-tikz.sty**§ 617 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 \IfPackageAtLeastTF{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 \latextimage. Enclose the low-level \pgfpicture in a latextimage. This is also used by the higher-level \tikz and tikzpicture.

```
7 \preto\pgfpicture{%
8   \begin{latextimage}[-tikz-\~\PackageDiagramAltText]%
9   \ifbool{LWR@tikzbabel}% Test for Tikz version v3.0.0
10  {}%
11  {\catcode`\$=3}% dollar sign is math shift
12 }
13
14 \appto\endpgfpicture{\end{latextimage}}
```

Tikz is placed inside an svg image, so use the original meanings of the following:

```
15 \LetLtxMacro\pgfutil@minipage\LWR@print@minipage
16 \let\pgfutil@endminipage\endLWR@print@minipage
17
18 \let\pgfutil@raggedleft\LWR@print@raggedleft
19 \let\pgfutil@raggedright\LWR@print@raggedright

20 \def\pgfutil@font@tiny{\LWR@print@tiny}
21 \def\pgfutil@font@scriptsize{\LWR@print@scriptsize}
22 \def\pgfutil@font@footnotesize{\LWR@print@footnotesize}
23 \def\pgfutil@font@small{\LWR@print@small}
24 \def\pgfutil@font@normalsize{\LWR@print@normalsize}
25 \def\pgfutil@font@large{\LWR@print@large}
26 \def\pgfutil@font@Large{\LWR@print@Large}
27 \def\pgfutil@font@huge{\LWR@print@huge}
28 \def\pgfutil@font@Huge{\LWR@print@Huge}
29
```

```
30 \def\pgfutil@font@itshape{\LWR@print@itshape}
31 \def\pgfutil@font@bfseries{\LWR@print@bfseries}
32
33 \def\pgfutil@font@normalfont{\LWR@print@normalfont}
```

File 509 **lwarp-tikz-imagelabels.sty**

§ 618 Package **tikz-imagelabels**

*(Emulates or patches code by TOBIAS PLÜSS.)*

Pkg tikz-imagelabels tikz-imagelabels is patched for use by lwrap.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tikz-imagelabels}[2019/06/27]

```
2 \BeforeBeginEnvironment{annotationimage}{%
3   \begin{tikzpicture}[-tikz-image-labels-~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{annotationimage}{\end{tikzpicture}}
```

File 510 **lwarf-titleps.sty**

§ 619 Package **titleps**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg titleps

`titleps` is loaded and used by `lwarp` during HTML output. All user options and macros are ignored and disabled.

Discard all options for `lwarp-titleps`:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{titleps}[2016/03/15]

\pagestyle and \thispagestyle are already disabled in the \warp code.

\newpagestyle

```
{<name>} [<style>] {<commands>}
```

```
\renewpagestyle
```

```
{<name>} [<style>] {<commands>}
```

\sethead

```
[⟨el⟩] [⟨ec⟩] [⟨er⟩] {⟨ol⟩} {⟨oc⟩} {⟨or⟩}  
4 \NewDocumentCommand{\sethead}{o o o m m m}{}
```

\setfoot

```
[⟨el⟩] [⟨ec⟩] [⟨er⟩] {⟨ol⟩} {⟨oc⟩} {⟨or⟩}
```

```
\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 m}{}{}

\bottitemarks
  15 \newcommand*{\bottitemarks}{{}{}}

\toptitemarks
  16 \newcommand*{\toptitemarks}{{}{}}

\firsstitemarks
  17 \newcommand*{\firsstitemarks}{{}{}}

\nexttitemarks
  18 \newcommand*{\nexttitemarks}{{}{}}

\outertitemarks
  19 \newcommand*{\outertitemarks}{{}{}}
```

```
\innertitlemarks
20 \newcommand*\{\innertitlemarks{}\}

\newtitlemark
* {\langle name\rangle}
21 \NewDocumentCommand{\newtitlemark}{s m}{}

\pretitlemark
* {\langle section\rangle} {\langle text\rangle}
22 \NewDocumentCommand{\pretitlemark}{s m m}{}

\ifsamemark
{\langle group\rangle} {\langle command\rangle} {\langle true\rangle} {\langle false\rangle}
23 \newcommand{\ifsamemark}[4]{}

\setfloathead
* [.] [.] [.] {(.)} {(.)} {(.)} {\langle extra\rangle} [\langle which\rangle]
24 \NewDocumentCommand{\setfloathead}{s o o o m m m m m}{}

\setfloatfoot
* [.] [.] [.] {(.)} {(.)} {(.)} {\langle extra\rangle} [\langle which\rangle]
25 \NewDocumentCommand{\setfloatfoot}{s o o o m m m m m}{}

\nextfloathead
* [.] [.] [.] {(.)} {(.)} {(.)} {\langle extra\rangle} [\langle which\rangle]
26 \NewDocumentCommand{\nextfloathead}{s o o o m m m m m}{}

\nextfloatfoot
* [.] [.] [.] {(.)} {(.)} {(.)} {\langle extra\rangle} [\langle which\rangle]
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]{}

\firsextramarks
{\langle markset\rangle}
32 \newcommand{\firsextramarks}[1]{}

\nextextramarks
{\langle markset\rangle}
33 \newcommand{\nexttopextramarks}[1]{}
```

---

```
\outerextramarks    {\langle markset\rangle}
34 \newcommand{\outerextramarks}[1]{}
```

```
\innerextramarks   {\langle markset\rangle}
35 \newcommand{\innerextramarks}[1]{}
```

---

### File 511 **l warp-titleref.sty**

§ 620      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 512 **l warp-titlesec.sty**

§ 621      Package **titlesec**

(Emulates or patches code by JAVIER BEZOS.)

Pkg    titlesec                titlesec is emulated. All user options and macros are ignored and disabled.

Discard all options for l warp-titlesec:

**for HTML output:**

```
1 \PackageInfo{l warp}{Using the l warp version of package 'titlesec'.}%
2 \ProvidesPackage{l warp-titlesec}[2016/03/21]
3
4 \newbool{LWR@loadtitleps}
5 \boolfalse{LWR@loadtitleps}
6
7 \DeclareOption{pagestyles}%
8     \booltrue{LWR@loadtitleps}
9
10 \DeclareOption*{}%
11
12 \ProcessOptions\relax
13
14 \ifbool{LWR@loadtitleps}{%
15     \RequirePackage{l warp-titleps}}
```

```
17 }{}
```

\titlelabel {⟨label-format⟩}  
18 \newcommand\*{\titlelabel}[1]{}

\titleformat\* {⟨command⟩} {⟨format⟩}

\titleformat {⟨command⟩} [⟨shape⟩] {⟨format⟩} {⟨label⟩} {⟨sep⟩} {⟨begfore⟩} [⟨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 m o}{}}

\chapertitlename  
24 \@ifundefined{@chapapp}{\let\@chapapp\chaptername}{  
25 \newcommand\chapertitlename{\@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{\ttl@row}{\ttl@rule}}
37 \newcommand*\ttl@rule[1][]{}
38 \newcommand*\ttl@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 513 **l warp-titletoc.sty**

## § 622 Package **titletoc**

(Emulates or patches code by JAVIER BEZOS.)

Pkg titletoc

**titletoc** is emulated. All user options and macros are ignored and disabled.

Discard all options for **l warp-titletoc**:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{titletoc}[2011/12/15]

\dottedcontents {⟨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{\ttl@tcstar}{\ttl@tcnostar}}
4 \NewDocumentCommand{\ttl@tcstar}{m o m m m m o o o}{}{}
5 \NewDocumentCommand{\ttl@tcnostar}{m o m m m m o}{}{}

\contentsmargin [⟨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]{}  
  
\printlist [⟨name⟩] {⟨list⟩} {⟨prefix⟩} {⟨code⟩}  
20 \newcommand{\printlist}[4]{}

---


```

File 514 **l warp-titling.sty**

§ 623      Package **titling**

(Emulates or patches code by PETER WILSON.)

Pkg titling

**package support** l warp supports the native LATEX titling commands, and also supports the packages authblk and titling. If both are used, authblk should be loaded before titling.

**⚠ load order**

**\published and \subtitle** If using the titling package, additional titlepage fields for \published and \subtitle may be added by using \AddSubtitlePublished in the preamble. See section 69.8.

The various titling footnote restyling commands have no effect.

Pass all options to l warp-titling:

**for HTML output:** 1 \LWR@ProvidesPackagePass{titling}[2009/09/04]

\@bsmtitleempty Patch \@bsmtitleempty:

```
2 \let\LWR@orig@\bsmtitleempty\@bsmtitleempty
3 \renewcommand*\{@bsmtitleempty}{%
4 \LWR@orig@\bsmtitleempty%
5 }
```

\keepthetitle Patch \keepthetitle:

```
6 \let\LWR@origkeepthetitle\keepthetitle
7 \renewcommand*\{keepthetitle}{%
8 \LWR@orig@keepthetitle%
9 }
```

\killtitle Patch \killtitle:

```
10 \let\LWR@origkilltitle\killtitle
11 \renewcommand*\{killtitle}{%
12 \LWR@orig@killtitle%
13 }
```

Env titlingpage

```
14 \renewenvironment*{titlingpage}
15 {%
```

Start an HTML titlepage div:

```
16 \LWR@printpendingfootnotes
17 \begin{titlepage}
```

Prepare for a custom version of \maketitle inside the titlingpage:

```
18 \LWR@maketitlesetup
19 \let\maketitle\LWR@titlingmaketitle
20 }
21 {
```

At the end of the environment, end the HTML titlepage div:

```
22 \end{titlepage}
23 }
```

Patch the pre/post title/author/date to add HTML tags, then initialize:

```
24 \AtBeginDocument{
25   \pretitle{}
26   \posttitle{}
27
28   \preauthor{}
29   \postauthor{}
30
31   \predate{}
32   \postdate{}
33 }
```

\LWR@maketitlesetup Patches \thanks macros.

```
34 \renewcommand*{\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```
35 \def\@makefnmark{\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 \tamark \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@stoppars\@thanks\LWR@startpars
```

Close the **HTML** titlepage div:

```
54 \end{titlepage}
```

Reset the footnote counter:

```
55 \@bscontmark
56 }
```

**\@maketitle** Typesets the title, etc. Patched for **HTML**.

```
57 \providecommand*\@maketitle{}%
58 \renewrobustcmd{\@maketitle}{%
59   \maketitlehooka
60   {
61     \LWR@stoppars\LWR@htmltag{\LWR@tagtitle}%
62     \@bspretitle \@title \@bsposttitle%
63     \LWR@htmltag{\LWR@tagtitleend}\LWR@startpars%
64   }
65   \maketitlehookb
66   {
67     \begin{BlockClass}{author}
68     \renewcommand{\and}{%
69       \end{BlockClass}%
70       \begin{BlockClass}{oneauthor}%
71     }
72     \begin{BlockClass}{oneauthor}%
73     \@bspreauthor \@author \@bspostauthor%
74     \end{BlockClass}%
75     \end{BlockClass}%
76   }
77   \maketitlehookc
78   {
79     \begin{BlockClass}{titledate}%
80     \@bspredate \@date \@bspostdate%
81     \end{BlockClass}%
82   }
```

```
83     \maketitlehookd  
84 }
```

\LWR@titlingmaketitle \maketitle for use inside an **HTML titlingpage** environment.

```
85 \renewcommand*\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
86 \LWR@stoppars\@thanks\LWR@startpars
```

Select which kind of footnote marks to use:

```
87 \@bsmarkseries
```

Set up special patches:

```
88 \LWR@maketitlesetup
```

Typeset the title, etc:

```
89 \@maketitle
```

Immediately generate any \thanks footnotes:

```
90 \LWR@stoppars\@thanks\LWR@startpars
```

Reset the footnote counter:

```
91 \@bscontmark  
92 }
```

\thanksmarkseries {\{*series*\}}

Sets the type of footnote marks used by \thanks, where type is ‘arabic’, ‘roman’, ‘fnsymbol’, etc.

```
93 \renewcommand{\thanksmarkseries}[1]{%  
94 \def\@bsmarkseries{\renewcommand{\thefootnote}{\@nameuse{\#1}{footnote}}}%  
95 }
```

Set default titlepage thanks footnote marks. See section 69.7.

```
96 \IfClassLoadedTF{memoir}{  
97   \thanksmarkseries{arabic}  
98 }{% not memoir  
99 \if@titlepage  
100   \thanksmarkseries{arabic}  
101 \else  
102   \thanksmarkseries{fnsymbol}  
103 \fi  
104 }% not memoir
```

---

**File 515 l warp-tocbasic.sty****§ 624 Package toc basic***(Emulates or patches code by MARKUS KOHM.)*

Pkg toc basic

toc basic 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}{}  
15 \end{macro}
```

---

**File 516 l warp-tocbibind.sty****§ 625 Package toc bibind***(Emulates or patches code by PETER WILSON.)*

Pkg toc bibind

toc bibind 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            \fi
26        \fi
27    \fi
28}
```

---

```

25           \section*\{\indexname\}
26           \fi
27           \fi
28           \fi
29 \LetLtxMacro\item\lwr@indexitem%
30 \LetLtxMacro\subitem\lwr@indexsubitem%
31 \LetLtxMacro\subsubitem\lwr@indexsubsubitem%
32 }{}
```

The following code is shared by `anonchap`.

```

33 \DeclareDocumentCommand{\simplechapter}{O{\emptyset}}{%
34     \def\@chapcntformat##1{%
35         #1\endcsname\the##1\endcsname\simplechapterdelim\quad%
36     }%
37 }%
38
39 \DeclareDocumentCommand{\restorechapter}{%
40     \let\@chapcntformat\@secntformat%
41 }
```

---

### File 517 **l warp-tocdata.sty**

§ 626      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@histocdata}{}{%
4         \qquad\InlineClass{authorartist}\lwr@tocdataformat{\TD@histocdata}%
5         \def\TD@histocdata{}%
6     }%
7 }

8 \renewrobustcmd{\tocdatapartprint}[4]
9 {%
10    \InlineClass{authorartist}{%
11        \qquad --- %
12        \TDooptionalnameprint{\#1}\TDooptionalnameprint{\#2}\#3\#4%
13    }%
14 }
15
16 \@ifundefined{chapter}{}{%
17     \let\tocdatachapterprint\tocdatapartprint
18 }
19 \let\tocdatasectionprint\tocdatapartprint
20 \let\tocdatasubsectionprint\tocdatapartprint
21
22 \newcommand*\lwr@TD@settextalign[1]{%
23     \def\lwr@TD@textalign{justify}%
24     \ifcsstring{\TD@#1align}{centering}%
```

---

```

25      {\def\LWR@TD@textalign{center}}%
26      {}%
27      \ifcsstring{TD@#1align}{\raggedleft}%
28          {\def\LWR@TD@textalign{right}}%
29          {}%
30      \ifcsstring{TD@#1align}{\raggedright}%
31          {\def\LWR@TD@textalign{left}}%
32          {}%
33 }
34
35 \renewcommand{\TDartistaauthorprint}[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{\TDartistaauthortextprint}[2]{%
56     \LWR@TD@setnamealign{#1}%
57     \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
58     #2%
59     \end{BlockClass}%
60 }

```

---

### File 518 **lwarf-tocenter.sty**

§ 627      Package **tocenter**

Pkg    toccenter                        toccenter 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}{}

---

### File 519 **lwarf-tocloft.sty**

§ 628      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.

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]

\to cloftpagestyle {*style*}  
2 \newcommand{\to cloftpagestyle}[1]{}  
  
3 \newcommand\*{\cftmarktoc}{}  
  
4 \newcommand\*{\cfttoctitlefont}{}  
  
5 \newcommand\*{\cftaftertoctitle}{}  
6 \newlength{\cftbeforetoctitleskip}  
7 \newlength{\cftaftertoctitleskip}

\cftmarklof  
8 \newcommand\*{\cftmarklof}{}  
  
9 \newcommand\*{\cftloftitlefont}{}  
  
10 \newcommand\*{\cftafterloftitle}{}  
11 \newlength{\cftbeforeloftitleskip}  
12 \newlength{\cftafterloftitleskip}

\cftmarklot  
13 \newcommand\*{\cftmarklot}{}  
  
\cftlottitlefont  
14 \newcommand\*{\cftlottitlefont}{}  
  
\cftafterlottitle  
15 \newcommand\*{\cftafterlottitle}{}  
  
16 \newcommand{\cftlottitlefont}[1]{\cftlottitlefont{#1}}  
17 \newcommand{\cftafterlottitle}[1]{\cftafterlottitle{#1}}

---

```
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]{}{}
```

\cftsetnumwidth

{*length*}

```
22 \DeclareDocumentCommand{\cftsetnumwidth}{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{\cftbeforepartskip}
27 \LWR@providelength{\cftpindent}
28 \LWR@providelength{\cftpartnumwidth}
29 \providecommand*{\cftpfont}{}{}
30 \providecommand*{\cftpresnum}{}{}
31 \providecommand*{\cftpartaftersnum}{}{}
32 \providecommand*{\cftpartaftersnumb}{}{}
33 \providecommand*{\cftpartleader}{}{}
34 \providecommand*{\cftpartdotsep}{1}
35 \providecommand*{\cftpartpagefont}{}{}
36 \providecommand*{\cftpartafternum}{}{}
```

*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}{}%
```

The following do not appear in memoir:

```
48 \LWR@providelength{\cftbeforesecskip}
49 \LWR@providelength{\cftsecindent}
50 \LWR@providelength{\cftsecnumwidth}
51 \newcommand*{\cftsecfont}{}%
52 \newcommand*{\cftsecpresnum}{}%
53 \newcommand*{\cftsecaftersnum}{}%
54 \newcommand*{\cftsecaftersnumb}{}%
55 \newcommand*{\cftsecleader}{}%
56 \newcommand*{\cftsecdotsep}{1}
57 \newcommand*{\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{\cftpaindent}
83 \LWR@providelength{\cftpnumwidth}
84 \newcommand*{\cftpafont}{}%
85 \newcommand*{\cftpapresnum}{}%
86 \newcommand*{\cftpaaftersnum}{}%
87 \newcommand*{\cftpaaftersnumb}{}%
88 \newcommand*{\cftpalaader}{}%
89 \newcommand*{\cftpadotsep}{1}
90 \newcommand*{\cftpapagefont}{}%
91 \newcommand*{\cftpaafterpnum}{}%

92 \LWR@providelength{\cftbeforesubparaskip}
93 \LWR@providelength{\cftsubparaindent}
94 \LWR@providelength{\cftsubparanumwidth}
95 \newcommand*{\cftsubparafont}{}%
96 \newcommand*{\cftsubparapresnum}{}%
```

```

97 \newcommand*{\cftsubparaaftersnum}{}}
98 \newcommand*{\cftsubparaaftrernumb}{}}
99 \newcommand*{\cftsubparaleader}{}}
100 \newcommand*{\cftsubparadotsep}{1}
101 \newcommand*{\cftsubparapagefont}{}}
102 \newcommand*{\cftsubparaafterpnum}{}}

103 \LWR@providelength{\cftbeforefigskip}
104 \LWR@providelength{\cftfigindent}
105 \LWR@providelength{\cftfignumwidth}
106 \newcommand*{\cftfigfont}{}}
107 \newcommand*{\cftfigpresnum}{}}
108 \newcommand*{\cftfigaftersnum}{}}
109 \newcommand*{\cftfigaftersnumb}{}}
110 \newcommand*{\cftfigleader}{}}
111 \newcommand*{\cftfigdotsep}{1}
112 \newcommand*{\cftfigpagefont}{}}
113 \newcommand*{\cftfigafterpnum}{}}

114 \LWR@providelength{\cftbeforesubfigskip}
115 \LWR@providelength{\cftsubfigindent}
116 \LWR@providelength{\cftsubfignumwidth}
117 \newcommand*{\cftsubfigfont}{}}
118 \newcommand*{\cftsubfigpresnum}{}}
119 \newcommand*{\cftsubfigaftersnum}{}}
120 \newcommand*{\cftsubfigaftersnumb}{}}
121 \newcommand*{\cftsubfigleader}{}}
122 \newcommand*{\cftsubfigdotsep}{1}
123 \newcommand*{\cftsubfigpagefont}{}}
124 \newcommand*{\cftsubfigafterpnum}{}}

125 \LWR@providelength{\cftbeforetabskip}
126 \LWR@providelength{\cfttabindent}
127 \LWR@providelength{\cfttabnumwidth}
128 \newcommand*{\cfttabfont}{}}
129 \newcommand*{\cfttabpresnum}{}}
130 \newcommand*{\cfttabaftersnum}{}}
131 \newcommand*{\cfttabaftersnumb}{}}
132 \newcommand*{\cfttableader}{}}
133 \newcommand*{\cfttabdotsep}{1}
134 \newcommand*{\cfttabpagefont}{}}
135 \newcommand*{\cfttabafterpnum}{}}

136 \LWR@providelength{\cftbeforesubtabskip}
137 \LWR@providelength{\cftsubtabindent}
138 \LWR@providelength{\cftsubtabnumwidth}
139 \newcommand*{\cftsubtabfont}{}}
140 \newcommand*{\cftsubtabpresnum}{}}
141 \newcommand*{\cftsubtabaftersnum}{}}
142 \newcommand*{\cftsubtabaftersnumb}{}}
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 [⟨within⟩] {⟨counter⟩} {⟨ext⟩} {⟨level-1⟩}

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}%
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

[⟨within⟩] {⟨type⟩} {⟨ext⟩} {⟨listofname⟩}

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     \begin{protect}\begin{quote}\#1\end{quote}\end{protect}}
212   }
213 }
214 }
```

---

### File 520 **lwarf-tocstyle.sty**

#### § 629 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{\iftochasdepth}[4]{}  

```

---

### File 521 **lwarf-todo.sty**

#### § 630 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     \HTMLUunicode{2610} \quad
6     \ref{todopage:\thetodo}
7     ] : {\todoformat\ifx#1\todomark\else\textbf{\#1}\fi}#2%
8   \label{todolbl:\thetodo}%
9 }%
```

```

10
11 \renewcommand\doneitem[2]{%
12     \stepcounter{todo}%
13     \item[%
14         \HTMLUunicode{2611} \quad
15         \ref{todopage:\thetodo}%
16     ] \nameuse{@done}{\the\c@todo}:%
17     {\todoformat\ifx#1\todomark\else\textbf{#1} \fi}#2%
18 }

```

The following are not errors because the code will still compile and be usable if the patch is not possible.

```

19 \xpatchcmd{\@displaytodo}%
20     {\todoformat #1}{\todoformat \textbf{#1}}{}%
21     {\PackageWarning{l warp-todo}{Unable to patch \@displaytodo.}}%
22
23 \xpatchcmd{\@displayfulltodo}%
24     {\todoformat #1}{\todoformat \textbf{#1}}{}%
25     {\PackageWarning{l warp-todo}{Unable to patch \@displayfulltodo.}}%
26
27 \patchcmd{\todoenv}{\itshape see text.}{\textit{see text.}}{}%
28     {\PackageWarning{l warp-todo}{Unable to patch todoenv.}}%
29
30 \patchcmd{\astodos}{\todoformat #1}{\todoformat \textbf{#1}}{}%
31     {\PackageWarning{l warp-todo}{Unable to patch astodos.}}

```

If `cleveref` is in use, name the new todo notes:

```

32 \AtBeginDocument{%
33 \ifdef{\crefname}{%
34     \crefname{todo}{todo}{todos}%
35     \Crefname{todo}{Todo}{Todos}%
36 }{}%
37 }

```

## File 522 l warp-todonotes.sty

### § 631 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 \LWRProvidesPackagePass{todonotes}[2012/07/25]

```

2 \if@todonotes@disabled
3 \else
4
5 \newcommand{\ext@todo}{\toto}
6
7 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{\toto}{\lto}{#1}{#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   {\@todonotes@currentbordercolor}
18   {\@todonotes@currentbackgroundcolor}
19   {\arabic{@todonotes@numberoftodonotes}}%
20 \marginpar{\@todonotes@drawMarginNote}
21 }
22
23 \renewcommand{\@todonotes@drawInlineNote}{%
24 \fcolorboxBlock%
25   {\@todonotes@currentbordercolor}%
26   {\@todonotes@currentbackgroundcolor}%
27   {%
28     \if@todonotes@authorgiven%
29       {\@todonotes@author:\,}%
30     \fi%
31     \@todonotes@text%
32   }%
33 }
34
35 \renewcommand{\@todonotes@drawMarginNote}{%
36   \if@todonotes@authorgiven%
37     \@todonotes@author\par%
38   \fi%
39   \arabic{@todonotes@numberoftodonotes}: %
40   \fcolorbox
41   {\@todonotes@currentbordercolor}%
42   {\@todonotes@currentbackgroundcolor}%
43   {%
44     \@todonotes@sizecommand%
45     \@todonotes@text %
46   }%
47 }%
48
49 \renewcommand{\@todonotes@drawLineToRightMargin}{}
50
51 \renewcommand{\@todonotes@drawLineToLeftMargin}{}
52
53 \renewcommand{\missingfigure}[2][]{%
54 \setkeys{todonotes}{#1}%
55 \addcontentsline{tdo}{todo}{\@todonotes@MissingFigureText: #2}%
56 \fcolorboxBlock%
57   {\@todonotes@currentbordercolor}%
58   {\@todonotes@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 523 **l warp-topcapt.sty**

§ 632 Package **topcapt**

Pkg topcapt topcapt is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{topcapt}[2004/12/11]

2 \LetLtxMacro\topcaption\caption

---

File 524 **l warp-tram.sty**

§ 633 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 525 **l warp-transparent.sty**

§ 634 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>L<sup>A</sup>T<sub>E</sub>X!** Note that transparent does not work with X<sub>E</sub>L<sup>A</sup>T<sub>E</sub>X.

**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 526 **l warp-trimclip.sty**

§ 635 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 527 **l warp-trivfloat.sty**

§ 636 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 lwarf-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 lwarf.

3 \AtBeginDocument{\DeclareDocumentCommand{\tfl@chapter@fix}{m m}{}{}}

### § 636.1 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 528 **lwarf-truncate.sty**

### § 637 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 529 **l warp-turnthepage.sty**

§ 638 Package **turnthepage**

Pkg turnthepage turnthepage is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{turnthepage}[2011/03/24]
2 \newcommand{\turnthepage}{}

---


```

File 530 **l warp-twoup.sty**

§ 639 Package **twoup**

Pkg twoup twoup is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{twoup}[2007/02/26]
2 \newcommand{\cleartolastpage}{}

---


```

File 531 **l warp-txfonts.sty**

§ 640 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 532 **l warp-txgreeks.sty**

§ 641 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 533 **l warp-typearea.sty**§ 642 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{footheight}{\newlength\footheight}{}%
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 534 **l warp-typicons.sty**

§ 643 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 {%
21   \begin{ lateximage }*[#1 icon][typicon#1]%
22   \TI\csname ticon@#1\endcsname%
23   \end{ lateximage }%
24 }
```

---

File 535 **l warp-ulem.sty**

§ 644 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}{\underline{#1}\egroup}  
68 \LWR@formatted{ULon}
```

---

### File 536 **l warp-umoline.sty**

#### § 645 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@UMOne newline}{s}{\newline}  
26 \LWR@formatted{UMOne newline}
```

---

### File 537 **l warp-underscore.sty**

#### § 646 Package **underscore**

Pkg underscore

underscore is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{underscore}[2006/09/13]

---

File 538 **l warp-unicode-math.sty**

§ 647 Package **unicode-math**

*(Emulates or patches code by WILL ROBERTSON.)*

Pkg **unicode-math**

**unicode-math** is supported as-is for **HTML** with **svgmath**.

 **MATHJAX** If the document source includes embedded Unicode characters, these may not be reproduced correctly for **pdftotext**, and thus not display correctly in **MATHJAX**.

Symbol font commands are emulated, but not all combinations are supported by **MATHJAX**, especially with the dedicated Greek macros. Symbol macros such as `\symbfsf` may not be sans or bold. For Greek, use the Unicode equivalent, if necessary.

 **\mathversion** The **MATHJAX** emulation does not change with the use of `\mathversion`. Whatever emulation is established at the begin of the document will remain.

The option `sans-style` honors `upright` and `italic`, but `italic` will not be sans, in order to support Greek macros.

Greek macros such as `\alpha` respond to the `math-style` option. Latin symbols does not, per **MATHJAX** limitations, unless placed inside `\symbol` or similar.

Macros from the categories `\mathopen`, `\mathclose`, and `\mathfence` are emulated. Due to current **MATHJAX** limitations, not all stretch to the correct height.

Also emulated are macros from the categories `\mathpunct`, `\mathover`, `\mathunder`, `\mathaccent`, `\mathbotaccent`, and `\mathop`.

The individual **unicode-math** macros of categories `\mathbin`, `\mathord`, and `\mathrel` are not emulated for **MATHJAX**, as there are more than two thousand of them, but they may be added as needed. Place the following in the document preamble after loading **unicode-math**, including a definition for each macro which is used in the document but undefined in **MATHJAX**:

```
\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\uplus}{\mathbin{\unicode{x0228E}}}}
...
\end{warpMathJax}
```

Use `\mathrel`, `\mathbin`, etc. depending on the category of each macro. For a list of macro names and symbols, see **texdoc unimath-symbols**.

**for HTML output:** 1 `\LWR@ProvidesPackagePass{unicode-math}[2019/09/26]`

```
2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{unicode-math}
6
7 % Not all are possible in MathJax.
8 \CustomizeMathJax{\let\symnormal\mathit}
```

```
9 \CustomizeMathJax{\let\symliteral\mathrm}
10 \CustomizeMathJax{\let\symbb\mathbb}
11 \CustomizeMathJax{\let\symbbit\mathbb}% not italic
12 \CustomizeMathJax{\let\symcal\mathcal}
13 \CustomizeMathJax{\let\symscr\mathscr}
14 \CustomizeMathJax{\let\symfrak\mathfrak}
15
16 \CustomizeMathJax{\let\symsup\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{\symbfup}[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\symsfsup\mathbf}% not sans
43 % \CustomizeMathJax{\newcommand{\symsfsup}[1]{%
44 %     \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}% not greek
45 % }
46
47 \CustomizeMathJax{\newcommand{\symsfit}[1]{\boldsymbol{#1}}}% not sans
48 % \CustomizeMathJax{\newcommand{\symsfit}[1]{%
49 %     \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}}% not greek
50 % }
51
52 % Duplicates below are commented out.
53 \CustomizeMathJax{\let\symup\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\symsup}}
61     {
62         \bool_if:NTF \g__um_upsans_bool
63             {\CustomizeMathJax{\let\symsf\symsup}}
64             {\CustomizeMathJax{\let\symsf\symsfit}}
65     }
66 }
67 \ExplSyntaxOff
```

---

```

68 \% CustomizeMathJax{\let\symbfsup\mathbf}% not sans
69 \% CustomizeMathJax{\let\symsfit\mathit}% not sans
70 \% CustomizeMathJax{\let\symbfsfit\mathit}% not bold nor sans
71 \CustomizeMathJax{\let\syttt\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\symfrak\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{\cuberoot}[1]{\sqrt[3]{#1}}}
106 \CustomizeMathJax{\newcommand{\fourthroot}[1]{\sqrt[4]{#1}}}

```

Many `\mathopen`/`\mathclose` delimiters are defined in `lwarp_mathjax.txt`, where `\left`/`\right` support is added.

```

107 \CustomizeMathJax{\newcommand{\longdivision}[1]{\mathord{\text{\textnormal{\texttt{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}\lrcorner}}}}

```

```
115 \CustomizeMathJax{\newcommand{\overbar}[1]{\mathord{\#1\unicode{x00305}}}}
116 \CustomizeMathJax{\newcommand{\ovhook}[1]{\mathord{\#1\unicode{x00309}}}}
117 \CustomizeMathJax{\newcommand{\ocirc}[1]{\mathord{\#1\unicode{x0030A}}}}
118 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{\#1\unicode{x00310}}}}
119 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{\#1\unicode{x00312}}}}
120 \CustomizeMathJax{\newcommand{\ocommatopright}[1]{\mathord{\#1\unicode{x00315}}}}
121 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{\#1\unicode{x0031A}}}}
122 \CustomizeMathJax{\newcommand{\leftharpoonaccent}[1]{\mathord{\#1\unicode{x020D0}}}}
123 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{\#1\unicode{x020D1}}}}
124 \CustomizeMathJax{\newcommand{\vertoverset}[1]{\mathord{\#1\unicode{x020D2}}}}
125 \CustomizeMathJax{\newcommand{\leftarrowarrowaccent}[1]{\mathord{\#1\unicode{x020D0}}}}
126 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{\#1\unicode{x020E7}}}}
127 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{\#1\unicode{x020E9}}}}
128 \CustomizeMathJax{\newcommand{\asteraccent}[1]{\mathord{\#1\unicode{x020F0}}}}
129 \CustomizeMathJax{\newcommand{\threeunderdot}[1]{\mathord{\#1\unicode{x020E8}}}}
130 \CustomizeMathJax{\newcommand{\Bbbsum}{\mathop{\unicode{x2140}}\limits}}
131 \CustomizeMathJax{\newcommand{\oint}{\mathop{\unicode{x222F}}\limits}}
132 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}
133 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicode{x2231}}\limits}}
134 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicode{x2232}}\limits}}
135 \CustomizeMathJax{\newcommand{\ointctrlclockwise}{\mathop{\unicode{x2233}}\limits}}
136 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\unicode{x2232}}\limits}}
137 \CustomizeMathJax{\newcommand{\leftouterjoin}{\mathop{\unicode{x27D5}}\limits}}
138 \CustomizeMathJax{\newcommand{\rightouterjoin}{\mathop{\unicode{x27D6}}\limits}}
139 \CustomizeMathJax{\newcommand{\fullouterjoin}{\mathop{\unicode{x27D7}}\limits}}
140 \CustomizeMathJax{\newcommand{\bigbot}{\mathop{\unicode{x27D8}}\limits}}
141 \CustomizeMathJax{\newcommand{\bigtop}{\mathop{\unicode{x27D9}}\limits}}
142 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\unicode{x29F8}}\limits}}
143 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\unicode{x29F9}}\limits}}
144 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}\limits}}
145 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}\limits}}
146 \CustomizeMathJax{\newcommand{\conjquant}{\mathop{\unicode{x2A07}}\limits}}
147 \CustomizeMathJax{\newcommand{\disjquant}{\mathop{\unicode{x2A08}}\limits}}
148 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\unicode{x2A09}}\limits}}
149 \CustomizeMathJax{\newcommand{\modtwosum}{\mathop{\unicode{x2A0A}}\limits}}
150 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\unicode{x2A0B}}\limits}}
151 \CustomizeMathJax{\newcommand{\intbar}{\mathop{\unicode{x2A0D}}\limits}}
152 \CustomizeMathJax{\newcommand{\intBar}{\mathop{\unicode{x2A0E}}\limits}}
153 \CustomizeMathJax{\newcommand{\fint}{\mathop{\unicode{x2A0F}}\limits}}
154 \CustomizeMathJax{\newcommand{\cirfnint}{\mathop{\unicode{x2A10}}\limits}}
155 \CustomizeMathJax{\newcommand{\awint}{\mathop{\unicode{x2A11}}\limits}}
156 \CustomizeMathJax{\newcommand{\rppolint}{\mathop{\unicode{x2A12}}\limits}}
157 \CustomizeMathJax{\newcommand{\scpolint}{\mathop{\unicode{x2A13}}\limits}}
158 \CustomizeMathJax{\newcommand{\npolint}{\mathop{\unicode{x2A14}}\limits}}
159 \CustomizeMathJax{\newcommand{\pointint}{\mathop{\unicode{x2A15}}\limits}}
160 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\unicode{x2A16}}\limits}}
161 \CustomizeMathJax{\newcommand{\intlarhk}{\mathop{\unicode{x2A17}}\limits}}
162 \CustomizeMathJax{\newcommand{\intx}{\mathop{\unicode{x2A18}}\limits}}
163 \CustomizeMathJax{\newcommand{\intcap}{\mathop{\unicode{x2A19}}\limits}}
164 \CustomizeMathJax{\newcommand{\intcup}{\mathop{\unicode{x2A1A}}\limits}}
165 \CustomizeMathJax{\newcommand{\upint}{\mathop{\unicode{x2A1B}}\limits}}
166 \CustomizeMathJax{\newcommand{\lowint}{\mathop{\unicode{x2A1C}}\limits}}
167 \CustomizeMathJax{\newcommand{\bigtriangleleft}{\mathop{\unicode{x2A1E}}\limits}}
168 \CustomizeMathJax{\newcommand{\zcmp}{\mathop{\unicode{x2A1F}}\limits}}
169 \CustomizeMathJax{\newcommand{\zpipe}{\mathop{\unicode{x2A20}}\limits}}
170 \CustomizeMathJax{\newcommand{\zproject}{\mathop{\unicode{x2A21}}\limits}}
171 \CustomizeMathJax{\newcommand{\biginterleave}{\mathop{\unicode{x2AFC}}\limits}}
172 \CustomizeMathJax{\newcommand{\bigtalloblong}{\mathop{\unicode{x2AFF}}\limits}}
```

---

```

175 \CustomizeMathJax{\newcommand{\arabicmaj}{\mathop{\text{\scriptsize\texttt{\{}}}}\limits}}
176 \CustomizeMathJax{\newcommand{\arabichad}{\mathop{\text{\scriptsize\texttt{\{}}}}\limits}}
177
178 \end{warpMathJax}

```

---

File 539 **l warp-units.sty**

§ 648      Package **units**

*(Emulates or patches code by AXEL REICHERT.)*

units is patched for use by l warp.

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:**    1 \LWR@ProvidesPackagePass{units}[1998/08/04]

```

2 \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
24 \LWR@formatted{unitfrac}

```

For MATHJAX:

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\unit}[2][]{\mathinner{#1 \mathinner{#2}}}}
27 \CustomizeMathJax{\newcommand{\unitfrac}[3][]{\mathinner{#1 \mathinner{\{}^{\#2}\!\!/\!\!_{\#3}\}}}}
28 \end{warpMathJax}

```

---

**File 540 l warp-unitsdef.sty**

§ 649      Package **unitsdef**

(Emulates or patches code by PATRICK HAPPEL.)

Pkg    unitsdef

unitsdef is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{unitsdef}[2005/01/04]

```
2 \renewcommand{\unitvaluesep}{,}
3
4 \renewcommand{\unittimes}{\@setunitsepfalse\HTMLunicode{22c5}\cdot
5
6 \renewunit{\arcmin}{%
7   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
8     {\ensuremath{{}^{\prime}}}{%
9       {\HTMLunicode{2032}} prime
10 }%
11
12 \renewunit{\arcsec}{%
13   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
14     {\ensuremath{{}^{\prime\prime}}}{%
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 541 l warp-upgreek.sty**

§ 650      Package **upgreek**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg    upgreek

upgreek is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{upgreek}[2003/02/12]

For MATHJAX:

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{upgreek}}
4 \end{warpMathJax}
```

---

**File 542 l warp-upref.sty**

§ 651 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 543 l warp-url.sty**

§ 652 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 544 l warp-ushort.sty**

§ 653 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]{\ushortdline{#1}}}
10 \end{warpMathJax}
```

---

**File 545 l warp-uspace.sty****§ 654 Package uspace**

Pkg uspace uspace is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{uspace}[2016/11/06]

---

**File 546 l warp-varioref.sty****§ 655 Package varioref**

(Emulates or patches code by FRANK MITTELBACH.)

Pkg varioref varioref is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{varioref}[2020/01/23]

Page-related output is not used for HTML output.

```
2 \def\reftextfaceafter {\unskip}%
3 \def\reftextfacebefore{\unskip}%
4 \def\reftextafter {\unskip}%
5 \def\reftextbefore {\unskip}%
6 \def\reftextcurrent {\unskip}%
7 \def\reftextfaraway#1{\unskip}%
8 \def\reftextpagerange#1#2{\unskip}%
```

---

**File 547 l warp-verse.sty****§ 656 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 **\HTMLvleftskip** the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to **HTML**, the stanza numbers are kept out of the left margin, which would have caused **pdftotext** to shift everything over.
- ⚠ **verse margin**

**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
Cls memoir
\fagverse
Len \vleftskip
```

The **verse** or **memoir** packages can place stanza numbers to the left with their **\fagverse** 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.

```
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 548 **l warp-versonotes.sty**

§ 657 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 549 **l warp-vertbars.sty**

§ 658 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 550 **l warp-vmargin.sty**

§ 659 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*{\setmargnoph}[4]{}
7 \newcommand*{\setmargnohfb}[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 551 **l warp-vowel.sty**

§ 660 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 552 l warp-vpe.sty****§ 661 Package vpe**

vpe is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{vpe}[2012/04/18]

---

**File 553 l warp-vwcol.sty****§ 662 Package vwcol**

(Emulates or patches code by WILL ROBERTSON.)

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 {<style tag>}\n2 \newcommand*{\LWR@vwcol@addrule}[1]{%\n3     \appto{\LWR@vwcolstyle}{%\n4         #1: %\n5         \LWR@printlength{\vwcol@rule} solid \LWR@origpound\LWR@vwcol@rulecolor ; %\n6     }%\n7 }
```

```
\LWR@vwcol@addrule {<style tag>}\n8 \newcommand*{\LWR@vwcol@addgap}[1]{%\n9     \appto{\LWR@vwcolstyle}{%\n10        #1: %\n11        \LWR@printlength{\vwcol@sep} ; %\n12    }%\n13 }
```

```
Env vwcol {<key/values>}\nRedefine 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         \ife@vwcol@prerule\LWR@vwcol@addrule{border-left}\fi
38         \ife@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 554 **l warp-wallpaper.sty**

### § 663 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 555 **l warp-watermark.sty**

### § 664 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 556 l warp-widetable.sty****§ 665 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 557 l warp-widows-and-orphans.sty****§ 666 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{}{}  
3 \NewDocumentCommand\Wa0parameters{}{}  
4 \NewDocumentCommand\Wa0ignorenext{}{}

---

**File 558 l warp-witharrows.sty****§ 667 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\{ \right.  
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\{ \begin{array}{c}
30         \begin{aligned*}
31         #3
32         \end{aligned*}
33         \right. \begin{aligned*}
34         \end{aligned*}
35         \end{displaymath}
36     }{
37         \begin{displaymath}
38         \begin{aligned*}
39         #3
40         \end{aligned*}
41         \end{displaymath}
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     \end{ lateximage}%
51 \AfterEndEnvironment{DispWithArrows}{\end{ lateximage}\end{BlockClass}}%
52 \BeforeBeginEnvironment{DispWithArrows*}{%
53     \begin{BlockClass}{displaymath}%
54     \begin{ lateximage}%
55     \end{ lateximage}%
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 559 **l warp-wrapfig.sty**

§ 668 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}{\LWR@printlength{\LWR@templengthone}}  
5  
6 \AtBeginDocument{  
7     \IfPackageLoadedTF{keyfloat}{  
8         \renewcommand{\LWR@wrapfig@printHTMLwidth}{%  
9             \ifboolexpr{  
10                 test {\ifnumgreater{\value{KFLT@keyfloatdepth}}{0}} or  
11                 bool {KFLT@inkeysubfloats}  
12             }%  
13             {\LWR@printpercentlength{\LWR@templengthone}{\linewidth}\%; }%  
14             {\LWR@printlength{\LWR@templengthone}}%  
15         }%  
16     }{}  
17 }  
18  
19 \newcommand*{\LWR@subwrapfigure}[2]{%  
20     \renewcommand*{\LWR@wrapposition}{}%  
21     \ifthenelse{  
22         \equal{\#1}{r}\OR\equal{\#1}{R}\OR%  
23         \equal{\#1}{o}\OR\equal{\#1}{O}}%  
24     }%  
25     {\renewcommand*{\LWR@wrapposition}{float:right}}%  
26     {\renewcommand*{\LWR@wrapposition}{float:left}}%  
27     \setlength{\LWR@templengthone}{#2}%  
28     \LWR@BlockClassWP{  
29         width:\LWR@printlength{\LWR@templengthone}; \LWR@wrapposition; %  
30         margin:10pt%  
31     }%  
32     {  
33         width:\LWR@wrapfig@printHTMLwidth; %  
34         \LWR@wrapposition; %  
35     }%  
36     (note)%  
37     {marginblock}%  
  
38     \setlength{\linewidth}{\LWR@templengthone}%  
39 }  
40  
41  
42 \NewDocumentEnvironment{wrapfigure}{o m o m}  
43 {  
44     \begin{\LWR@setvirtualpage}*%  
45     \LWR@subwrapfigure{#2}{#4}%  
46     \renewcommand*{\@capttype}{figure}%  
47 }  
48 {  
49     \end{\LWR@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 560 **lwarf-wrapfig2.sty**

§ 669 Package **wrapfig2**

*(Emulates or patches code by DONALD ARSENEAU, CLAUDIO BECCARI.)*

Pkg wrapfig2

**wrapfig2** is emulated via a modified version of the **wrapfig** emulation.

|                         |  |
|-------------------------|--|
| <b>for HTML output:</b> | <pre> 1 \@ifpackageloaded{color}{}{% 2   \@ifpackageloaded{xcolor}{}{(\LWR@origRequirePackage{xcolor})}% 3 } 4 5 \RequirePackage{float} 6 7 \IfPackageLoadedWithOptionsTF{wrapfig2}{WFold} 8 {}% v4.0 9 {}% v5+ 10 \floatstyle{plain} 11 \ifcsname chapter\endcsname 12   \newfloat{text}{tbp}{lotx}[chapter] 13 \else 14   \newfloat{text}{tbp}{lotx} 15 \fi 16 \floatname{text}{Text} 17 % \let\WF@text@caption\float@caption 18 } 19 20 21 \LWR@ProvidesPackageDrop{wrapfig2}[2022-02-16] 22 23 \LWR@origRequirePackage{lwarf-wrapfig}  24 \RenewDocumentEnvironment{wrapfigure}{o m o G{0pt} s}{% 25   \wrapfloat{figure}{#1}{#2}{#3}{#4}}% 26   {\endwrapfloat} 27 28 \RenewDocumentEnvironment{wraptable}{o m o G{0pt} s}{% 29   \wrapfloat{table}{#1}{#2}{#3}{#4}}% 30   {\endwrapfloat} </pre> |
|-------------------------|--|

```
31
32 \RenewDocumentEnvironment{wrapfloat}{m o m o G{0pt}}% lwrap
33 {%
34     \begin{LWR@setvirtualpage}%
35     \LWR@subwrapfigure{#3}{#5}%
36     \renewcommand*{\@capttype}{#1}%
37 }
38 {%
39     \endLWR@BlockClassWP%
40     \end{LWR@setvirtualpage}%
41 }

42 \IfPackageLoadedWithOptionsTF{wrapfig2}{WFold}
43 {%
44     \NewDocumentEnvironment{wraptex}%
45     {O{l} D||{0.5\columnwidth} D>{0} D(){figure}}%
46     {%
47         \wrapfloat[#4][]{#1}[]{}%
48         \tcolorbox%
49     }
50     {%
51         \endtcolorbox%
52         \endwrapfloat%
53         \ignorespaces%
54     }
55 }
56
57 \IfPackageLoadedWithOptionsTF{wrapfig2}{WFFive}
58 {%
59     \definecolor{WFbackground}{rgb}{0.95,0.95,0.95}
60     \definecolor{WFframe}{rgb}{0.1,0.1,0.1}
61     \colorlet{WFtext}{black}
62     \def\SetWFbgd#1{\colorlet{WFbackground}{#1}}
63     \def\SetWFFrm#1{\colorlet{WFframe}{#1}}
64     \def\SetWFTxt#1{\colorlet{WFtext}{#1}}
65     \def\WFsplitdimens#1,#2!{\fboxrule=#1\relax\fboxsep=#2\relax}
66
67     \NewDocumentEnvironment{wraptex}{O{0} m O{0pt} G{0.5\columnwidth}}%
68     {%
69         \wrapfloat{text}[]{}[]{}%
70     }
71     {%
72         \endwrapfloat%
73         \ignorespaces%
74     }
75
76     \NewDocumentCommand\includeframedtext{O{\insertwidth} m O{1pt,1ex} o}%
77     {%
78         \WFsplitdimens #3!
79         \convertcolorspec[named]{WFtext}{HTML}\LWR@tempcolor%
80         \LWR@HTML@fcolorboxBlock%
81         [named]{WFframe}[named]{WFbackground}{}%
82         (%
83             color:\ \LWR@origpound\LWR@tempcolor ; %
84             border-radius:\ 1ex%
85         )%
86     }
87 }{%
88     \RequirePackage{xkeyval}%
89 }
```

```
90  \definecolor{WFbackground}{rgb}{0.95,0.95,0.95}
91  \definecolor{WFframe}{rgb}{0.1,0.1,0.1}
92  \colorlet{WFtext}{black}
93  \def\SetWFbgd#1{\colorlet{WFbackground}{#1}}
94  \def\SetWFfrm#1{\colorlet{WFframe}{#1}}
95  \def\SetWFTxt#1{\colorlet{WFtext}{#1}}
96  \def\WFsplitdimens#1,#2!{\fboxrule=#1\relax\fboxsep=#2\relax}
97
98  \newlength{\LWR@wrapfigtwo@radius}
99  \setlength{\LWR@wrapfigtwo@radius}{1ex}
100
101 \DeclareOptionX<wraptext>{scalefactor}[0.8]{%
102 %      \def\WFscalefactor{#1}%
103 }
104 \DeclareOptionX<wraptext>{fboxrule}[1pt]{\fboxrule=#1}
105 \DeclareOptionX<wraptext>{fboxsep}[1ex]{\fboxsep=#1}
106 \DeclareOptionX<wraptext>{framecolor}[WFframe]{\SetWFfrm{#1}}
107 \DeclareOptionX<wraptext>{backgroundcolor}[WFbackground]{\SetWFbgd{#1}}
108 \DeclareOptionX<wraptext>{textcolor}[WFtext]{\SetWFTxt{#1}}
109 \DeclareOptionX<wraptext>{fontstyle}[\normalfont]{#1}
110 \DeclareOptionX<wraptext>{radius}[\fboxsep]{%
111     \setlength{\LWR@wrapfigtwo@radius}{#1}%
112 }
113 \DeclareOptionX<wraptext>{insertionwidth}[0.5\columnwidth]{%
114 %      \insertwidth=#1%
115 }
116
117 \DeclareOptionX*{\PackageWarning{wrapfig2}{`CurrentOption' ignored}}
118
119 \ExecuteOptionsX<wraptext>{scalefactor, fboxrule, fboxsep, framecolor,
120 backgroundcolor, textcolor, fontstyle, radius, insertionwidth}
121
122 \ProcessOptionsX*
123
124 \NewDocumentEnvironment{wraptext}{O{0} m O{0pt} G{0.5\columnwidth}}
125 {%
126     \wrapfloat{text}[][#2][]{#4}%
127 }
128 {%
129     \endwrapfloat%
130     \ignorespaces%
131 }
132
133 \NewDocumentCommand\includeframedtext{O{\insertwidth} m O{} o}
134 {%
135     \ExecuteOptionsX<wraptext>{#3}%
136         executes possible key=value options
137         \convertcolorspec[named]{WFtext}{HTML}\LWR@tempcolor%
138         \LWR@HTML@fcolorboxBlock%
139             [named]{WFframe}[named]{WFbackground}%
140             {\LWR@textcurrentfont{#2}}%
141             (%
142                 color:\ \LWR@origpound\LWR@tempcolor ; %
143                 border-radius:\ \LWR@printlength{\LWR@wrapfigtwo@radius}%
144             )%
145 }
```

---

**File 561 l warp-xbmks.sty****§ 670 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 562 l warp-xcolor.sty****§ 671 Package xcolor**

(Emulates or patches code by DR. UWE KERN.)

Pkg xcolor xcolor is supported by l warp.

**§ 671.1 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.

## § 671.2 xcolor definitions: location and timing

The l warp core and its l warp-xcolor package are tightly integrated to allow comparable results for print, HTML, and print inside an HTML lateximage. This requires a number of definitions and redefinitions depending on whether each of xcolor and lateximage is being used, and whether print or HTML is being generated. Some of these actions are one-time when xcolor is loaded, and others are temporary as lateximage is used.

**When xcolor is loaded in print mode:** No special actions are taken at the time that xcolor is loaded in print mode, but see \AtBeginDocument below.

**When l warp-xcolor is loaded in HTML mode:** xcolor's original definitions are saved for later restoration. \LWR@restoreorigformatting is appended to restore these definitions for use inside a lateximage. New HTML-mode definitions are created for \textcolor, \pagecolor, \nopagecolor, \colorbox, \colorboxBlock, \fcolorbox, \fcolorboxBlock, and fcolorminipage.

**\AtBeginDocument in print or HTML mode:** See Section 89. If xcolor has been loaded, the print-mode \fcolorbox is modified to accept a background color of none, and additional definitions are created for l warp's new macros print-mode macros \colorboxBlock, \fcolorboxBlock, and fcolorminipage. The HTML versions of these macros will already have been created by l warp-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 528.

### \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 l warp-xcolor, page 1218.

**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 l warp-xcolor, page 1218.

**HTML Lateximage:** Remembers and reuses the print version.

**\colorboxBlock:**

**Print:** Becomes \colorbox.

**HTML:** Newly defined by l warp-xcolor to use a <div>, page 1218.

**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 l warp-xcolor, page 1219.

**HTML Lateximage:** Remembers and reuses the print version.

**\fcolorboxBlock:**

**Print:** Becomes \fcolorbox. Section 89

**HTML:** Newly defined by l warp-xcolor to use a <div>, page 1219.

**HTML Lateximage:** Remembers and reuses the print version \fcolorbox.

**fcolorminipage:**

**Print:** Newly defined in the l warp core.

\LWR@print@fcolorminipage at section 89

**HTML:** Newly defined by l warp-xcolor, page 1220.

**HTML Lateximage:** Uses the print version.

**\boxframe:**

**Print:** Used as-is.

**HTML:** Redefined by l warp-xcolor, page 1221.

**HTML Lateximage:** Remembers and reuses the print version.

### § 671.3 Package loading

**for HTML output:** 1 \LWR@ProvidesPackagePass{xcolor}[2016/05/11]

\color@endgroup's \endgraf was conflicting with l warp's paragraph handling.

2 \let\color@endgroup\endgroup

## § 671.4 Remembering and restoring original definitions

Remember the following print-mode actions to be restored when inside a `\textrimage` environment:

```
3 \LetLtxMacro{\LWR@print@pagecolor}{\pagecolor}
4 \LetLtxMacro{\LWR@print@nopagecolor}{\nopagecolor}
```

`\LWR@restoreorigformatting` Inside a `\textrimage` the following gets restored to their print-mode actions:

```
5 \appto{\LWR@restoreorigformatting}{%
6   \LetLtxMacro{\pagecolor}{\LWR@print@pagecolor}%
7   \LetLtxMacro{\nopagecolor}{\LWR@print@nopagecolor}%
8 }
```

## § 671.5 `\normalcolor`

`\normalcolor`

```
9 \DeclareRobustCommand{\LWR@HTML@normalcolor}{\color{black}}%
10
11 \LWR@formatted{normalcolor}
```

## § 671.6 HTML color style

`\LWR@findcurrenttextcolor`

Sets `\LWR@tempcolor` to the current color.

```
12 \renewcommand*{\LWR@findcurrenttextcolor}{%
13   \LWR@traceinfo{\LWR@findcurrenttextcolor}%
14   \protect\colorlet{\LWR@current@color}{.}%
15   \LWR@traceinfo{\LWR@findcurrenttextcolor B}%
16   \protect\convertcolorspec[named]{\LWR@current@color}{HTML}\LWR@tempcolor\relax%
17   \LWR@traceinfo{\LWR@findcurrenttextcolor: done}%
18 }
```

Prints a color style for the current color.

```
19 \newcommand*{\LWR@currenttextcolorstyle}{%
20   \LWR@findcurrenttextcolor%
21   \ifdefstring{\LWR@tempcolor}{000000}{}%
22   {}%
23   {color: \LWR@origpound\LWR@tempcolor ; }%
24 }
```

`\LWR@textcurrentcolor`  $\{\langle text \rangle\}$  Like `\textcolor` but uses the current `\color` instead.

```
25 \DeclareDocumentCommand{\LWR@textcurrentcolor}{m}{%
26   \begingroup%
27   \LWR@hook@processingtags%
28   \LWR@findcurrenttextcolor%
29   \InlineClass[color:\LWR@origpound\LWR@tempcolor]{textcolor}{%
30     \renewcommand*{\LWR@currenttextcolor}{\LWR@origpound\LWR@tempcolor}%
31     #1%
32   }%
33   \endgroup%
34 }
```

\LWR@colorstyle

{⟨1: model⟩} {⟨2: color⟩}

For a color style, prints the color converted to HTML colors.

```

35 \NewDocumentCommand{\LWR@colorstyle}{m m}{%
36   \begingroup%
37   \LWR@hook@processingtags%

```

Use the `xcolor` package to convert to an HTML color space:

```
38   \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
```

Print the converted color:

```

39   \LWR@origpound\LWR@tempcolor%
40   \endgroup%
41 }
```

\LWR@backgroundcolor [⟨model⟩] {⟨color⟩} {⟨text⟩}

Similar to `\textcolor`, but prints black text against a color background.

Converted into an HTML hex color span.

```

42 \NewDocumentCommand{\LWR@backgroundcolor}{O{named} m m}{%
43   \begingroup%
44   \LWR@hook@processingtags%
45   \InlineClass[background:\LWR@colorstyle{#1}{#2}]{backgroundcolor}{%
46     #3%
47   }%
48   \endgroup%
49 }
```

### § 671.7 HTML border

\LWR@borderpadding

{⟨colorstyle⟩} {⟨color⟩} Prints the HTML attributes for a color border and padding.

\LWR@forceminwidth must be used first in order to set the border width.

```

50 \newcommand*{\LWR@borderpadding}[2]{%
51   border:\LWR@printlength{\LWR@atleastonept} solid \LWR@colorstyle{#1}{#2} ; %
52   padding:\LWR@printlength{\fboxsep}%
53 }
```

### § 671.8 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.

```

54 \NewDocumentCommand{\LWR@HTML@color}{o m}{%
55   \IfValueTF{#1}{%
56     \LWR@print@color[#1]{#2}%
57     \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
58   }{%
59     \LWR@print@color{#2}%
60     \convertcolorspec{named}{#2}{HTML}\LWR@tempcolor%
61   }%
62   \edef\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
63 }
```

```
64  
65 \LWR@formatted{color}
```

```
\textcolor [⟨model⟩] {⟨color⟩} {⟨text⟩}
```

Converted into an `HTML` hex color span.

```
66 \NewDocumentCommand{\LWR@HTML@textcolor}{o m m}{%  
67   \begingroup%  
68   \LWR@hook@processingtags%  
69   \IfValueTF{#1}{%  
70     \color[#1]{#2}%  
71   }{  
72     \color{#2}%  
73   }%  
74   \InlineClass[color:\LWR@currenttextcolor]{textcolor}{#3}%  
75   \endgroup%  
76 }%  
77  
78 \LWR@formatted{textcolor}
```

```
\pagecolor [⟨model⟩] {⟨color⟩}
```

Ignored. Use `css` instead.

```
79 \renewcommand*{\pagecolor}[2][named]{}{}
```

```
\nopagecolor Ignored.
```

```
80 \renewcommand*{\nopagecolor}{}{}
```

```
\colorbox [⟨model⟩] {⟨color⟩} {⟨text⟩}
```

Converted into an `HTML` hex background color `<span>`.

```
81 \NewDocumentCommand{\LWR@HTML@colorbox}{O{named} m +m}{%  
82   \begingroup%  
83   \LWR@hook@processingtags%  
84   \InlineClass[%  
85     background:\LWR@colorstyle{#1}{#2} ; %  
86     padding:\LWR@printlength{\fboxsep}%  
87   ]{colorbox}{#3}%  
88   \endgroup%  
89 }
```

```
\colorboxBlock [⟨model⟩] {⟨color⟩} {⟨text⟩}
```

Converted into an `HTML` hex background color `<div>`.

```
90 \NewDocumentCommand{\LWR@HTML@colorboxBlock}{O{named} m +m}{%  
91   \begingroup%  
92   \LWR@hook@processingtags%  
  
93   \LWR@stopars%
```

```

94      \begin{BlockClass}[%  

95          background:\LWR@colorstyle{\#1}{\#2} ; %  

96          padding:\LWR@printlength{\fboxsep} %  

97      ]{\colorboxBlock}  

98      #3  

99      \end{BlockClass}  

100     \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

101     \global\booltrue{\LWR@minipagethispar}%
102 }

```

\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.

```

103 \NewDocumentCommand{\LWR@HTML\fcolorbox}{O{named} m O{\#1} m +m}{%  

104     \LWR@traceinfo{HTML fcolorbox #2 \#4}%
105     \begingroup%
106     \LWR@hook@processingtags%
107     \LWR@forceminwidth{\fboxrule}%
108     \ifthenelse{\equal{\#4}{none}}{%
109         \% no background color
110         \InlineClass[%  

111             \LWR@borderpadding{\#1}{\#2}%
112         ]{\fcolorbox}{\#5}%
113     }{%
114         \% yes background color
115         \InlineClass[%  

116             \LWR@borderpadding{\#1}{\#2} ; %
117             background:\LWR@colorstyle{\#3}{\#4}%
118         ]{\fcolorbox}{\#5}%
119     }%
120     \endgroup%
121 }

```

\fcolorboxBlock [*framemodel*] [*framecolor*] [*boxmodel*] [*boxcolor*] {*text*} (*add'l html style*)

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```

122 \NewDocumentCommand{\LWR@HTML\fcolorboxBlock}{O{named} m O{\#1} m +m d()}{%  

123     \LWR@traceinfo{HTML fcolorboxBlock #2 \#4}%
124     \begingroup%
125     \LWR@hook@processingtags%
126     \LWR@forceminwidth{\fboxrule}%

```

```

127     \LWR@stoppars%

```

```

128      \ifthenelse{\equal{#4}{none}}%
129          {%
130              \begin{BlockClass}[%
131                  \LWR@borderpadding{#1}{#2}%
132                  \IfValueT{#6}{ ; #6}%
133                  ]\fcolorboxBlock}
134                  #5
135              \end{BlockClass}%
136          }%
137          {%
138              \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
139              \begin{BlockClass}[%%
140                  background:\LWR@origpound\LWR@tempcolortwo\ ; %
141                  \LWR@borderpadding{#1}{#2}%
142                  \IfValueT{#6}{ ; #6}%
143                  ]\fcolorboxBlock}
144                  #5
145              \end{BlockClass}%
146          }%
147      \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

148      \global\booltrue{\LWR@minipagethispar}%
149      \LWR@traceinfo{HTML fcolorboxBlock done}%
150 }

```

Creates a framed HTML <div> around its contents.

A print-output version is defined in the lwarf core: section 89

```

\lWR@subfcolorminipage {\langle framemode\rangle} {\langle framecolor\rangle} {\langle background tag\rangle} {\langle height\rangle}
151 \NewDocumentCommand{\lWR@subfcolorminipage}{m m m m}{%
152     \LWR@stoppars%
153     \begin{BlockClass}[%%
154         #3%
155         \LWR@borderpadding{#1}{#2} ; %
156         \IfValueT{#4}{height:\LWR@printlength{\LWR@tempheight} ; }%
157         width:\LWR@printlength{\LWR@tempwidth}%
158     ]\fcolorminipage}%
159 }

```

Env fcolorminipage [{\langle 1:framemode\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}]

```

160 \NewDocumentEnvironment{\LWR@HTML\fcolorminipage}{O{named} m O{\#1} m O{c} o o m}
161 {%
162     \LWR@hook@processingtags%
163     \setlength{\LWR@tempwidth}{#8}%
164     \IfValueT{#6}{\setlength{\LWR@tempheight}{#6}}%
165     \LWR@forceminwidth{\fboxrule}%
166     \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
167     \ifthenelse{\equal{#4}{none}}%
168         {\lWR@subfcolorminipage{#1}{#2}{#6}}%

```

```

169      {%
170          \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
171          \LWR@subfcolorminipage{#1}{#2}%
172              {background:\LWR@origpound\LWR@tempcolortwo\ ; }%
173              {#6}%
174      }%
175  {%
176      \end{BlockClass}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

178      \global\booltrue{\LWR@minipagethispar}%
179 }%

```

\boxframe {*width*} {*height*} {*depth*}

The depth is added to the height, but the box is not descended below by the depth. \textcolor is honored.

```

180 \newcommand*{\LWR@HTML@boxframe}[3]{%
181      {%
182          \setlength{\LWR@tempwidth}{#1}%
183          \setlength{\LWR@tempheight}{#2}%
184          \addtolength{\LWR@tempheight}{#3}%
185          \LWR@forceminwidth{\fboxrule}%
186          \LWR@findcurrenttextcolor%
187          \InlineClass[%
188              display:inline-block ; %
189              border:%
190                  \LWR@printlength{\LWR@atleastonept} % space
191                  solid % space
192                  \LWR@currenttextcolor{} ; % space
193                  width:\LWR@printlength{\LWR@tempwidth} ; %
194                  height:\LWR@printlength{\LWR@tempheight}%
195          ]{boxframe}{}%
196      }%
197 }%
198
199 \LWR@formatted{boxframe}

```

### § 671.9 Row colors

```

\rowc@lers
[cmds] {startrow} {odd color} {even color}
200 \newcommand*{\LWR@xcolor@tempcolor}{}%
201
202 \def\rowc@lers[#1]#2#3#4%
203 {%
204     \rownum=1%
205     \@rowcolorstrue%
206     \@ifempty{#3}{%
207         {\def\@oddrowcolor{@norowcolor}}%
208         {%
209             \convertcolorspec{named}{#3}{HTML}\LWR@xcolor@tempcolor%
210             \edef\@oddrowcolor{%
211                 \csdef{\LWR@xcolorrowHTMLcolor}{\LWR@xcolor@tempcolor}%

```

```

212      }%
213      }%
214  \ifxempty{#4}%
215    {\def\@evenrowcolor{\norowcolor}%
216    {%
217      \convertcolorspec[named]{#4}{HTML}\LWR@xcolortempcolor%
218      \edef\@evenrowcolor{%
219        \csdef{\LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%
220      }%
221      }%
222  \if@rowcmd
223    \def\@rowcolors
224    {%
225      #1%
226      \if@rowcolors
227        \noalign{%
228          \relax\ifnum\rownum<#2\norowcolor\else
229            \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi\fi%
230        }%
231        \fi%
232      }%
233  \else
234    \def\@rowcolors
235    {%
236      \if@rowcolors
237        \ifnum\rownum<#2%
238          \noalign{%
239            \norowcolor
240          }%
241        \else
242          #1%
243          \noalign{%
244            \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi%
245          }%
246          \fi
247          \fi%
248      }%
249      \fi
250    \ignorespaces%
251 }

```

\norowcolor      Turns off color for this row.

```

252 \def\@norowcolor{%
253   \renewcommand{\LWR@xcolorrowHTMLcolor}{}%
254 }

```

\@rowcolors      Executed at the end of each row.

```

255 \def\@rowcolors{%
256 %  \noalign{%
257 %    \advance\rownum\@ne%
258 %  }%
259  \@rowcolors%
260 }

```

---

File 563 **l warp-xexchangebar.sty**

§ 672 Package **xexchangebar**

Pkg xexchangebar xexchangebar is ignored

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xexchangebar}[2017/08/03]  
2 \LWR@origRequirePackage{l warp-changebar}

---

File 564 **l warp-xellipsis.sty**

§ 673 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{\xelippostaft}%
29 }%
30 }%
```

---

**File 565 l warp-xetexko.sty****§ 674 Package xetexko***(Emulates or patches code by DOHYUN KIM.)*

Pkg xetexko

xetexko is patched for use by l warp.

**for HTML output:**  
1 \LWR@loadbefore{xetexko}  
2  
3 \LWR@ProvidesPackagePass{xetexko}[2021/09/06]  
  
4 \protected\def\typesetvertical{}  
5 \protected\def\typesethorizontal{}  
6  
7 \def\verticallytypesetting{\BlockClass{verticalrl}}  
8 \def\beginverticallytypesetting{\BlockClass{verticalrl}}  
9 \def\endverticallytypesetting{\endBlockClass}  
10  
11 \protected\def\vertical#1{\BlockClass{verticalrl}}  
12 \protected\def\endvertical{\endBlockClass}  
13 \protected\def\horizontal#1{\BlockClass{horizontaltb}}  
14 \protected\def\endhorizontal{\endBlockClass}  
15 \DeclareDocumentCommand{\vertlatin}{m}{#1}

---

**File 566 l warp-xevlna.sty****§ 675 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 567 l warp-xfakebold.sty****§ 676 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 `\textrm`. Text mode is not set bold, but `\setBold` in text will be applied to any following SVG math.

**for HTML output:** 1 \LWR@ProvidesPackagePass{xfakebold}[2020/06/24]

```

2 \newcommand*{\LWR@HTML@setBold}{\booltrue{\LWR@xfakebold}}
3 \LWR@formatted{setBold}
4
5 \newcommand*{\LWR@HTML@unsetBold}{\boolfalse{\LWR@xfakebold}}
6 \LWR@formatted{unsetBold}
7
8 \renewcommand*{\LWR@applyxfakebold}{%
9     \ifbool{\LWR@xfakebold}{\LWR@print@setBold}{\LWR@print@unsetBold}%
10 }

```

For MATHJAX, `xfakebold` is ignored.

```

11 \begin{warpMathJax}
12 \CustomizeMathJax{\newcommand{\setBold}[1][]{\relax}}
13 \CustomizeMathJax{\newcommand{\unsetBold}{}}
14 \end{warpMathJax}

```

## File 568 l warp-xfrac.sty

§ 677 Package **xfrac**

(Emulates or patches code by THE LATEX3 PROJECT.)

Pkg xfrac

**for HTML output:** 1 \LWR@ProvidesPackagePass{xfrac}[2018-08-23]

⚠ **font size** In the user's document preamble, `l warp` should be loaded after font-related setup. During HTML conversion, this font is used by `l warp` to generate its initial PDF output containing HTML tags, later to be converted by `pdftotext` to a plain text file. While the text may be in any font which `pdftotext` can read, the math is directly converted into SVG images using this same user-selected font. `xfrac` below is set for the Latin Modern (lmr) font. If another font is used, it may be desirable to redefine `\xfracHTMLfontsize` with a different em size.

`\sfrac` [ $\langle instance \rangle$ ] [ $\langle num \rangle$ ] [ $\langle sep \rangle$ ] [ $\langle denom \rangle$ ]

A text-mode instance for the default font is provided below. The numerator and denominator formats are adjusted to encase everything in HTML tags. `\scalebox` is made null inside the numerator and denominator, since the HTML tags should not be scaled, and we do not want to introduce additional HTML tags for scaling.

In math mode, which will appear inside a `\textrm`, 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{lfrac}{lmr}{text}{
20   numerator-format = {%
21     \begingroup%
22     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
23     \InlineClass{numerator}{#1}\,%
24     \endgroup%
25   },
26   denominator-format = {%
27     \begingroup%
28     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
29     \InlineClass{denominator}{#1}\,%
30     \endgroup%
31 },

```

For *pdftotext*, do not scale the text:

```

32   scaling = false
33 }
34
35 \DeclareInstance{xfrac}{lmss}{text}{
36   numerator-format = {%
37     \begingroup%
38     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
39     \InlineClass{numerator}{#1}\,%
40     \endgroup%
41   },
42   denominator-format = {%
43     \begingroup%
44     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
45     \InlineClass{denominator}{#1}\,%
46     \endgroup%
47 },

```

For *pdftotext*, do not scale the text:

```

48   scaling = false

```

```

49 }
50
51 \DeclareInstance{xfrac}{lmtt}{text}{
52   numerator-format = {%
53     \begingroup%
54     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
55     \InlineClass{numerator}{#1}\%,%
56     \endgroup%
57   },
58   denominator-format = {%
59     \begingroup%
60     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
61     \InlineClass{denominator}{#1}\%
62     \endgroup%
63 },

```

For *pdftotext*, do not scale the text:

```

64   scaling = false
65 }

```

For MATHJAX:

```

66 \begin{warpMathJax}
67 \CustomizeMathJax{\newcommand{\LWRsfrac}[2][]{\{}^{\LWRsfracnumerator\!#1\{\}}_{\#2\}}}
68 \CustomizeMathJax{\newcommand{\sfrac}[2][]{\def\LWRsfracnumerator{\#2}\LWRsfrac}}
69 \end{warpMathJax}

```

### File 569 **l warp-xltabular.sty**

## § 678 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 570 l warp-xltxtxtra.sty**

§ 679 Package **xltxtxtra**

(Emulates or patches code by WILL ROBERTSON, JONATHAN KEW.)

Pkg xltxtxtra xltxtxtra is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xltxtxtra}[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 571 l warp-xmpincl.sty**

§ 680 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 572 l warp-xpiano.sty**

§ 681 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 573 **l warp-xpinyin.sty**

§ 682 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>, <rt>, and <rp> tags per modern HTML. Color is detected. ratio is ignored for *pdftotext* to work correctly. Extra spaces are placed inside the tags to allow line breaks in the HTML text.

```

2 \ExplSyntaxOn
3 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_make_pinyin_box: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 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_CJKsymbol:nn #1#2
19 {
20   __xpinyin_leavevmode:
21   \LWR@htmltagc{ruby}
22   __xpinyin_save_CJKsymbol:n {#2}\null% \null removes extra space
23   \LWR@htmltagc{rp}(\LWR@htmltagc{/rp\space}
24   \LWR@htmltagc{rt}
25   __xpinyin_make_pinyin_box:nnn {#1} {#2} { \use:c { c__xpinyin_ #1 _tl } }
26   \LWR@htmltagc{/rt\space}
27   \LWR@htmltagc{rp})\LWR@htmltagc{/rp\space}
28   \LWR@htmltagc{/ruby\space}\null
29 }
30 \LWR@formatted{__xpinyin_CJKsymbol:nn}

31 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_single_CJKsymbol:nn #1#2
32 {
33   __xpinyin_leavevmode:
34   \LWR@htmltagc{ruby}
35   __xpinyin_save_CJKsymbol:n {#1}\null% \null removes extra space
36   \LWR@htmltagc{rp}(\LWR@htmltagc{/rp\space}
37   \LWR@htmltagc{rt}
38   __xpinyin_make_pinyin_box:xnn
39   { __xpinyin_to_unicode:n {#1} } {#1} { __xpinyin_pinyin:n {#2} }
40   \LWR@htmltagc{/rt\space}
41   \LWR@htmltagc{rp})\LWR@htmltagc{/rp\space}
42   \LWR@htmltagc{/ruby\space}\null
43 }
44 \LWR@formatted{__xpinyin_single_CJKsymbol:nn}
45
46 \ExplSyntaxOff

```

The **lwarf** core uses the following to disable CJK xpinyin for filenames, sidetoc, and footnotes.

```

47 \renewcommand*{\LWR@disablepinyin}{\disablepinyin}
48
49 \FilenameNullify{\LWR@disablepinyin}

```

### File 574 **lwarf-xr.sty**

§ 683 Package **Xr**

(Emulates or patches code by JEAN-PIERRE DRUCBERT, DAVID CARLISLE.)

**Xr** is patched for use by **lwarf**. 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 575 **l warp-xr-hyper.sty**

§ 684 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 576 **l warp-xtab.sty**

§ 685 Package **xtab**

*(Emulates or patches code by PETER WILSON.)*

Pkg **xtab**

**xtab** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xtab}[2011/07/31]

⚠ **Misplaced alignment tab character &** For **\tablefirsthead**, etc., enclose them as follows:

```

\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars

```

See section 8.10.1.

⚠ **latextimage** **supertabular** and **xtab** are not supported inside a **latextimage**.

```

2 \newcommand{\LWRXT@firsthead}{}
3
4 \newcommand{\tablefirsthead}[1]{%
5   \long\gdef\LWRXT@firsthead{#1}%
6 }
7
8 \newcommand{\tablehead}[1]{}
9
10 \newcommand{\tablelasthead}[1]{}

```

```
11
12 \newcommand{\notablelasthead}{}
13
14 \newcommand{\tabletail}[1]{}
15
16 \newcommand{\LWRXT@lasttail}{}
17
18 \newcommand{\tablelasttail}[1]{%
19     \long\gdef\LWRXT@lasttail{\#1}%
20 }

21 \newcommand{\tablecaption}[2][]{%
22     \long\gdef\LWRXT@caption{%
23         \ifblank{\#1}{%
24             {\caption{\#2}}%
25             {\caption[\#1]{\#2}}%
26         }%
27     }%
28
29 \let\topcaption\tablecaption
30 \let\bottomcaption\tablecaption

31 \newcommand*\LWRXT@caption{}
32
33 \newcommand*\shrinkheight[1]{}%
34
35 \newcommand*\xentrystretch[1]{}%
36
37 \NewDocumentEnvironment{xtabular}{s o m}%
38 {%
39 \LWR@traceinfo{xtabular}%
40 \table%
41 \LWRXT@caption%
42 \begin{tabular}{#3}%
43 \TabularMacro\ifdefvoid{\LWRXT@firsthead}%
44 {\LWR@getnexttoken}%
45 {\expandafter\LWR@getnexttoken\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 577 **l warp-xunicode.sty**

§ 686 Package **xunicode**

Pkg xunicode Error if xunicode is loaded after l warp.

Patch l warp-xunicode, but also verify that it 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*\texttwelvedash{}%
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 578 **l warp-xurl.sty**

§ 687 Package **xurl**

Pkg xurl

xurl is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{xurl}[2020/01/14]
2
3 \def\useOriginalUrlSetting{}

```

---

File 579 **l warp-xy.sty**

§ 688 Package **xy**

(Emulates or patches code by KRISTOFFER H. ROSE, ROSS MOORE.)

Pkg xy

xy is patched for use by l warp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xy}[2013/10/06]

```

After xy modules have been loaded:

```

2 \AtBeginDocument{

```

The original definitions without a lateximage:

```

3 \LetLtxMacro\LWR@orig@xy\xy
4 \LetLtxMacro\LWR@orig@endxy\endxy

```

The outer-most xy environment is placed in a lateximage, but not more than one level deep, which would conflict with xy:

```

5 \renewcommand*\{\xy}{%
6   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
7     {\addtocounter{\LWR@lateximagedepth}{1}}%
8     {\begin{lateximage}[-xy-\~\PackageDiagramAltText]}%
9     \LWR@orig@xy%
10 }%
11
12 \renewcommand*\{\endxy}{%
13   \LWR@orig@endxy%
14   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{1}{%
15     {\addtocounter{\LWR@lateximagedepth}{-1}}%
16     {\end{lateximage}}%
17 }

```

The \xybox must use the original definitions of \xy, \endxy:

---

```

18 \def\xybox#1{%
19   \LWR@orig@xy#1\LWR@orig@endxy%
20   \Edge@c={\rectangleEdge}\computeLeftUpness@%
21 }

```

If `\xygraph` is used, it is placed inside a `lateximage`:

```

22 \@ifundefined{xygraph}{}{
23
24 \LetLtxMacro{\LWR@origxygraph}{\xygraph}
25
26 \renewcommand{\xygraph}[1]{%
27   \begin{lateximage}[-xy- xygraph \PackageDiagramAltText]
28   \LWR@origxygraph{#1}
29   \end{lateximage}
30 }
31
32 }% xygraph defined
33
34 }% AtBeginDocument

```

---

#### File 580 **l warp-zhlineskip.sty**

##### § 689 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 581 **l warp-zwpagelayout.sty**

##### § 690 Package **zwpagelayout**

(Emulates or patches code by ZDENĚK WAGNER.)

Pkg zwpagelayout zwpagelayout is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{zwpagelayout}[2013/01/13]

2 \def\noBboxes{}
3 \onlypreamble\noBboxes
4
5 \expandafter\ifx\csname definecolor\endcsname\relax \else
6   \definecolor{cmykblack}{cmyk}{0,0,0,1}
7   \definecolor{grblack}{gray}{0}
8 %   \ifzwpl@redefineblack
9 %     \definecolor{black}{cmyk}{0,0,0,1}\color{black}
10%   \fi
11  \definecolor{cmykred}{cmyk}{0,1,1,0}

```

```

12 \definecolor{cmykgreen}{cmyk}{1,0,1,0}
13 \definecolor{cmykblue}{cmyk}{1,1,0,0}
14 \definecolor{rgbred}{rgb}{1,0,0}
15 \definecolor{rgbgreen}{rgb}{0,1,0}
16 \definecolor{rgbblue}{rgb}{0,0,1}
17 % \ifzwpl@redefinetocmyk
18 %   \definecolor{red}{cmyk}{0,1,1,0}
19 %   \definecolor{green}{cmyk}{1,0,1,0}
20 %   \definecolor{blue}{cmyk}{1,1,0,0}
21 % \fi
22 \fi
23
24 \let\OverprintXeTeXExtGState\relax
25
26 \DeclareRobustCommand\SetOverprint{\ignorespaces}
27 \DeclareRobustCommand\SetKnockout{\ignorespaces}
28 \DeclareRobustCommand\textoverprint[1]{{\SetOverprint#1}}
29 \DeclareRobustCommand\textknockout[1]{{\SetKnockout#1}}
30
31 \def\SetPDFminorversion#1{}
32 \onlypreamble\SetPDFminorversion
33
34 \newcommand*\Vcorr(){}
35
36 \DeclareRobustCommand\vb[1][]{}
37 \NewDocumentCommand{\NewOddPage}{* o}{}
38 \NewDocumentCommand{\NewEvenPage}{* o}{}
39 \def\SetOddPageMessage#1{\gdef\ZW@oddwarning}
40 \def\SetEvenPageMessage#1{\gdef\Z@evenwarning}
41 \def\ZW@oddwarning{Empty page inserted}\let\ZW@evenwarning\ZW@oddwarning
42
43 \def\clap#1{#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 582 **l warp-patch-komascript.sty**

§ 691 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{lwarf-patch-komascript}

typearea is emulated.

2 \RequirePackage{lwarf-typearea}

tocbasic is emulated.

3 \RequirePackage{lwarf-tocbasic}

scrextend patches most of the new macros.

4 \RequirePackage{lwarf-scrextend}

Indexing macros, simplified for lwarf:

```

5 \AtBeginDocument{
6
7 \renewcommand*\idx@heading{%
8   \idx@heading{\indexname}%
9 }
10
11 \renewenvironment{theindex}{%
12   \idx@heading%
13   \index@preamble\par\nobreak
14   \LetLtxMacro\item\lwr@indexitem%
15   \LetLtxMacro\subitem\lwr@indexsubitem%
16   \LetLtxMacro\subsubitem\lwr@indexsubsubitem%
17 }
18 {}
19
20 \renewcommand*\indexspace{%
21
22 }% AtBeginDocument

```

The \minisec is placed inside a <div> of class minisec.

```

23 \renewcommand*\minisec[1]{%
24   \begin{BlockClass}{minisec}
25     #1
26   \end{BlockClass}
27 }

```

The part and chapter preambles are placed as plain text just after each heading.

```

28 \@ifundefined{setpartpreamble}{}{%
29 \RenewDocumentCommand{\setpartpreamble}{o o +m}{%
30   \renewcommand{\part@preamble}{#3}%

```

```

31 }
32 }
33
34 \@ifundefined{setchapterpreamble}{}{
35 \RenewDocumentCommand{\setchapterpreamble}{o o +m}{%
36     \renewcommand{\chapter@preamble}{#3}%
37 }
38 }
```

Do not use `\chaptername`:

```
39 \renewcommand*{\LWR@printchaptername}{}{}
```

Simple captions are used in all cases.

```

40 \AtBeginDocument{
41 \AtBeginDocument{
42     \LetLtxMacro{\captionbelow}{\caption}
43     \LetLtxMacro{\captionabove}{\caption}
44
45     \LetLtxMacro{\captionofbelow}{\captionof}
46     \LetLtxMacro{\captionofabove}{\captionof}
47 }
48 }
49
50 \RenewDocumentEnvironment{captionbeside}{o m o o o s}
51 {}
52 {%
53     \IfValueTF{#1}{%
54         {\caption[#1]{#2}}%
55         {\caption{#2}}%
56     }
57
58 \RenewDocumentEnvironment{captionofbeside}{m o m o o 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 583 **l warp-patch-memoir.sty**

§ 692 Package **patch-memoir**

(Emulates or patches code by PETER WILSON.)

Pkg l warp-patch-memoir Patches for memoir class.

 **Not fully tested!** Please send bug reports!

`\warp` loads this package when the `memoir` class is detected.

 **captions** `\warp` uses `caption`, which causes a warning from `memoir`. This is normal. Adjust captions via `caption`, instead of `memoir`.

While emulating `memoir`, `\warp` pre-loads a number of packages (section 692.1). 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 `\warp`:

```
\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{\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 `\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** `\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 `\warpmk`. The `glossaries` pack-

age may be used instead, but does require the glossary entries be changed from the `memoir` syntax to the `glossaries` syntax.

**for HTML output:** 1 \ProvidesPackage{l warp-patch-memoir}

## § 692.1 Packages

These are pre-loaded to provide emulation for many of `memoir`'s functions. `memoir` pretends that `abstract`, etc. are already loaded, via its “emulated” package mechanism, but `l warp` is directly loading the “`l warp-`” version of each, which happens to avoid `memoir`'s emulation system.

```
2 \RequirePackage{l warp-abstract}% req'd
3 % \RequirePackage{l warp-array}% no longer req'd
4 \RequirePackage{l warp-booktabs}% req'd
5 % \RequirePackage{l warp-ccaption}% emulated below
6 \RequirePackage{l warp-changepage}% req'd
7 \RequirePackage{l warp-crop}
8 % \RequirePackage{l warp-dcolumn}% no longer req'd
9 \RequirePackage{l warp-enumerate}% req'd
10 \RequirePackage{l warp-epigraph}% req'd
11 \RequirePackage{l warp-fancyvrb}% req'd
12 \RequirePackage{l warp-footmisc}% req'd

13 \let\framed\relax \let\endframed\relax
14 \let\shaded\relax \let\endshaded\relax
15 \let\leftbar\relax \let\endleftbar\relax
16 \let\snugshade\relax \let\endsnugshade\relax
17 \RequirePackage{l warp-framed}% req'd
18
19 \RequirePackage{l warp-hanging}% req'd
20 \RequirePackage{l warp-makeidx}% req'd
21 \DisemulatePackage{moreverb}
22 \RequirePackage{l warp-moreverb}
23 \RequirePackage{l warp-mparhack}
24 \RequirePackage{l warp-needspace}% req'd
25 \RequirePackage{l warp-nextpage}% req'd
26 \RequirePackage{l warp-pagenote}% req'd
27 \RequirePackage{l warp-parskip}
28 \RequirePackage{l warp-setspace}% req'd
29 \RequirePackage{l warp-showidx}

30 \makeindex

31 % \RequirePackage{l warp-tabularx}% no longer req'd
32 \RequirePackage{l warp-titling}% req'd
33 % \RequirePackage{l warp-tocbibind}% not emulated by memoir
34 \RequirePackage{l warp-tocloft}% req'd
35 \RequirePackage{l warp-verse}% req'd
```

## § 692.2 Label handling

Insert the `lwarp` 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.
- `lwarp`'s `\LWR@new@label` uses `\LWR@orig@label`.
- Want `memoir`'s `\label` to use `lwarp`'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 `lwarp`.

36 `\LetLtxMacro{\LWR@orig@label}{\@mem@old@label}`

37 `\LetLtxMacro{\@mem@old@label}{\LWR@new@label}`

Patches for subfloats to support additional `lwarp` labels. This is the non-hyperref version from `memoir`.

```

38 \AtBeginDocument{
39   \renewcommand*{\sf@memsub@label}[1]{%
40     \@bsphack
41     \sf@memsub@label@hook{#1}%
42     \@memoldlabel{#1}%
43     \cref@label{#1}%
44     \LWR@label@createtag{sub@#1}%
45     \protected@write\@auxout{}{%
46       \string\newlabel{sub@#1}%
47       {{\@nameuse{@thesub@\capttype}}}%
48       {\thepage}}}}%
49     \LWR@write@lwarplabel{sub@#1}%
50     \@esphack
51   }
52 }
```

## § 692.3 Page layout

`memoir` already set the page size to a default, so it must be forced large for `lwarp`'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}{}%
```



```
120 \renewcommand*\{\pagelargepostvo\}{}  
121 \renewcommand*\{\pagesmalldemyvo\}{}  
122 \renewcommand*\{\pagedemyvo\}{}  
123 \renewcommand*\{\pagemediumvo\}{}  
124 \renewcommand*\{\pagesmallroyalvo\}{}  
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 \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
```

---

```

180 \renewcommand*{\semiisopage}[1][]{}
181
182 \renewcommand{\setpagebl}[3]{}
183 \renewcommand{\setpageml}[3]{}
184 \renewcommand{\setpagetl}[3]{}
185 \renewcommand{\setpagebm}[3]{}
186 \renewcommand{\setpagegr}[3]{}
187 \renewcommand{\setpagemr}[3]{}
188 \renewcommand{\setpagebr}[3]{}
189 \renewcommand{\setpagebm}[3]{}
190 \renewcommand{\setpagecc}[3]{}

```

#### § 692.4 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}[1]{}
219 \renewcommand*{\memdskipstretch}(){}
220 \renewcommand*{\noDisplayskipStretch}(){}
221 \renewcommand*{\memdskips}(){}
222
223 \renewcommand*{\midsloppy}){}
224 \renewenvironment*{midsloppypar}{}{}
225
226 \renewcommand*{\sloppybottom}){}

```

#### § 692.5 Titles

```

227 \csletcs{titlingpage*}{titlingpage}
228 \csletcs{endtitlingpage*}{endtitlingpage}
229 \let\titlingpageend\relax
230 \newcommand{\titlingpageend}[2]{}
231 \let\andnext\and

```

---

```

232 \renewcommand*\thanksmarkstyle}[1]{}
233
234 \renewcommand{\thanksfootmark}{%
235   \thanksscript{\tamark}%
236 }
237
238 % \newlength{\thanksmarksep} already provided by memoir

239 \renewcommand\titlingpageend[2]{}

```

## § 692.6 Abstracts

```

240 % \newlength{\absindent}
241 % \newlength{\absparsep}
242 \renewcommand*\abstractcol(){}
243 \renewcommand*\abstractintoc(){}
244 \renewcommand*\abstractnum(){}
245 \renewcommand*\abstractrunin(){}

```

## § 692.7 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\@sappage{%
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 \csetcs{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*{\midpartskip}{}  
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*{\afterchapnum}{}  
310 % \newlength{\midchapskip}  
311 \renewcommand*{\afterchaptertitle}{}  
312 % \newlength{\afterchapskip}  
313 \renewcommand*{\printchaptername}{}  
314 \renewcommand*{\chapnamefont}{}  
315 \renewcommand*{\chapnamenum}{}  
316 \renewcommand*{\printchapnum}{}  
317 \renewcommand*{\chapnumfont}{}  
318 \renewcommand{\printchaptertitle}[1]{}  
319 \renewcommand*{\chaptitlefont}{}  
320 \renewcommand*{\printchaptnonum}{}  
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
```

```
337 % \newlength{\prechapterprecissshift}
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*{\setaftersubparaskip}[1]{}
353 \renewcommand*{\setparaindent}[1]{}
354 \renewcommand*{\setparaheadstyle}[1]{}
355 \renewcommand*{\setbeforesubparaskip}[1]{}
356 \renewcommand*{\setaftersubparaskip}[1]{}
357 \renewcommand*{\setsubparaindent}[1]{}
358 \renewcommand*{\setsubparaheadstyle}[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{\setsubsechook}[1]{}
370 \renewcommand*{\subsubsechook}{}
371 \renewcommand{\setsubsubsechook}[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]{}
```

## § 692.8 Pagination and headers

```
398 \renewcommand*{\savepagenumber}{}  
399 \renewcommand*{\restorepagenumber}{}  
400 \renewcommand*{\uppercaseheads}{}  
401 \renewcommand*{\nouppercaseheads}{}  
402  
403 \renewcommand*{\bookpagemark}[1]{}  
404 \renewcommand*{\partmark}[1]{}  
405 \renewcommand*{\bibmark}{}  
406 \renewcommand*{\indexmark}{}  
407 \renewcommand*{\glossarymark}{}  
408  
409 \LWR@origpagestyle{empty}  
410 \renewcommand*{\ps@empty}{}  
411 \renewcommand*{\makepagestyle}[1]{}  
412 \renewcommand*{\emptypshook}{}%  
413 % \renewcommand*{\empty@oddhead}{}  
414 % \renewcommand*{\empty@oddfoot}{}  
415 % \renewcommand*{\empty@evenhead}{}  
416 % \renewcommand*{\empty@evenfoot}{}  
417 \renewcommand*{@oddhead}{}  
418 \renewcommand*{@oddfoot}{}  
419 \renewcommand*{@evenhead}{}  
420 \renewcommand*{@evenfoot}{}  
421 \renewcommand*{\aliaspagestyle}[2]{}  
422 \renewcommand*{\copypagestyle}[2]{}  
423  
424 \renewcommand*{\makeevenhead}[4]{}  
425 \renewcommand*{\makeoddhead}[4]{}  
426 \renewcommand*{\makeevenfoot}[4]{}  
427 \renewcommand*{\makeoddfoot}[4]{}  
428 \renewcommand*{\makerunningwidth}[3]{}  
429 % \newlength{\headwidth}  
430 \renewcommand*{\makeheadrule}[3]{}  
431 \renewcommand*{\makefootrule}[3]{}  
432 \renewcommand*{\makeheadfootruleprefix}[3]{}  
433 % \newlength{\normalrulethickness}  
434 % \setlength{\normalrulethickness}{.4pt}  
435 % \newlength{\footruleheight}  
436 % \newlength{\footruleskip}  
437 \renewcommand*{\makeheadposition}[5]{}  
438 \renewcommand{\makepsmarks}[2]{}  
439 \renewcommand*{\makeheadfootstrut}[3]{}  
  
440 \renewcommand{\createmark}[5]{\csdef{#1mark}[1]{}}  
441 \renewcommand{\createplainmark}[3]{\csdef{#1mark}{}}  
  
442 \renewcommand{\memUHead}[1]{}  
443 \renewcommand*{\clearplainmark}[1]{}  
444 \renewcommand*{\clearmark}[1]{}  
445 \renewcommand{\addtopsmarks}[3]{}  
446 \renewcommand{\ifonlyfloats}[2]{#2}  
447 \renewcommand*{\mergepagefloatstyle}[3]{}  
448  
449 \renewcommand*{\framepichead}{}  
450 \renewcommand*{\framepictextfoot}{}  
451 \renewcommand*{\framepichook}{}  
452
```

---

```
452 \renewcommand*\showheadfootlocoff(){}
453 \renewcommand*\showtextblocklocoff{}
```

## § 692.9 Paragraphs and lists

```
454 \renewcommand{\hangfrom}[1]{#1}
455 \let\centerfloat\centering
456 \renewcommand*\raggedyright[1][]{}
457 % \newlength{\ragrparindent}
458 \renewcommand{\sourceatright}[2][]{\attribution{#2}}
459 \let\memorigdbs\LWR@endofline

460 \renewcommand*\memorigpar{\par}
461 \let\atcentercr\LWR@endofline
462
463 \renewcommand*\linenottooshort[1][]{}
464 \renewcommand*\russianpar(){}
465 \renewcommand*\lastlinerulefill(){}
466 \renewcommand*\lastlineparrule(){}
467 \renewcommand*\justlastraggedleft(){}
468 \renewcommand*\raggedrightthenleft(){}
469 \renewcommand*\leftcenterright(){}
470
471 \renewcommand{\leftspringright}[4]{%
472   \begin{minipage}{#1\linewidth}#3\end{minipage}\quad%
473   \begin{minipage}{#2\linewidth}\begin{flushright}#4\end{flushright}\end{minipage}%
474 }
475
476 \ renewenvironment*{blockdescription}
477 {\LWR@descriptionstart\LWR@origdescription}
478 {\enddescription}
479
480 \renewcommand*\blockdescriptionlabel[1]{\textbf{#1}}
481 \ renewenvironment*{labelled}[1]{\begin{description}}{\end{description}}
482 \ renewenvironment*{flexlabelled}[6]{\begin{description}}{\end{description}}
483 \renewcommand*\tightlists(){}
484 \renewcommand*\defaultlists(){}
485 \RenewDocumentCommand{\firmlists}{s}{}
486 \renewcommand*\firmlist(){}
487 \renewcommand*\tightlist(){}
488 \renewcommand*\zerotrvseps(){}
489 \renewcommand*\savetrvseps){}
490 \renewcommand*\restoretrivseps{}}
```

## § 692.10 Contents lists

```
491 \csletcs{tableofcontents*}{tableofcontents}
492 \csletcs{listoffigures*}{listoffigures}
493 \csletcs{listoftables*}{listoftables}
494 \ renewenvironment{KeepFromToc}{}{}
495 \renewcommand*\onecoltocetc(){}
496 \renewcommand*\twocoltocetc(){}
497 \renewcommand*\ensureonecol(){}
498 \renewcommand*\restorefromonecol(){}
499 \renewcommand*\doccoltocetc(){}
500
501 \renewcommand{\tocheadstart}(){}
502 \renewcommand{\printtoctitle}[1]{}
503 \renewcommand{\tocmark}{}{}
```

---

```

504 \renewcommand{\aftertoctitle}{}
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{\cftchapternumwidth}
536 \renewcommand*{\cftchapterfont}{}
537 \renewcommand*{\cftchaptername}{}
538 \renewcommand*{\cftchapterpresnum}{}
539 \renewcommand*{\cftchapteraftersnum}{}
540 \renewcommand*{\cftchapteraftersnumb}{}
541 \renewcommand*{\cftchapterleader}{}
542 \renewcommand*{\cftchapterdotsep}{1}
543 \renewcommand*{\cftchapterpagefont}{}
544 \renewcommand*{\cftchapterafterpnum}{}
545 \renewcommand*{\cftchapterformatpnum}[1]{}
546 \renewcommand*{\cftchapterformatpnumhook}[1]{}

547 % \newlength{\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{\cftsubsection indent}
563 % \newlength{\cftsubsectionnum width}
564 \renewcommand*{\cftsubsection font}(){}
565 \renewcommand*{\cftsubsection name}){}
566 \renewcommand*{\cftsubsectionpres num}){}
567 \renewcommand*{\cftsubsectiona fter num}){}
568 \renewcommand*{\cftsubsectiona fter numb}){}
569 \renewcommand*{\cftsubsection leader}){}
570 \renewcommand*{\cftsubsectiondot sep}{1}
571 \renewcommand*{\cftsubsectionpage font}){}
572 \renewcommand*{\cftsubsectionafter pnum}){}
573 \renewcommand*{\cftsubsectionformatpnum}[1]{}
574 \renewcommand*{\cftsubsectionformatpnumhook}[1]{}

575 % \newlength{\cftbeforesubsubsections skip}
576 % \newlength{\cftsubsubsection indent}
577 % \newlength{\cftsubsubsectionnum width}
578 \renewcommand*{\cftsubsubsection font}){}
579 \renewcommand*{\cftsubsubsection name}){}
580 \renewcommand*{\cftsubsubsectionpres num}){}
581 \renewcommand*{\cftsubsubsectiona fter num}){}
582 \renewcommand*{\cftsubsubsectiona fter numb}){}
583 \renewcommand*{\cftsubsubsection leader}){}
584 \renewcommand*{\cftsubsubsectiondot sep}{1}
585 \renewcommand*{\cftsubsubsectionpage font}){}
586 \renewcommand*{\cftsubsubsectionafter pnum}){}
587 \renewcommand*{\cftsubsubsectionformatpnum}[1]{}
588 \renewcommand*{\cftsubsubsectionformatpnumhook}[1]{}

589 % \newlength{\cftbeforeparagraphskip}
590 % \newlength{\cftp aragraph indent}
591 % \newlength{\cftp aragraphnum width}
592 \renewcommand*{\cftp aragraph font}){}
593 \renewcommand*{\cftp aragraph name}){}
594 \renewcommand*{\cftp aragraphpres num}){}
595 \renewcommand*{\cftp aragrapha fter num}){}
596 \renewcommand*{\cftp aragrapha fter numb}){}
597 \renewcommand*{\cftp aragraph leader}){}
598 \renewcommand*{\cftp aragraphdot sep}{1}
599 \renewcommand*{\cftp aragraphpage font}){}
600 \renewcommand*{\cftp aragraphafter pnum}){}
601 \renewcommand*{\cftp aragraphformatpnum}[1]{}
602 \renewcommand*{\cftp aragraphformatpnumhook}[1]{}

603 % \newlength{\cftbeforesubparagraphskip}
604 % \newlength{\cftsubparagraph indent}
605 % \newlength{\cftsubparagraphnum width}
606 \renewcommand*{\cftsubparagraph font}){}
607 \renewcommand*{\cftsubparagraph name}){}
608 \renewcommand*{\cftsubparagraphpres num}){}
609 \renewcommand*{\cftsubparagrapha fter num}){}
610 \renewcommand*{\cftsubparagrapha fter numb}){}
611 \renewcommand*{\cftsubparagraph leader}){}
612 \renewcommand*{\cftsubparagraphdot sep}{1}
613 \renewcommand*{\cftsubparagraphpage font}){}
614 \renewcommand*{\cftsubparagraphafter pnum}){}
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{\cftbeforetablesip}
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}[]{}
658 \renewcommand*{\cfttableformatpnumhook}[1]{}

659 % \newlength{\cftbeforesubtablesip}
660 % \newlength{\cftsubtableindent}
661 % \newlength{\cftsubtablenumwidth}
662 \newcommand*{\cftsubtablefont}={}
663 \newcommand*{\cftsubtablename}={}
664 \newcommand*{\cftsubtablepresnum}={}
665 \newcommand*{\cftsubtableaftersnum}={}
666 \newcommand*{\cftsubtableaftersnumb}={}
667 \renewcommand*{\cftsubtableleader}={}
668 \newcommand*{\cftsubtabledotsep}{1}
669 \renewcommand*{\cftsubtablepagefont}={}
670 \renewcommand*{\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]{}

```

## § 692.11 Floats and captions

\@xfloat  
\@dblfloat

Reestablish lwarf's takeover the float handing, which memoir tried to grab:

```

697 \AtBeginDocument{
698 \def \@xfloat #1[#2]{%
699   \LWR@floatbegin{#1}[#2]
700   \normalsize
701   \@nameuse{#1adjustment}%
702   \LWR@futurenonspacetoken\LWR@mynexttoken\LWR@floatalignment%
703 }
704 \def \@dblfloat #1[#2]{%
705   \LWR@floatbegin{#1}[#2]
706   \normalsize
707   \@nameuse{#1adjustment}%
708   \LWR@futurenonspacetoken\LWR@mynexttoken\LWR@floatalignment%
709 }
710 }

```

\newfloat

[⟨1: *within*⟩] {⟨2: *type*⟩} {⟨3: *ext*⟩} {⟨4: *capname*⟩}

```

711 \RenewDocumentCommand{\newfloat}{o m m m}{%
712   \def \LWR@tempone{\#4}%
713   \def \LWR@temptwo{\@nameuse{\#2name}}%
714   \ifdefequal{\LWR@tempone}{\LWR@temptwo}{% recursive name, already defined
715     \IfValueTF{\#1}{%
716       {\DeclareFloatingEnvironment[fileext=\#3,within=\#1]{\#2}}%
717       {\DeclareFloatingEnvironment[fileext=\#3]{\#2}}%
718     }{%
719       \IfValueTF{\#1}{%
720         {\DeclareFloatingEnvironment[fileext=\#3,within=\#1,name=\#4]{\#2}}%
721         {\DeclareFloatingEnvironment[fileext=\#3,name=\#4]{\#2}}%
722       }%
723     }%
724   }%
725 }

```

`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}\relax%
724     \cslet{listof#2es}\relax%
725 }
```

`\newlistof`

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 `l warp` 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{margintable}{o}
761     {\begin{KFLTmemoir@marginfloat}{table}}
762     {\end{KFLTmemoir@marginfloat}}

763 \renewcommand{\setmarginfloatcaptionadjustment}[2]{}
764 \renewcommand{\setmpjustification}[2]{}
765 \renewcommand*{\mpjustification}{}%
766 \renewcommand*{\setfloatlocations}[2]{}
767 \DeclareDocumentCommand{\suppressfloats}{o}{}
768 \renewcommand*{\FloatBlock}{}%
```

```

769 \renewcommand*\{FloatBlockAllowAbove}{}
770 \renewcommand*\{FloatBlockAllowBelow}{}
771 \renewcommand*\{setFloatBlockFor}{}
772
773 \renewcommand{\captiontitlefinal}[1]{}

\fleitable, \flegfigure, \flegtatable, \flegtocfigure are defined by memoir
using \newfloat. These are defined with an @ in ccaption.

774 \renewcommand{\fleitable}{\tablename}
775 \renewcommand{\flegfigure}{\figurename}
776 \renewcommand{\flegtatable}{}
777 \renewcommand{\flegtocfigure}{}

778 \renewcommand{\@makesubfloatcaption}[2]{%
779     \minipage{fullwidth}
780     \begin{minipage}{\linewidth}%
781         #1 \ignorespaces #2 \unskip%
782     \end{minipage}
783 }
784
785 \renewcommand*\{tightsubcaptions}{}
786 \renewcommand*\{loosesubcaptions}{}
787
788 \renewcommand*\{subcaptionsize}[1]{}
789 \renewcommand*\{subcaptionlabelfont}[1]{}
790 \renewcommand*\{subcaptionfont}[1]{}
791 \renewcommand*\{subcaptionstyle}[1]{}
792
793 \renewcommand*\{hangsubcaption}{}
794 \renewcommand*\{shortsubcaption}{}
795 \renewcommand*\{normalsubcaption}{}
796
797 \RenewDocumentEnvironment{sidecaption}{o m o}
798 {}
799 {%
800     \IfValueTF{#1}{\caption[#1]{#2}}{\caption{#2}}%
801     \IfValueT{#3}{\label{#3}}%
802 }
803
804 % \newlength{\sidecapwidth}
805 % \newlength{\sidecapsep}
806 \renewcommand*\{setsidecaps}[2]{}
807 \renewcommand*\{sidecapmargin}[1]{}
808 % \newif\ifscapmargleft
809 \scapmargleftfalse
810 \renewcommand*\{setsidecappos}[1]{}

```

Env sidecontcaption

```

811 \RenewDocumentEnvironment{sidecontcaption}{m o}
812 {}
813 {%
814     \ifdef{\ContinuedFloat}{%
815         {\ContinuedFloat}{%
816             {\addtocounter{@cattyp}{-1}}{%
817                 \caption{#1}}%

```

Without \@capttype, the section is referred to instead.

```
818     \IfValueT{#2}{\label[\@capttype]{#2}}%
819 }
```

\sidenamedlegend does not appear to use the toc argument.

```
820 \renewenvironment{sidenamedlegend}[2][]{
821     \begin{center}
822     \@nameuse{\@capttype 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*\sidescapstyle{}
835 \renewcommand*\overridescapmargin[1]{}
836 % \newlength\sidescapraise
837 \renewcommand*\sidescapfloatwidth{\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 }
```

## § 692.12 Footnotes and page notes

```
849 \renewcommand*\featabovefloat{}
850 \renewcommand*\feabelowfloat{}
851 \renewcommand*\featatbottom{}
852
853 \renewcommand*\verbfootnote[2][]{%
854     \PackageError{lwarp,memoir}%
855     {Verbatim footnotes are not yet supported by lwarp}%
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{lwarp,memoir}%
867     {Memoir footnote series are not yet supported by lwarp}%
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}{\pncontopttrue}% from pagenote
925 \renewcommand*{\notepageref}{}
926 \renewcommand*{\prenotetext}{}
927 \renewcommand*{\postnotetext}{}
928 \LetLtxMacro{\printpageinnoteshyperref}{\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   \pnoteinnotes%
939   \noteidinnotes{\@firstoftwo#1}{#2}%
940   \@ifmtarg{#2}{%
941     \phantomsection\def\@currentlabel{#1}%
942     \def\@currentlabel{\@firstoftwo#1}%
943     \def\cref{\@currentlabel{%
944       [pagenote][\@secondoftwo#1][]\@firstoftwo#1%}
945     }%
946   }%
947   \pagenoteanchor{#4}%
948   \pageinnotes{#3}%
949   \prenotetext%
950 }
```

original  
lwarp  
lwarp  
lwarp  
lwarp

### § 692.13 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}{}%
```

### § 692.14 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*{\poemtitlestar}{[1]{}}
972 \renewcommand*{\poemtitlestarstyle}{}
973 \renewcommand*{\PoemTitleheadstart}{}
974 \renewcommand*{\printPoemTitlenum}{}
975 \renewcommand*{\printPoemTitlenum}{}
976 \renewcommand*{\afterPoemTitlenum}{}
977 \renewcommand*{\printPoemTitle}{[1]{}}
978 \renewcommand*{\afterPoemTitle}{}
979 \newlength{\midpoemtitleskip}
980 \renewcommand*{\PoemTitlenumfont}{}
981 \renewcommand*{\PoemTitlefont}{}

```

### § 692.15 Boxes, verbatims and files

```

982 \renewenvironment{qframe}{\framed}{\endframed}
983 \renewenvironment{qshade}{\shaded}{\endshaded}

984 \renewcommand*{\setverbatimfont}{[1]{}}
985 \renewcommand*{\tabson}{[1]{}}
986 \renewcommand*{\tabsoff}{}
987 \renewcommand*{\wrappingon}{}
988 \renewcommand*{\wrappingoff}{}
989 \renewcommand*{\verbatimindent}{}
990 \renewcommand*{\verbatimbreakchar}{[1]{}}

991 \DefineVerbatimEnvironment{fboxverbatim}{Verbatim}{frame=single}

```

`boxedverbatim` is already defined by `moreverb`. `boxedverbatim*` does not appear to work at all, even in a minimal print memoir document.

```

992 \renewcommand*{\b vbox}{}
993 \renewcommand*{\b vtopandtail}{}
994 \renewcommand*{\b vsides}{}
995 \renewcommand*{\nobvbox}{}
996 % \newlength\b vboxsep
997 \renewcommand*{\b vtoprulehook}{}
998 \renewcommand*{\b vtopmidhook}{}
999 \renewcommand*{\b vendrulehook}{}
1000 \renewcommand*{\b vleftsidehook}{}
1001 \renewcommand*{\b vrightsidehook}{}
1002 \renewcommand*{\b vperpagetrue}{}
1003 \renewcommand*{\b vperpagefalse}{}
1004 \renewcommand{\b vtopofpage}{[1]{}}
1005 \renewcommand{\b vendofpage}{[1]{}}
1006 \renewcommand*{\linenumberfrequency}{[1]{}}
1007 \renewcommand*{\resetb vlinenumber}{}
1008 \renewcommand*{\setb vlinenums}{[2]{}}
1009 \renewcommand*{\linenumberfont}{[1]{}}
1010 \renewcommand*{\b vnumbersinside}{}
1011 \renewcommand*{\b vnumbersoutside}{}

```

### § 692.16 Cross referencing

```

1012 \renewcommand*{\fref}{[1]{\cref{#1}}}
1013 \renewcommand*{\tref}{[1]{\cref{#1}}}
1014 \renewcommand*{\pref}{[1]{\cpageref{#1}}}
1015 \renewcommand*{\Aref}{[1]{\cref{#1}}}
1016 \renewcommand*{\Bref}{[1]{\cref{#1}}}
1017 \renewcommand*{\Pref}{[1]{\cref{#1}}}

```

```

1018 \renewcommand*{\Sref}[1]{\cref{#1}}
1019 \renewcommand*{\figurerefname}{Figure}
1020 \renewcommand*{\tablerefname}{Table}
1021 \renewcommand*{\pagerefname}{page}
1022 \renewcommand*{\bookrefname}{Book~}
1023 \renewcommand*{\partrefname}{Part~}
1024 \renewcommand*{\chapterrefname}{Chapter~}
1025 \renewcommand*{\sectionrefname}{\S}
1026 \renewcommand*{\appendixrefname}{Appendix~}
1027 \LetLtxMacro\titleoref\nameref
1028 \renewcommand*{\headnameref}{}
1029 \renewcommand*{\tocnameref}{}
1030
1031 \providecounter{LWR@currenttitle}
1032
1033 \renewcommand*{\currenttitle}{%
1034     \addtocounter{LWR@currenttitle}{1}%
1035     \label{currenttitle}\arabic{LWR@currenttitle}}%
1036     \nameref{currenttitle}\arabic{LWR@currenttitle}}%
1037 }
1038
1039 \renewcommand*{\theTitleReference}[2]{}
1040 \renewcommand*{\namerefon}{}
1041 \renewcommand*{\namerefoff}{}

```

### § 692.17 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 %
1097 \renewcommand*{\xindyindex}{}%
```

### § 692.18 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][]{}

```

### § 692.19 **ccaption emulation**

```

1132 \renewcommand{\captiondelim}[1]{\renewcommand{\CaptionSeparator}{#1}}
1133 \renewcommand{\captionnamefont}[1]{}
1134 \renewcommand{\captiontitlefont}[1]{}
1135 \renewcommand{\flushleftright}{}
1136 \renewcommand{\centerlastline}{}
1137 \renewcommand{\captionstyle}[2][]{}
1138 \DeclareDocumentCommand{\captionwidth}{m}{}
1139 \renewcommand{\changecaptionwidth}{}
1140 \renewcommand{\normalcaptionwidth}{}
1141 \renewcommand{\hangcaption}{}
1142 \renewcommand{\indentcaption}[1]{}
1143 \renewcommand{\normalcaption}{}
1144 \renewcommand{\precaption}[1]{}
1145 \renewcommand{\postcaption}[1]{}
1146 \renewcommand{\midbicaption}[1]{}
1147 \renewcommand{\contcaption}[1]{%
1148 % \ContinuedFloat%
1149 % \caption{#1}%
1150   \begin{LWR@figcaption}% later becomes \caption*
1151     \LWR@isolate{@nameuse{@capttype name}}~%
1152     \thechapter.\the\value{@capttype}\CaptionSeparator\LWR@isolate{#1}%
1153   \end{LWR@figcaption}%
1154 }

1155 \newlength{\abovelegendskip}
1156 \setlength{\abovelegendskip}{0.5\baselineskip}
1157 \newlength{\belowlegendskip}
1158 \setlength{\belowlegendskip}{\abovelegendskip}

```

The extra \\ here forces a <br> in HTML when \legend is used in a \marginpar.

```

1159 \renewcommand{\legend}[1]{\begin{center}#1\\\end{center}}
1160
1161 \renewcommand{\namedlegend}[2][]{%
1162   \begin{center}%
1163     @nameuse{fleg@\capttype}\CaptionSeparator#2\\%
1164   \end{center}}

```

```

1165     \nameuse{flegtoc\@capttype}{#1}
1166 }

\fleitable, \flefigure, \fletoctable, \fletocfigure are defined by memoir
using \newfloat. These are defined with an @ in ccaption.

1167 \renewcommand{\newfixedcaption}[3][\caption]{%
1168   \renewcommand{#2}{\def\@capttype{#3}\#1}}
1169 \renewcommand{\renewfixedcaption}[3][\caption]{%
1170   \renewcommand{#2}{\def\@capttype{#3}\#1}}
1171 \renewcommand{\providefixedcaption}[3][\caption]{%
1172   \providecommand{#2}{\def\@capttype{#3}\#1}}
1173
1174 \renewcommand{\bitwonuscaption}[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\bitwonuscaption% 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\longbitwonuscaption\bitwonuscaption%
1203 % \LetLtxMacro\longbionenumcaption\bitwonuscaption%
1204 % \LetLtxMacro\longbicaption\bicaption%

```

Patches for subfloats to support additional lwarf 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%           lwarf
1213   \@ifnextchar [%%
1214     {\@memsubfig}%

```

```
1215      {\@memsubfig[\@empty]}}}
1216
1217 \renewcommand{\@memcontsubbody}{%
1218   \bgroup
1219   \let\label=\memsub@label
1220   \contset
1221   % \refstepcounter{sub@\capttype}\@contkeep%
1222 %   \leavevmode%           l warp
1223   \@ifnextchar [%%
1224     {\@memsubfig}%
1225     {\@memsubfig[\@empty]}}}
1226
1227
1228 \long\def\@memsubfloat#1[#2][#3]{%
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{\subfloattopskip}%
1243 %     \def\subfig@bottom{\subfloatbottomskip}%
1244 %   \else
1245 %     \def\subfig@top{\subfloatbottomskip}%
1246 %     \def\subfig@bottom{\subfloattopskip}%
1247 %   \fi
1248 %   \setbox\@tempboxa \hbox{#2}%
1249 %   \tempdima=\wd\@tempboxa
1250 %   \vbox
1251   \bgroup%
1252   \mem@step@subcounter%
1253 %   \vbox
1254 %   \LWR@stoppars%
1255 %   \minipagefullwidth%           l warp
1256 %   \begin{minipage}{\linewidth}%
1257   \bgroup
1258 %   \ifcase\@tempcnta
1259 %     \minipagetrue
1260 %   \or
1261 %     \vspace{\subfig@top}
1262 %   \or
1263 %     \ifdim\lastskip=\z@ \else
1264 %       \tempskipb\subfig@top\@xadvskip
1265 %     \fi
1266 %   \fi
1267   \if@contbotsub
1268     #4% \box\@tempboxa
1269     \egroup
1270     \ifx \empty#3\relax \else
1271 %       \vskip\subfloatcapskip
1272 %       \memsubcaption{#1}{#2}{#3}%
1273     \fi
1274   \else
```

---

```

1275      \ifx \@empty#3\relax \else
1276          \@memsubcaption{#1}{#2}{#3}%
1277 %           \vskip\subfloatcapskip
1278 %           \vskip\subfloatcaptopadj
1279           \fi\egroup
1280           #4% \box@\tempboxa
1281       \fi
1282 %           \vspace{\subfig@bottom}
1283       \end{minipage}%
1284       \LWR@startpars%           l warp
1285   \egroup
1286 \egroup
1287 }
```

## § 692.20 Final patchwork

```

1288 \newlistof{tableofcontents}{toc}{\contentsname}
1289 \newlistof{listoffigures}{lof}{\listfigurename}
1290 \newlistof{listoftables}{lot}{\listtablename}
```

---

File 584 **l warp-common-multimedia.sty**

## § 693 Package **common-multimedia**

Pkg l warp-common-multimedia Common code for multimedia, movie15, and media9.

The packages **multimedia**, **movie15**, and **media9** are supported.

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

**HTML5** `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by **HTML5**.)

For **media9**, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each **HTML** multimedia object includes the poster text, except for `<embed>` objects. For **movie15**, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The **HTML** object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

**media9** `\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 \ProvidesPackage{l warp-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 LATEX 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   \ifstreq{#3}{audio}{%
34     \begin{BlockClass}{AVviewport}
35   }{%
36     \begin{BlockClass}{[\LWR@multimedia@printsize\ margin:auto][AVviewport]}
37   }
```

Paragraph tags are unnecessary for the a/v tags.

```
38      \LWR@stoppars
```

The a/v element is 100% of the container.

```
39      \LWR@htmltag{%
40          #3\ % space
41          \ifstrequal{#3}{audio}{%
42              width=\textquotedbl{}100\%\textquotedbl\ % space
43              height=\textquotedbl{}100\%\textquotedbl\ % space
44          }%
45          controls%
46      }\LWR@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@stoppars
```

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@orignewline
```

The file source and type:

```
77      \LWR@htmlltag{%
78          source % space
79          src=\textquotedbl#2\textquotedbl\ % space
80          type=\textquotedbl#4\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@htmlltag{/#3}\LWR@orignewline
85      \end{BlockClass}
86 }
```

\LWR@multimedia@AV

{⟨poster text⟩} {⟨filename⟩} {⟨audio/video⟩} {⟨mimetype⟩}

Creates an audio or video from a file or a URL.

```
87 \newcommand*{\LWR@multimedia@AV}[4]{%
88     \IfBeginWith{\#2}{http}{%
89         {\LWR@multimedia@httpAV{\#1}{\#2}{\#3}{\#4}}%
90         {%
91             \IfBeginWith{\#2}{HTTP}{%
92                 {\LWR@multimedia@httpAV{\#1}{\#2}{\#3}{\#4}}%
93                 {\LWR@multimedia@fileAV{\#1}{\#2}{\#3}{\#4}}%
94             }%
95     }}
```

\LWR@multimedia@embed

{⟨poster text⟩} {⟨URL or filename⟩} {⟨mime type⟩}

Embeds multimedia of an arbitrary type. The poster text is not used, as it would appear along with the video if the <embed> element is supported.

```
96 \newcommand*{\LWR@multimedia@embed}[3]{%
97     \begin{BlockClass}[width:100\%]{AVviewport}%
98     \LWR@stoppars
99     \LWR@htmlltag{%
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@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     }%
117 }
```

```

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   % unknown format
137   }}}}}}}}}}%

```

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@multimediaab%
144 }

```

---

File 585 **l warp-common-mathjax-letters.sty**

§ 694      Package **common-mathjax-letters**

Pkg  
l warp-common-mathjax-letters      Common code used by a number of packages to generate Greek math characters for MATHJAX.

**for HTML output:** 1 \ProvidesPackage{l warp-common-mathjax-letters}[2020/08/10]

\LWR@mathjax@addletter      \* {⟨2: capitalize name?⟩} {⟨3: prefix⟩} {⟨4: postfix⟩} {⟨5: name⟩} {⟨6: unicode⟩}  
Star to italicize the result, used when the unicode character does not exist.

```

2 \begin{warpMathJax}
3
4 \NewDocumentCommand{\LWR@mathjax@addletter}{s m m m m m}{
5   \IfBooleanTF{#2}{%
6     {\edef\tempone{\LWRtexttitlecase{#5}}}{%
7       {\edef\tempone{#5}}{%
8         \xdef\LWR@customizedMathJax{%
9           \LWR@customizedMathJax%
10          \LWRbackslash(%
11          \LWRbackslash def\LWRbackslash%
12          #3% prefix
13          \LWR@tempone%name
14          #4% postfix
15          \LWRleftbrace%
16        }%
17      \IfBooleanTF{#1}{%
18        \xdef\LWR@customizedMathJax{%
19          \LWR@customizedMathJax%
20          \LWRbackslash mathit\LWRleftbrace%
21          \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
22          \LWRrightbrace%
23        }%
24      }{%
25        \xdef\LWR@customizedMathJax{%
26          \LWR@customizedMathJax%
27          \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
28        }%
29      }%
30      \xdef\LWR@customizedMathJax{%
31        \LWR@customizedMathJax%
32        \LWRrightbrace\LWRbackslash)\par%
33      }%
34 }

```

\* {⟨2: prefix⟩} {⟨3: postfix⟩}

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase upright.

```

35 \NewDocumentCommand{\LWR@mathjax@addgreek@l@up}{s m m}{%
36   \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{03B1}

```

```

37  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{beta}{03B2}
38  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varbeta}{03D0}
39  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{gamma}{03B3}
40  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{digamma}{03DD}
41  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{delta}{03B4}
42  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{epsilon}{03F5}
43  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varepsilon}{03B5}
44  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{zeta}{03B6}
45  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{eta}{03B7}
46  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{theta}{03B8}
47  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{vartheta}{03D1}
48  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{iota}{03B9}
49  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{03BA}
50  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varkappa}{03F0}
51  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{03BB}
52  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{mu}{03BC}
53  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{nu}{03BD}
54  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{xi}{03BE}
55  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omicron}{03BF}
56  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{pi}{03C0}
57  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varpi}{03D6}
58  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{rho}{03C1}
59  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varrho}{03F1}
60  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{sigma}{03C3}
61  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varsigma}{03C2}
62  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{tau}{03C4}
63  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{upsilon}{03C5}
64  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{phi}{03D5}
65  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varphi}{03C6}
66  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{chi}{03C7}
67  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{psi}{03C8}
68  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omega}{03C9}
69 }

```

\* {<2: prefix>} {<3: postfix>}

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase upright.

```

70 \NewDocumentCommand{\LWR@mathjax@addgreek@u@up}{s m m}{
71  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{alpha}{0391}
72  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{beta}{0392}
73  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{gamma}{0393}
74  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{digamma}{03DC}
75  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{delta}{0394}
76  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{epsilon}{0395}
77  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{zeta}{0396}
78  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{eta}{0397}
79  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{theta}{0398}
80  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{vartheta}{03F4}
81  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{iota}{0399}
82  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{039A}
83  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{039B}
84  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{mu}{039C}
85  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{nu}{039D}
86  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{xi}{039E}
87  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omicron}{039F}
88  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{pi}{03A0}
89  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varpi}{03D6}

```

\LWR@mathjax@addgreek@u@up

```

90  \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{03A1}
91  \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{03A3}
92  \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{03A4}
93  \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{03A5}
94  \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{03A6}
95  \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{03A7}
96  \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{03A8}
97  \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{03A9}
98 }

```

\* {⟨2: prefix⟩} {⟨3: postfix⟩}

Star to capitalize the macro names.

Adds `\CustomizeMathjax` expressions to define a set of macros for Greek letters, lowercase italic.

```

99 \NewDocumentCommand{\LWR@mathjax@addgreek@l@it}{s m m}{
100   \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D6FC}
101   \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D6FD}
102   \LWR@mathjax@addletter{#1}{#2}{#3}{varbeta}{03D0}
103   \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D6FE}
104   \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DD}
105   \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D6FF}
106   \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D716}
107   \LWR@mathjax@addletter{#1}{#2}{#3}{varepsilon}{1D700}
108   \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D701}
109   \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D702}
110   \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D703}
111   \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D717}
112   \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D704}
113   \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D705}
114   \LWR@mathjax@addletter{#1}{#2}{#3}{varkappa}{1D718}
115   \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D706}
116   \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D707}
117   \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D708}
118   \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D709}
119   \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D70A}
120   \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D70B}
121   \LWR@mathjax@addletter{#1}{#2}{#3}{varpi}{1D71B}
122   \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D70C}
123   \LWR@mathjax@addletter{#1}{#2}{#3}{varrho}{1D71A}
124   \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D70E}
125   \LWR@mathjax@addletter{#1}{#2}{#3}{varsigma}{1D70D}
126   \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D70F}
127   \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D710}
128   \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D719}
129   \LWR@mathjax@addletter{#1}{#2}{#3}{varphi}{1D711}
130   \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D712}
131   \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D713}
132   \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D714}
133 }

```

\* {⟨2: prefix⟩} {⟨3: postfix⟩}

Star to capitalize the macro names.

Adds `\CustomizeMathjax` expressions to define a set of macros for Greek letters, uppercase italic.

```

134 \NewDocumentCommand{\LWR@mathjax@addgreek@u@it}{s m m}{
135   \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D6E2}

```

```

136  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{beta}{1D6E3}
137  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{gamma}{1D6E4}
138  \LWR@mathjax@addletter*{\#1}{\#2}{\#3}{digamma}{03DC}
139  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{delta}{1D6E5}
140  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{epsilon}{1D6E6}
141  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{zeta}{1D6E7}
142  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{eta}{1D6E8}
143  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{theta}{1D6E9}
144  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{vartheta}{1D6F3}
145  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{iota}{1D6EA}
146  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{1D6EB}
147  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{1D6EC}
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@bfit}{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*}

\LWR@mathjax@addlatin@u@bfit 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}{A}{1D468}
255   \LWR@mathjax@addletter{\BooleanFalse}{B}{1D469}
256   \LWR@mathjax@addletter{\BooleanFalse}{C}{1D46A}
257   \LWR@mathjax@addletter{\BooleanFalse}{D}{1D46B}
258   \LWR@mathjax@addletter{\BooleanFalse}{E}{1D46C}
259   \LWR@mathjax@addletter{\BooleanFalse}{F}{1D46D}
260   \LWR@mathjax@addletter{\BooleanFalse}{G}{1D46E}
261   \LWR@mathjax@addletter{\BooleanFalse}{H}{1D46F}
262   \LWR@mathjax@addletter{\BooleanFalse}{I}{1D470}
263   \LWR@mathjax@addletter{\BooleanFalse}{J}{1D471}
264   \LWR@mathjax@addletter{\BooleanFalse}{K}{1D472}
265   \LWR@mathjax@addletter{\BooleanFalse}{L}{1D473}
266   \LWR@mathjax@addletter{\BooleanFalse}{M}{1D474}
267   \LWR@mathjax@addletter{\BooleanFalse}{N}{1D475}
268   \LWR@mathjax@addletter{\BooleanFalse}{O}{1D476}
269   \LWR@mathjax@addletter{\BooleanFalse}{P}{1D477}
270   \LWR@mathjax@addletter{\BooleanFalse}{Q}{1D478}
271   \LWR@mathjax@addletter{\BooleanFalse}{R}{1D479}
272   \LWR@mathjax@addletter{\BooleanFalse}{S}{1D47A}
273   \LWR@mathjax@addletter{\BooleanFalse}{T}{1D47B}
274   \LWR@mathjax@addletter{\BooleanFalse}{U}{1D47C}
275   \LWR@mathjax@addletter{\BooleanFalse}{V}{1D47D}
276   \LWR@mathjax@addletter{\BooleanFalse}{W}{1D47E}
277   \LWR@mathjax@addletter{\BooleanFalse}{X}{1D47F}
278   \LWR@mathjax@addletter{\BooleanFalse}{Y}{1D480}
279   \LWR@mathjax@addletter{\BooleanFalse}{Z}{1D481}
280 }

```

{*prefix*}

\LWR@mathjax@addlatin@l@bfit Adds \CustomizeMathjax expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```
281 \NewDocumentCommand{\LWR@mathjax@addlatin@l@bfit}{m}{
```

```

282   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{a}{1D482}
283   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{b}{1D483}
284   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{c}{1D484}
285   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{d}{1D485}
286   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{e}{1D486}
287   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{f}{1D487}
288   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{g}{1D488}
289   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{h}{1D489}
290   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{i}{1D48A}
291   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{j}{1D48B}
292   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{k}{1D48C}
293   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{l}{1D48D}
294   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{m}{1D48E}
295   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{n}{1D48F}
296   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{o}{1D490}
297   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{p}{1D491}
298   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{q}{1D492}
299   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{r}{1D493}
300   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{s}{1D494}
301   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{t}{1D495}
302   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{u}{1D496}
303   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{v}{1D497}
304   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{w}{1D498}
305   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{x}{1D499}
306   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{y}{1D49A}
307   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{z}{1D49B}
308 }

309 \end{warpMathJax}

```

File 586 **lwarp-common-mathjax-newpxtxmath.sty**

§ 695 Package **common-mathjax-newpxtxmath**

*(Emulates or patches code by MICHAEL SHARPE.)*

Common code used by newpxmath, newtxmath, and newtxsf for MATHJAX.

for HTML output: 1 \ProvidesPackage{lwarp-common-mathjax-newpxtxmath}[2020/09/20]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-nonunicode}
3 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
4
5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\fAlt}{f}}
7 \CustomizeMathJax{\newcommand{\rhoAlt}{\rho}}
8
9 \CustomizeMathJax{\newcommand{\imathscr}{\mathord{\mathscr{i}}}}
10 \CustomizeMathJax{\newcommand{\jmathscr}{\mathord{\mathscr{j}}}}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

11 \CustomizeMathJax{\let\llbracket\lBrack}
12 \CustomizeMathJax{\let\rrbracket\rBrack}

```

```
13
14 \CustomizeMathJax{\let\smbrace{\{}}
15 \CustomizeMathJax{\let\smrbrace{\}}
16 \CustomizeMathJax{\newcommand{\Perp}{\mathrel{\text{\scriptsize\texttt{\{}}}}}
17 \CustomizeMathJax{\newcommand{\nPerp}{\mathrel{\text{\scriptsize\texttt{\{}}}\!\not\!\text{\scriptsize\texttt{\{}}}}}
18 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\text{\scriptsize\texttt{\{}}}}}
19 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\text{\scriptsize\texttt{\{}}}}}
20 \CustomizeMathJax{\newcommand{\Euler}{\mathord{\text{\scriptsize\texttt{\{}}}}}
21 \CustomizeMathJax{\newcommand{\transp}{\mathord{\text{\scriptsize\texttt{\{}}}}}
22 \CustomizeMathJax{\newcommand{\hermtransp}{\mathord{\text{\scriptsize\texttt{\{}}}}}
23 \CustomizeMathJax{\let\htransp=\hermtransp}
24 \CustomizeMathJax{\newcommand{\circledplus}{\mathbin{\text{\scriptsize\texttt{\{}}}}}
25 \CustomizeMathJax{\newcommand{\circledminus}{\mathbin{\text{\scriptsize\texttt{\{}}}}}
26 \CustomizeMathJax{\newcommand{\circledtimes}{\mathbin{\text{\scriptsize\texttt{\{}}}}}

27 \CustomizeMathJax{\newcommand{\circledslash}{\mathbin{\text{\scriptsize\texttt{\{}}}}}
28 %
29 \CustomizeMathJax{\newcommand{\circleddot}{\mathbin{\text{\scriptsize\texttt{\{}}}}}
30 \CustomizeMathJax{\let\overgroup\overparen}
31 \CustomizeMathJax{\let\overgroupra\overrightarrow}
32 \CustomizeMathJax{\let\undergroup\underparen}
33 \CustomizeMathJax{\let\undergroupla\underleftarrow}
34 \CustomizeMathJax{\newcommand{\widering}[1]{%
35     \stackrel{\text{\scriptsize\texttt{\{}}}}{\overgroup{\#1}}%
36 }%
37 \CustomizeMathJax{\let\widearc\overparen}
38 \CustomizeMathJax{\let\wideOarc\overrightarrow}
39 \CustomizeMathJax{\newcommand{\LWRvstar}[2]{\overrightarrow{\#1}_{\#2}}}
40 \CustomizeMathJax{\newcommand{\vv}{\ifstar{\LWRvstar}{\overrightarrow{}}}}
41 %
42 \CustomizeMathJax{\let\smallintsl\smallint}
43 \CustomizeMathJax{\newcommand{\smallintsl}{\mathop{\text{\scriptsize\texttt{\{}}}}\limits}}
44 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\text{\scriptsize\texttt{\{}}}}\limits}}
45 \CustomizeMathJax{\newcommand{\smalliiiintsl}{\mathop{\text{\scriptsize\texttt{\{}}}}\limits}}
46 \CustomizeMathJax{\newcommand{\smallointsl}{\mathop{\text{\scriptsize\texttt{\{}}}}\limits}}
47 \CustomizeMathJax{\newcommand{\smalloiointsl}{\mathop{\text{\scriptsize\texttt{\{}}}}\limits}}
48 \CustomizeMathJax{\newcommand{\smallvarointclockwisesl}{%
49     \mathop{\text{\scriptsize\texttt{\{}}}}\limits%
50 }%
51 }%
52 \CustomizeMathJax{\newcommand{\smallointctrclockwisesl}{%
53     \mathop{\text{\scriptsize\texttt{\{}}}}\limits%
54 }%
55 \CustomizeMathJax{\newcommand{\smallsumintsl}{\mathop{\text{\scriptsize\texttt{\{}}}}\limits}}
56 \CustomizeMathJax{\newcommand{\smallfintsl}{\mathop{\text{\scriptsize\texttt{\{}}}}\limits}}
57 \CustomizeMathJax{\newcommand{\smallqintsl}{\mathop{\text{\scriptsize\texttt{\{}}}}\limits}}
58 %
59 \CustomizeMathJax{\let\smallintup\smallint}
60 \CustomizeMathJax{\newcommand{\smallintup}{\mathop{\text{\scriptsize\texttt{\{}}}}\limits}}
61 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\text{\scriptsize\texttt{\{}}}}\limits}}
62 \CustomizeMathJax{\newcommand{\smalliiiintup}{\mathop{\text{\scriptsize\texttt{\{}}}}\limits}}
63 \CustomizeMathJax{\newcommand{\smallointup}{\mathop{\text{\scriptsize\texttt{\{}}}}\limits}}
64 \CustomizeMathJax{\newcommand{\smalloiointup}{\mathop{\text{\scriptsize\texttt{\{}}}}\limits}}
65 \CustomizeMathJax{\newcommand{\smallvarointclockwiseup}{%
66     \mathop{\text{\scriptsize\texttt{\{}}}}\limits%
67 }%
68 }%
69 \CustomizeMathJax{\newcommand{\smallointctrclockwiseup}{%
70     \mathop{\text{\scriptsize\texttt{\{}}}}\limits%
71 }}%
```

```
72 \CustomizeMathJax{\newcommand{\smallsumintup}{\mathop{\backslash unicode{x2A0B}}\limits}}
73 \CustomizeMathJax{\newcommand{\smallfintup}{\mathop{\backslash unicode{x2A0F}}\limits}}
74 \CustomizeMathJax{\newcommand{\smallsqintup}{\mathop{\backslash unicode{x2A16}}\limits}}
75 %
76 \CustomizeMathJax{\newcommand{\iint}{\mathop{\backslash unicode{x222C}}\limits}}
77 \CustomizeMathJax{\newcommand{\iiint}{\mathop{\backslash unicode{x222D}}\limits}}
78 \CustomizeMathJax{\newcommand{\iiiint}{\mathop{\backslash unicode{x2A0C}}\limits}}
79 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\backslash unicode{x222F}}\limits}}
80 \CustomizeMathJax{\newcommand{\oioint}{\mathop{\backslash unicode{x2230}}\limits}}
81 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\backslash unicode{x2232}}\limits}}
82 \CustomizeMathJax{\newcommand{\ointctrlclockwise}{\mathop{\backslash unicode{x2233}}\limits}}
83 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\backslash unicode{x2A0B}}\limits}}
84 \CustomizeMathJax{\newcommand{\fint}{\mathop{\backslash unicode{x2A0F}}\limits}}
85 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\backslash unicode{x2A16}}\limits}}
86 %
87 \CustomizeMathJax{\let\intsl\int}
88 \CustomizeMathJax{\newcommand{\iintsl}{\mathop{\backslash unicode{x222C}}\limits}}
89 \CustomizeMathJax{\newcommand{\iiintsl}{\mathop{\backslash unicode{x222D}}\limits}}
90 \CustomizeMathJax{\newcommand{\iiiintsl}{\mathop{\backslash unicode{x2A0C}}\limits}}
91 \CustomizeMathJax{\let\ointsl\oint}
92 \CustomizeMathJax{\newcommand{\oiintsl}{\mathop{\backslash unicode{x222F}}\limits}}
93 \CustomizeMathJax{\newcommand{\oiointsl}{\mathop{\backslash unicode{x2230}}\limits}}
94 \CustomizeMathJax{\newcommand{\varointclockwisesl}{\mathop{\backslash unicode{x2232}}\limits}}
95 \CustomizeMathJax{\newcommand{\ointctrlclockwisesl}{\mathop{\backslash unicode{x2233}}\limits}}
96 \CustomizeMathJax{\newcommand{\sumintsl}{\mathop{\backslash unicode{x2A0B}}\limits}}
97 \CustomizeMathJax{\newcommand{\fintsl}{\mathop{\backslash unicode{x2A0F}}\limits}}
98 \CustomizeMathJax{\newcommand{\sqintsl}{\mathop{\backslash unicode{x2A16}}\limits}}
99 %
100 \CustomizeMathJax{\let\intup\int}
101 \CustomizeMathJax{\newcommand{\iintup}{\mathop{\backslash unicode{x222C}}\limits}}
102 \CustomizeMathJax{\newcommand{\iiintup}{\mathop{\backslash unicode{x222D}}\limits}}
103 \CustomizeMathJax{\newcommand{\iiiintup}{\mathop{\backslash unicode{x2A0C}}\limits}}
104 \CustomizeMathJax{\let\ointup\oint}
105 \CustomizeMathJax{\newcommand{\oiintup}{\mathop{\backslash unicode{x222F}}\limits}}
106 \CustomizeMathJax{\newcommand{\oiointup}{\mathop{\backslash unicode{x2230}}\limits}}
107 \CustomizeMathJax{\newcommand{\varointclockwiseup}{\%}
108     \mathop{\backslash unicode{x2232}}\limits%
109 }
110 \CustomizeMathJax{\newcommand{\ointctrlclockwiseup}{\%
111     \mathop{\backslash unicode{x2233}}\limits%
112 }
113 \CustomizeMathJax{\newcommand{\sumintup}{\mathop{\backslash unicode{x2A0B}}\limits}}
114 \CustomizeMathJax{\newcommand{\fintup}{\mathop{\backslash unicode{x2A0F}}\limits}}
115 \CustomizeMathJax{\newcommand{\sqintup}{\mathop{\backslash unicode{x2A16}}\limits}}
116 %
117 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\backslash unicode{x2A03}}\}}
118 \CustomizeMathJax{\newcommand{\bigcupplus}{\mathop{\backslash unicode{x2A04}}\}}
119 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\backslash unicode{x2A05}}\}}
120 %

121 %
122 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\backslash unicode{x2A09}}\}}
123 \CustomizeMathJax{\let\varprod\bigtimes}
124 %

125 \CustomizeMathJax{\newcommand{\mappedfrom}{\mathrel{\backslash unicode{x021A4}}\}}
126 \CustomizeMathJax{\let\mappedfromchar\mappedfrom}
127 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\backslash unicode{x021A4}}\}}
128 \CustomizeMathJax{\newcommand{\longmappedfrom}{\mathrel{\backslash unicode{x027FB}}\}}
```

```
129 %
130 \CustomizeMathJax{\newcommand{\Mapsto}{\mathrel{\text{\scriptsize{\texttt{\\unicode{x2907}}}}}}}
131 \CustomizeMathJax{\let\Mapstochar\Mapsto}
132 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\text{\scriptsize{\texttt{\\unicode{x027FE}}}}}}}
133 \CustomizeMathJax{\newcommand{\Mappedfrom}{\mathrel{\text{\scriptsize{\texttt{\\unicode{x02906}}}}}}}
134 \CustomizeMathJax{\let\Mappedfromchar\Mappedfrom}
135 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathrel{\text{\scriptsize{\texttt{\\unicode{x02906}}}}}}}
136 \CustomizeMathJax{\newcommand{\Longmappedfrom}{\mathrel{\text{\scriptsize{\texttt{\\unicode{x27FD}}}}}}}
137 %

138 \CustomizeMathJax{\newcommand{\medcirc}{\mathbin{\text{\scriptsize{\texttt{\\unicode{x025CB}}}}}}}
139 \CustomizeMathJax{\newcommand{\medbullet}{\mathbin{\text{\scriptsize{\texttt{\\unicode{x025CF}}}}}}}
140 \CustomizeMathJax{\newcommand{\varparallel}{\mathrel{\text{\scriptsize{\texttt{\\unicode{x02AFD}}}}}}}
141 \CustomizeMathJax{\newcommand{\varparallelinv}{\mathrel{\text{\scriptsize{\texttt{\\unicode{x244A}}}}}}}
142 \CustomizeMathJax{\newcommand{\nvarparallel}{%
143     \mathrel{\text{\scriptsize{\texttt{\\LWRoverlaysymbols{-}\\{\\unicode{x02AFD}}}}}}%
144 }%
145 \CustomizeMathJax{\newcommand{\nvarparallelinv}{%
146     \mathrel{\text{\scriptsize{\texttt{\\LWRoverlaysymbols{-}\\{\\unicode{x244A}}}}}}%
147 }%
148 %

149 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\text{\scriptsize{\texttt{\\unicode{x02254}}}}}}}
150 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\text{\scriptsize{\texttt{\\unicode{x02255}}}}}}}
151 %
152 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\text{\scriptsize{\texttt{\\unicode{x22AB}}}}}}}

153 %
154 \CustomizeMathJax{\newcommand{\preceqq}{\mathrel{\text{\scriptsize{\texttt{\\unicode{x02AB3}}}}}}}
155 \CustomizeMathJax{\newcommand{\succeqq}{\mathrel{\text{\scriptsize{\texttt{\\unicode{x02AB4}}}}}}}
156 %
157 \CustomizeMathJax{\newcommand{\nprecsim}{%
158     \mathrel{\text{\scriptsize{\texttt{\\LWRoverlaysymbols{/}\\{\\unicode{x0227E}}}}}}%
159 }%
160 \CustomizeMathJax{\newcommand{\nsuccsim}{%
161     \mathrel{\text{\scriptsize{\texttt{\\LWRoverlaysymbols{/}\\{\\unicode{x0227F}}}}}}%
162 }%
163 \CustomizeMathJax{\newcommand{\nlesssim}{\mathrel{\text{\scriptsize{\texttt{\\unicode{x02274}}}}}}}
164 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\text{\scriptsize{\texttt{\\unicode{x02275}}}}}}}
165 %
166 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\text{\scriptsize{\texttt{\\unicode{x02284}}}}}}}
167 \CustomizeMathJax{\newcommand{\nsupset}{\mathrel{\text{\scriptsize{\texttt{\\unicode{x02285}}}}}}}
168 \CustomizeMathJax{\newcommand{\notni}{\mathrel{\text{\scriptsize{\texttt{\\unicode{x220C}}}}}}}
169 \CustomizeMathJax{\let\notowns\notni}
170 %
171 \CustomizeMathJax{\newcommand{\nlessapprox}{%
172     \mathrel{\text{\scriptsize{\texttt{\\LWRoverlaysymbols{/}\\{\\unicode{x02A85}}}}}}%
173 }%
174 \CustomizeMathJax{\newcommand{\ngtrapprox}{%
175     \mathrel{\text{\scriptsize{\texttt{\\LWRoverlaysymbols{/}\\{\\unicode{x02A86}}}}}}%
176 }%
177 \CustomizeMathJax{\newcommand{\npreccurlyeq}{%
178     \mathrel{\text{\scriptsize{\texttt{\\LWRoverlaysymbols{/}\\{\\unicode{x0227C}}}}}}%
179 }%
180 }%
```

```

182 \CustomizeMathJax{\newcommand{\nsucccurlyeq}{%
183   \mathrel{\LWRoverlaysymbols{/}{\unicode{x0227D}}}}%
184 }
185 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicode{x02279}}}}
186 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicode{x2278}}}}
187 \CustomizeMathJax{\newcommand{\nbumpeq}{%
188   \mathrel{\LWRoverlaysymbols{/}{\unicode{x0224F}}}}%
189 }
190 \CustomizeMathJax{\newcommand{\nBumpeq}{%
191   \mathrel{\LWRoverlaysymbols{/}{\unicode{x0224E}}}}%
192 }
193 %
194 \CustomizeMathJax{\newcommand{\nbacksim}{%
195   \mathrel{\LWRoverlaysymbols{/}{\unicode{x0223D}}}}%
196 }
197 \CustomizeMathJax{\newcommand{\nbacksimeq}{%
198   \mathrel{\LWRoverlaysymbols{/}{\unicode{x022CD}}}}%
199 }
200 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\unicode{x226D}}}}
201 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\unicode{x2262}}}}
202 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\unicode{x2249}}}}
203 %
204 \CustomizeMathJax{\newcommand{\nll}{%
205   \mathrel{\LWRoverlaysymbols{/}{\unicode{x0226A}}}}%
206 }
207 \CustomizeMathJax{\newcommand{\ngg}{%
208   \mathrel{\LWRoverlaysymbols{/}{\unicode{x0226B}}}}%
209 }
210 \CustomizeMathJax{\newcommand{\nthickapprox}{%
211   \mathrel{\LWRoverlaysymbols{/}{\mathbf{\unicode{x02248}}}}}}%
212 }
213 \CustomizeMathJax{\newcommand{\napproxeq}{%
214   \mathrel{\LWRoverlaysymbols{/}{\unicode{x0224A}}}}%
215 }
216 \CustomizeMathJax{\newcommand{\nprecapprox}{%
217   \mathrel{\LWRoverlaysymbols{/}{\unicode{x02AB7}}}}%
218 }
219 \CustomizeMathJax{\newcommand{\nsuccapprox}{%
220   \mathrel{\LWRoverlaysymbols{/}{\unicode{x02AB8}}}}%
221 }
222 \CustomizeMathJax{\newcommand{\npreceqq}{%
223   \mathrel{\LWRoverlaysymbols{/}{\unicode{x02AB3}}}}%
224 }
225 \CustomizeMathJax{\newcommand{\nsucceqq}{%
226   \mathrel{\LWRoverlaysymbols{/}{\unicode{x02AB4}}}}%
227 }
228 \CustomizeMathJax{\newcommand{\nsimeq}{\mathrel{\unicode{x02244}}}}
229 %
230 \CustomizeMathJax{\newcommand{\nSubset}{%
231   \mathrel{\LWRoverlaysymbols{/}{\unicode{x022D0}}}}%
232 }
233 \CustomizeMathJax{\newcommand{\nSupset}{%
234   \mathrel{\LWRoverlaysymbols{/}{\unicode{x022D1}}}}%
235 }
236 \CustomizeMathJax{\newcommand{\nsqsubseteq}{\mathrel{\unicode{x022E2}}}}
237 \CustomizeMathJax{\newcommand{\nsqsupseteq}{\mathrel{\unicode{x022E3}}}}
238 %
239 \CustomizeMathJax{\newcommand{\coloneqq}{\mathrel{\unicode{x02254}}}}
240 \CustomizeMathJax{\newcommand{\eqqcolon}{\mathrel{\unicode{x02255}}}}
241 \CustomizeMathJax{\newcommand{\Coloneqq}{\mathrel{\unicode{x02A74}}}}

```

`lwarp_mathjax.txt` adds `\left`/`\right` support for delimiters.

```
279 \CustomizeMathJax{\newcommand{\Lbag}{\mathopen{\large\unicode{x027C5}}}}
280 \CustomizeMathJax{\newcommand{\Rbag}{\mathclose{\large\unicode{x027C6}}}}
281 \CustomizeMathJax{\newcommand{\circledless}{\mathrel{\large\circledless}}}
282 \CustomizeMathJax{\newcommand{\circledgtr}{\mathrel{\large\circledgtr}}}
283 \CustomizeMathJax{\newcommand{\circledbslash}{\mathbin{\large\circledbslash}}}

284 \CustomizeMathJax{\newcommand{\lJoin}{\mathrel{\large\lJoin}}}
285 \CustomizeMathJax{\newcommand{\rJoin}{\mathrel{\large\rJoin}}}
286 \CustomizeMathJax{\newcommand{\lrJoin}{\mathrel{\large\lrJoin}}}
287

288 \CustomizeMathJax{\newcommand{\lrtimes}{\mathrel{\large\lrtimes}}}
289 \CustomizeMathJax{\newcommand{\Diamondblack}{\mathord{\large\Diamondblack}}}
290 \CustomizeMathJax{\newcommand{\nplus}{%
291   \mathrel{\LWRoverlaysymbols{+}{\large\unicode{x02229}}}}%
292 }}

293 \CustomizeMathJax{\newcommand{\nsqsubset}{%
294   \mathrel{\LWRoverlaysymbols{/}{\large\unicode{x0228F}}}}%
295 }}

296 \CustomizeMathJax{\newcommand{\nsqsupset}{%
```

```
297     \mathrel{\LWRoverlaysymbols{/}{\unicode{x02290}}}%  
298 }]  
299 \CustomizeMathJax{\newcommand{\dasharrow}{\mathrel{\unicode{x021E2}}}}}  
300 \CustomizeMathJax{\newcommand{\leftsquigarrow}{\mathrel{\unicode{x021DC}}}}}  
301 \CustomizeMathJax{\newcommand{\ntwoheadrightarrow}{\mathrel{\unicode{x02900}}}}}  
302 \CustomizeMathJax{\newcommand{\ntwoheadleftarrow}{\mathrel{\unicode{x02B34}}}}}  
303 \CustomizeMathJax{\newcommand{\boxast}{\mathbin{\unicode{x029C6}}}}}  
304 \CustomizeMathJax{\newcommand{\boxbslash}{\mathbin{\unicode{x29C5}}}}}  
305 \CustomizeMathJax{\newcommand{\boxbar}{\mathbin{\unicode{x025EB}}}}}  
306 \CustomizeMathJax{\newcommand{\boxslash}{\mathbin{\unicode{x029C4}}}}}  
307  
308 \CustomizeMathJax{\newcommand{\varclubsuit}{\mathord{\unicode{x02667}}}}}  
309 \CustomizeMathJax{\newcommand{\vardiamondsuit}{\mathord{\unicode{x02666}}}}}  
310 \CustomizeMathJax{\newcommand{\varheartsuit}{\mathord{\unicode{x02665}}}}}  
311 \CustomizeMathJax{\newcommand{\varsparadesuit}{\mathord{\unicode{x02664}}}}}  
312  
313 \CustomizeMathJax{\newcommand{\Nnearrow}{\mathrel{\unicode{x021D7}}}}}  
314 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\unicode{x021D8}}}}}  
315 \CustomizeMathJax{\newcommand{\Nwarrow}{\mathrel{\unicode{x021D6}}}}}  
316 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\unicode{x021D9}}}}}  
317 \CustomizeMathJax{\newcommand{\Top}{\mathord{\unicode{x02AEA}}}}}  
318 \CustomizeMathJax{\newcommand{\Bot}{\mathord{\unicode{x02AEB}}}}}  
319  
320 \CustomizeMathJax{\newcommand{\leadstoext}{\mathrel{\unicode{xFF5E}}}}}  
321  
322 \CustomizeMathJax{\newcommand{\sqcupplus}{%  
323     \mathbin{\LWRoverlaysymbols{+}{\unicode{x02294}}}}%  
324 }}  
325 \CustomizeMathJax{\newcommand{\sqcapplus}{%  
326     \mathbin{\LWRoverlaysymbols{+}{\unicode{x02293}}}}%  
327 }}  
328  
329 \CustomizeMathJax{\newcommand{\dlb}{\mathopen{\unicode{x027E6}}}}}  
330 \CustomizeMathJax{\newcommand{\drb}{\mathopen{\unicode{x027E7}}}}}  
331  
332 \CustomizeMathJax{\newcommand{\varg}{g}}}  
333 \CustomizeMathJax{\newcommand{\vary}{y}}}  
334 \CustomizeMathJax{\newcommand{\varv}{v}}}  
335 \CustomizeMathJax{\newcommand{\varw}{w}}}  
336  
337 \CustomizeMathJax{\newcommand{\nexistsAlt}{\mathord{\unicode{x02204}}}}}  
338 \CustomizeMathJax{\newcommand{\existsAlt}{\mathord{\unicode{x02203}}}}}  
339 \CustomizeMathJax{\newcommand{\forallAlt}{\mathord{\unicode{x02200}}}}}  
340 \CustomizeMathJax{\newcommand{\emptysetAlt}{\mathord{\unicode{x02205}}}}}  
341  
342 \CustomizeMathJax{\newcommand{\uppartial}{%  
343     \mathord{\unicode{x02202}}}}% not upright  
344 }}% not upright  
345  
346 \CustomizeMathJax{\let\varmathbb\mathbb}  
347 \CustomizeMathJax{\let\vmathbb\mathbb}  
348 \CustomizeMathJax{\let\vvmathbb\mathbb}  
349  
350 \CustomizeMathJax{\let\smallprod\prod}  
351 \CustomizeMathJax{\let\smallsum\sum}  
352 \CustomizeMathJax{\let\smallcoprod\coprod}  
353  
354 \CustomizeMathJax{\newcommand{\openbox}{\mathord{\unicode{x25FD}}}}}  
355 \CustomizeMathJax{\let\textsquare\openbox}
```

File 587 **l warp-common-mathjax-nonunicode.sty**

§ 696 Package **common-mathjax-nonunicode**

(Emulates or patches code by DANIEL FLIPO, MICHAEL SHARPE.)

Pkg Common code used by newpxmath, newtxmath, newtxsf, kpfonts-otf for MATH-  
l warp-common-mathjax-nonunicode. These are symbols not found in UNICODE.

Factored from l warp-common-mathjax-newpxtxmath.

**for HTML output:** \ProvidesPackage{lwarp-common-mathjax-nonunicode}[2020/09/20]

For MATHJAX:

```
36 \CustomizeMathJax{\newcommand{\Diamondright}{%
37     \mathrel{\!unicode{x025C7}\!\!unicode{x02192}}\!%
38 }}
```

```
39 \CustomizeMathJax{\newcommand{\Diamondleft}{%
40     \mathrel{\!unicode{x02190}\!\!unicode{x025C7}}\!%
41 }}
```

```
42 \CustomizeMathJax{\newcommand{\Diamonddotright}{%
43     \mathrel{\!unicode{x027D0}\!\!unicode{x02192}}\!%
44 }}
```

```
45 \CustomizeMathJax{\newcommand{\Diamonddotleft}{%
46     \mathrel{\!unicode{x02190}\!\!unicode{x027D0}}\!%
47 }}
```

```
48
```

```
49 \CustomizeMathJax{\newcommand{\boxRight}{%
50     \mathrel{\!unicode{x025A1}\!\!unicode{x021D2}}\!%
51 }}
```

```
52 \CustomizeMathJax{\newcommand{\boxLeft}{%
53     \mathrel{\!unicode{x021D0}\!\!unicode{x025A1}}\!%
54 }}
```

```
55 \CustomizeMathJax{\newcommand{\boxdotRight}{%
56     \mathrel{\!unicode{x022A1}\!\!unicode{x021D2}}\!%
57 }}
```

```
58 \CustomizeMathJax{\newcommand{\boxdotLeft}{%
59     \mathrel{\!unicode{x021D0}\!\!unicode{x022A1}}\!%
60 }}
```

```
61
```

```
62 \CustomizeMathJax{\newcommand{\DiamondRight}{%
63     \mathrel{\!unicode{x025C7}\!\!unicode{x021D2}}\!%
64 }}
```

```
65 \CustomizeMathJax{\newcommand{\DiamondLeft}{%
66     \mathrel{\!unicode{x021D0}\!\!unicode{x025C7}}\!%
67 }}
```

```
68 \CustomizeMathJax{\newcommand{\DiamonddotRight}{%
69     \mathrel{\!unicode{x027D0}\!\!unicode{x021D2}}\!%
70 }}
```

```
71 \CustomizeMathJax{\newcommand{\DiamonddotLeft}{%
72     \mathrel{\!unicode{x021D0}\!\!unicode{x027D0}}\!%
73 }}
```

```
74 \CustomizeMathJax{\newcommand{\Diamonddot}{\mathrel{\!unicode{x027D0}}}}
```

```
75
```

```
76 \CustomizeMathJax{\newcommand{\circleright}{%
77     \mathrel{\!unicode{x025CB}\!\!unicode{x02192}}\!%
78 }}
```

```
79 \CustomizeMathJax{\newcommand{\circleleft}{%
80     \mathrel{\!unicode{x02190}\!\!unicode{x025CB}}\!%
81 }}
```

```
82 \CustomizeMathJax{\newcommand{\circledotright}{%
83     \mathrel{\!unicode{x02299}\!\!unicode{x02192}}\!%
84 }}
```

```
85 \CustomizeMathJax{\newcommand{\circledotleft}{%
86     \mathrel{\!unicode{x02190}\!\!unicode{x02299}}\!%
87 }}
```

```
88 \CustomizeMathJax{\let\circleddotright\circledotright}
```

```
89 \CustomizeMathJax{\let\circleddotleft\circledotleft}
```

```
90
```

```
91 \CustomizeMathJax{\newcommand{\multimapinv}{\mathrel{\!unicode{x027DC}}}}
```

```
92 \CustomizeMathJax{\newcommand{\multimapboth}{\mathrel{\!unicode{x029DF}}}}
```

```
93 \CustomizeMathJax{\newcommand{\multimapdot}{\mathrel{-\!bullet}}}
```

```
94 \CustomizeMathJax{\newcommand{\multimapdotinv}{\mathrel{\bullet\!-}}}
```

```
95 \CustomizeMathJax{\newcommand{\multimapdotboth}{%
```

```

96     \mathrel{\{\!\bullet\!\!-\!\!\!\bullet\!\}\!%}
97 }
98 \CustomizeMathJax{\newcommand{\multimapdotbothA}{\mathrel{\unicodex{022B6}}}}
99 \CustomizeMathJax{\newcommand{\multimapdotbothB}{\mathrel{\unicodex{022B7}}}}
100
101 \CustomizeMathJax{\newcommand{\multimapbothvert}{%
102     \mathrel{\overset{\unicodex{025CB}}{\underset{\unicodex{025CB}}{|}}}}}
103 }}
104 \CustomizeMathJax{\newcommand{\multimapdotbothvert}{%
105     \mathrel{\overset{\unicodex{025CF}}{\underset{\unicodex{025CF}}{|}}}}}
106 }}
107 \CustomizeMathJax{\newcommand{\multimapdotbothBvert}{% bug in kpfonts-otf
108     \mathrel{\overset{\unicodex{025CF}}{\underset{\unicodex{025CB}}{|}}}}}
109 }}
110 \CustomizeMathJax{\newcommand{\multimapdotbothAvert}{% bug in kpfonts-otf
111     \mathrel{\overset{\unicodex{025CB}}{\underset{\unicodex{025CF}}{|}}}}}
112 }}
113
114 \CustomizeMathJax{\newcommand{\bignplus}{%
115     \mathop{\LWRoverlaysymbols{\unicodex{FF0B}}{\unicodex{22C2}}}}}
116 }}
117 \CustomizeMathJax{\let\bigrapplus\bignplus}
118 \CustomizeMathJax{\let\capplus\bignplus}% from kpfonts-otf
119
120 \CustomizeMathJax{\newcommand{\bigsqcapplus}{%
121     \mathop{\LWRoverlaysymbols{\unicodex{FF0B}}{\unicodex{2A05}}}}}
122 }}
123 \CustomizeMathJax{\let\sqcapplus\bigsqcapplus}% from kpfonts-otf
124
125 \CustomizeMathJax{\newcommand{\bigsqcupplus}{%
126     \mathop{\LWRoverlaysymbols{\unicodex{FF0B}}{\unicodex{2A06}}}}}
127 }}
128 \CustomizeMathJax{\let\sqcupplus\bigsqcupplus}% from kpfonts-otf
129
130 \CustomizeMathJax{\newcommand{\parallelslant}{\mathrel{\unicodex{02AFD}}}}
131 \CustomizeMathJax{\newcommand{\parallelbacksllant}{%
132     \mathrel{\unicodex{x0005C}\!|\!\unicodex{x0005C}}}}
133 }}
134
135 \CustomizeMathJax{\newcommand{\Eqqcolon}{\mathrel{=\!|\!\unicodex{x2237}}}}
136 \CustomizeMathJax{\let\eqqColon\Eqqcolon% for kpfonts-otf
137 \CustomizeMathJax{\newcommand{\dashColon}{\mathrel{-\unicodex{x2237}}}}
138 \CustomizeMathJax{\newcommand{\Colondash}{\mathrel{\unicodex{x2237}-}}}}
139
140 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{:}\approx}}
141 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{:}\sim}}
142 \CustomizeMathJax{\newcommand{\Colonapprox}{%
143     \mathrel{\unicodex{x2237}\!|\!\approx}}}
144 }}
145 \CustomizeMathJax{\newcommand{\Colonsim}{\mathrel{\unicodex{x2237}\!|\!\sim}}}
146
147 \CustomizeMathJax{\newcommand{\strictif}{%
148     \mathrel{\unicodex{x297D}}}}
149 }}% right fish tail
150 \CustomizeMathJax{\newcommand{\strictfi}{%
151     \mathrel{\unicodex{x297C}}}}
152 }}% left fish tail
153 \CustomizeMathJax{\newcommand{\strictiff}{%
154     \mathrel{\unicodex{x297C}\!|\!\unicodex{x297D}}}}
155 }}% left/right fish tails

```

```

156
157 \CustomizeMathJax{\newcommand{\circledwedge}{%
158   \mathbin{\LWRoverlaysymbols{\unicode{x025EF}}{\unicode{x02227}}}}%
159 }
160 \CustomizeMathJax{\newcommand{\circledvee}{%
161   \mathbin{\LWRoverlaysymbols{\unicode{x025EF}}{\unicode{0x02228}}}}%
162 }
163 \CustomizeMathJax{\newcommand{\circledbar}{\mathbin{\unicode{x029B6}}}}
164
165 \CustomizeMathJax{\newcommand{\openJoin}{%
166   \mathrel{\unicode{x2AA4}}%
167 }}% overlapping >-
168 \CustomizeMathJax{\newcommand{\opentimes}{%
169   \mathrel{\unicode{x2AA4}}%
170 }}% overlapping >-
171
172 \CustomizeMathJax{\newcommand{\VvDash}{\mathrel{\unicode{x22AA}}}}
173
174 \CustomizeMathJax{\newcommand{\lambdabar}{%
175   \mathord{\LWRoverlaysymbols{\raise{.5ex}{-}}{\lambda}}%
176 }}
177
178 \CustomizeMathJax{\newcommand{\lambdadaslash}{\mathord{\unicode{x019B}}}}
179
180 \CustomizeMathJax{\newcommand{\Wr}{%
181   \mathbin{\unicode{x02240}\! \unicode{x02240}}%
182 }}
183
184 \CustomizeMathJax{\newcommand{\dashleftrightarrow}{%
185   \mathrel{\unicode{x021E0}\! \unicode{x021E2}}%
186 }}
187 \CustomizeMathJax{\let\leftrighthasharrow\dashleftrightarrow}% for kpfonts-otf
188
189 \end{warpMathJax}

```

---

File 588 **l warp-common-mathjax-overlaysymbols.sty**

§ 697      Package **common-mathjax-overlaysymbols**

Pkg  
l warp-common-mathjax-overlaysymbols  
for HTML output: 1 \ProvidesPackage{l warp-common-mathjax-overlaysymbols}[2020/08/17]

\LWRoverlaysymbols

{ $\langle symbol \rangle$ } { $\langle symbol \rangle$ }

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

§ 698 Chg Hist

---

For the most recent changes, see page [1328](#).

|          |   |      |  |  |     |
|----------|---|------|--|--|-----|
| v0.0.895 | General: maybermath: Added. . . . .                           | 928  | v0.15  | General: 2016/04/06 . . . . .  | 1   |
| v0.10    | General: 2016/03/08 Initial version                           | 1    |  | Added. . . . .   | 799 |
| v0.11    | General: 2016/03/11 . . . . .                                 | 1    | Ampersand (&): Fixed handling<br>when passed as an argument.                 | 438  |     |
|          | Added section: Operating-System<br>portability. . . . .       | 225  | Docs: Added warning icons for<br>items needing special<br>attention. . . . . | 200  |     |
|          | Added section: Selecting the<br>operating system. . . . .     | 115  | Docs: Clarify print/HTML output.   | 115  |     |
|          | Test Suite: MS-WINDOWS in<br>README.txt . . . . .             | 1    | Docs: Moved the supported<br>features table to the<br>introduction. . . . .  | 66   |     |
|          | Test Suite: limages and index in<br>README.txt . . . . .      | 1    | Files: l warp_formal.css added. . . . .                                      | 1  |     |
| v0.12    | \LWR@newhtmlfile: Bugfix: toc<br>with numbered files. . . . . | 383  | Fix: steps counter . . . . .   | 799  |     |
|          | General: 2016/03/14 . . . . .                                 | 1    | Fixed & handling. . . . .  | 797  |     |
|          | Global: Uses \p@{type} in float<br>captions. . . . .          | 1    | Test Suite: test_suite_formal.css<br>file added. . . . .                     | 1  |     |
| v0.13    | Test Suite: Sub-figures . . . . .                             | 1    | v0.16  | General: 2016/04/11 . . . . .  | 1   |
|          | \CaptionSeparator: Fix for newer<br>babel package. . . . .    | 507  | \titlingpage: Improved<br>print-output spacing. . . . .                      | 410  |     |
|          | \LWR@LwarpStart: \up and \fup .                               | 402  | xfrac: Adjusted for the use of any<br>font. . . . .                          | 1226   |     |
|          | General: 2016/03/24 . . . . .                                 | 1    | Added XeLaTeX, LuaLaTeX<br>support. . . . .                                  | 201  |     |
|          | Fix dollar-redefined bug for<br>newer package. . . . .        | 1161 | Docs: Font and UTF-8 support.  | 100  |     |
|          | Removed package: subfig . . . . .                             | 1    | Docs: Moved location of<br>\usepackage{l warp}. . . . .                      | 102  |     |
|          | Test Suite: Ordinals, Subcaption .                            | 1    | Docs: Text not converting. . . . .   | 192  |     |
| v0.14    | \LWR@htmlsectionfilename: Fix:<br>Links to home page. . . . . | 337  | Lwarp no longer selects<br>fonts. . . . .                                    | 100, 235   |     |
|          | General: 2016/03/31 . . . . .                                 | 1    | Removed package: suffix . . . . .  | 1  |     |
|          | floatrow: Added. . . . .                                      | 795  | Test Suite: Improved titlingpage.  | 410  |     |
|          | Docs: Commands for a<br>successful HTML conversion. .         | 119  | Test Suite: Lwarp no longer<br>selects fonts. . . . .                        | 1  |     |
|          | Docs: Commands into a<br>warpprint environment. . . . .       | 116  | Test Suite: Supports XeLaTeX,<br>LuaLaTeX. . . . .                           | 1  |     |
|          | Docs: Newclude limitations. . . . .                           | 170  | v0.17  | \LWR@htmlsectionfilename: Fix:<br>Links when entire doc is one<br>HTML page. . . . . | 337 |
|          | Docs: Table: Cross-referencing<br>data structures. . . . .    | 490  | General: 2016/04/14 . . . . .  | 1  |     |
|          | Docs: Table: Float data<br>structures. . . . .                | 503  | mdframed: Added. . . . .   | 929  |     |
|          | Docs: Trademarks section. . . . .                             | 197  | Test Suite: Fix: Print-version<br>front-matter page numbers. . . . .         | 1  |     |
|          | Docs: Troubleshooting<br>cross-references. . . . .            | 192  | Test Suite: Mdframed . . . . .   | 1  |     |
|          | Test Suite: Assigned cleveref<br>name for Test Float. . . . . | 1    | v0.18  | \LWR@myshorttoc: Reorganize<br>\HomeHTMLFilename logic. . . . .                      | 511 |
|          | Test Suite: Floatrow . . . . .                                | 1    |  |  |     |

|  |      |
|--|------|
| \LWR@newhtmlfile: sidetoc after title, improving responsive design. . . . .                        | 382  |
| \LWR@requeststoc: Reorganize \HomeHTMLFilename logic. . . . .                                      | 404  |
| \LWR@subhyperref: Improved HTML output linebreaks. . . . .   | 500  |
| \LWR@subhyperrefclass: Improved HTML output linebreaks. . . . .                                    | 500  |
| \LWR@subinlinemath: Suppress extra space. . . . .  | 501  |
| \hspace: \hspace supported. . . . .  | 603  |
| General: 2016/05/19 . . . . .  | 1    |
| graphics: Add: svg file extension. . . . .   | 831  |
| graphics: Fix: \linewidth, \textwidth, \textheight inside a minipage. . . . .                      | 831  |
| graphics: Improved HTML output linebreaks. . . . .   | 831  |
| graphics: em, ex, %, px dimensions preserved. . . . .  | 831  |
| File: lwrap.css: Improved toc outline display. . . . .   | 1    |
| Files: lwrap.css and lwrap_formal.css: Improved responsive design. . . . .                         | 1    |
| Microtype disabled during HTML generation . . . . .  | 236  |
| PDF Unicode input characters. . . . .  | 218  |
| Test Suite: Verse package . . . . .  | 1    |
| lateximage: pdfcrop: --hires added. . . . .  | 562  |
| Reorganize \HomeHTMLFilename logic. . . . .  | 562  |
| Suppress extra space. . . . .  | 562  |
| verse: Supports verse, memoir packages. . . . .  | 1201 |
| minipage: Fix: \linewidth, \textwidth, \textheight inside a minipage. . . . .                      | 582  |
| <b>v0.19</b>   |      |
| \HTMLFilename: Docs: Escape filename underscores. . . . .  | 336  |
| \HomeHTMLFilename: Docs: Escape filename underscores. . . . .                                      | 336  |
| \LWR@LwrapStart: Enabled \\ equal to \newline. . . . .   | 401  |
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| <code>alltt</code> : Added.   | 635  |
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| <code>draftwatermark</code> : Added.  | 745  |
| <code>eso-pic</code> : Added.   | 765  |
| <code>everypage</code> : Added.   | 769  |
| <code>extramarks</code> : Added.  | 770  |
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| <code>graphics</code> : Fix: Expands filename.  | 831  |
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| <code>hyperref</code> : Additional user macros.   | 843  |
| <code>keyfloat</code> : Added.  | 867  |
| <code>letterspace</code> : User-interface emulated.   | 881  |
| <code>listings</code> : Added.  | 891  |
| <code>ltcaption</code> : Added.   | 903  |
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| <code>microtype</code> : User-interface emulated.   | 945  |
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| <code>nowidow</code> : Added.   | 986  |
| <code>placeins</code> : Added.  | 1022 |
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| <code>setspace</code> : Improved support.   | 1055 |
| <code>sympytex</code> : Added.  | 1132 |
| textpos: Added.   | 1151 |
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| titletoc: Added.  | 1167 |
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| File: <code>l warp.css</code> : Minor fixes for validation.   | 1    |
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| Fix: \linewidth in a floatrow.  | 798  |
| Moved sidebar and example code to test suite.   | 1    |
| Page geometry set to 6in wide with large margins.   | 236  |
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| Removed reliance on make, grep, gawk.   | 1    |
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| Test Suite: HTML meta descriptions.   | 1    |
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| \LWR@nestspan: Fix: Minipages inside a span.  | 347  |
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| <code>l warp.mk</code> : Fix: <code>l warp.mk l images</code> for WINDOWS.  | 311  |
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| Docs: Added <code>internet</code> class.                   | 72       | General: 2016/03/22  | 1      |
| Docs: Added <code>TeX2page</code> , <code>GladTeX</code> . | 72       | <code>amsthm</code> : Added.   | 640    |
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| File: <code>lwarp_tutorial.txt</code>                      |          | <code>emptypage</code> : Added.  | 751    |
| added.   | 82       | <code>framed</code> : Added.   | 811    |
| v0.22  |          | <code>lips</code> : Added.   | 890    |
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| \LWR@parsetablecols: Unknown                               |          | <code>showidx</code> : Added.  | 1057   |
| table column types become <code>l</code> .                 |          | <code>theorem</code> : Added.  | 1152   |
| Added <code>tabular D, !, X columns</code> .               | 452      | Basic <code>LATEX</code> theorems: improved  |        |
| \LWR@printmcoldata: Added                                  |          | <code>css</code> .   | 421    |
| <code>tabular D, !, and X columns</code> .                 | 469      | Docs: Adds credits for patched   |        |
| General: 2017/03/02  | 1        | code.  | 1      |
| <code>abstract</code> : Added.                             | 621      | Docs: Testing <code>lwarp</code> .   | 188    |
| <code>changepage</code> : Added.                           | 690      | Fix: Allows <code>XELATEX</code> and <code>LuaLATEX</code> to preload graphics and |        |
| <code>dcolumn</code> : Added.                              | 739      | <code>graphicx</code> .  | 207    |
| <code>ftnright</code> : Added.                             | 814      | v0.26  |        |
| <code>geometry</code> : Nullified commands.                | 819      | General: 2017/03/31  | 1      |
| <code>layout</code> : Added.                               | 877      | \lwrapp.css: Improved responsive   |        |
| <code>lscape</code> : Added.                               | 902      | <code>marginpar</code> and <code>marginblock</code> .                              | 267    |
| <code>mcaption</code> : Added.                             | 929      | <code>cutwin</code> : Added.   | 738    |
| <code>nameref</code> : Added.                              | 967      | <code>endnotes</code> : Added.   | 752    |
| <code>nextpage</code> : Added.                             | 974      | <code>floatflt</code> : Added.   | 794    |
| <code>parskip</code> : Added.                              | 1007     | <code>footmisc</code> : Added.   | 805    |
| <code>showkeys</code> : Added.                             | 1057     | <code>footnotehyper</code> : Added.  | 808    |
| <code>sidecap</code> : Added.                              | 1059     | <code>footnote</code> : Added.   | 806    |
| <code>tabularx</code> : Added.                             | 1134     | <code>marginfix</code> : Added.  | 914    |
| <code>variorref</code> : Supported.                        | 128      | <code>marginnote</code> : Added.   | 915    |
| <code>verse</code> : Added.                                | 1200     | <code>mparhack</code> : Added.   | 954    |
| v0.23  |          | <code>pagenote</code> : Supported as-is.   | 1001   |
| \LWR@parsetablecols: Fix for vert                          |          | <code>sidenotes</code> : Added.  | 1059   |
| bar column type.   | 452      | Docs: Improved <code>MiKTEX</code> install   |        |
| \LWR@printmcoldata: Fix for vert                           |          | instructions.  | 77, 78 |
| bar column type.   | 469      | Dollar span avoided in a   |        |
| General: 2017/03/02  | 1        | <code>lateximage</code> .  | 535    |
| v0.24  |          | Footnotes now are <code>LATEX</code> boxes instead of <code>pagenotes</code> .     | 363    |
| \LWR@htmlfileref: Fix: Index links                         |          | \latextimage: Labels track page numbers of <code>lateximages</code> .              | 562    |
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| \hspace: Add: \hspace \fill                                |          | picture: Fix for \makebox in   |        |
| converts to 2em  | 603      | picture.   | 579    |
| \hypertocfloat: List of floats                             |          | v0.27  |        |
| responds to <code>lofdepth</code> ,                        |          | \lWR@footnotetext: Fix for table   |        |
| <code>lotdepth</code> .                                    | 517      | footnote par tags.   | 365    |
| General: 2017/03/15  | 1        | General: 2017/04/04  | 1      |
| \floatrow: Support for <code>subfig</code> .               | 795      | <code>letrine</code> : Added.  | 881    |
| \subfig: Added.  | 1124     | <code>microtype</code> : Fix with <code>XeLATEX</code> , <code>LuaLATEX</code> .   | 945    |
| tikz: For tikz v3.0.0 or later,                            |          | <code>soul</code> : Added.   | 1104   |
| auto-loads tikz babel library if                           |          | <code>ulem</code> : Added.   | 1190   |
| necessary.   | 1161     | Docs: Installing utilities for   |        |
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| No longer preloads <code>subcaption</code> ;               |          |  |        |
| conflicted with <code>subfig</code> .                      | 240      |  |        |
| picture: Fix for inline images.                            | 579      |  |        |
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| \lWR@loadnever: Added the ability                          |          |  |        |
| to prevent conflicting packages.                           | 203      |  |        |

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| \LWR@filestart: Adds HTML meta<br>author. . . . .                                       | 398  | \HTMLDescription: Renamed from<br>\NewHTMLdescription. . . . .  | 362 |
| \LWR@forcenewpage: Forces new<br>PDF page before major<br>environments. . . . .         | 343  | \HTMLFirstPageTop: Renamed from<br>\SetFirstPageTop. . . . .  | 360 |
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| \LWR@newhtmlfile: If FormatEPUB<br>or FormatWP: skips headers,<br>footers, nav. . . . . | 382  | \HTMLPageTop: Renamed from<br>\SetPageTop. . . . .  | 360 |
| \LWR@parsetablecols: Added L, C,<br>R, J column types. . . . .                          | 452  | General: 2017/04/29 . . . . .   | 1   |
| \LWR@startref: Removed space. . . . .   | 495  | <i>l warp-newproject</i> removed, and<br>combined with <i>l warp</i> . . . . .  | 260 |
| \chapter: If EPUB, prints footnotes<br>before each section. . . . .                     | 395  | <i>lwarpmk</i> : Add: xdyfile<br>configuration option. . . . .  | 311 |
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| everyshi: Added. . . . .   | 769      |
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| \LWR@restoreorigformatting:<br>siunitx: Improved<br>super/subscripts in a<br>latextimage. ....                                     | 528  |
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| \fbox: Fix: Uses \fboxrule and<br>\fboxsep. ....   | 587  |
| \framebox: Fix: Handles width and<br>horiz position. ....  | 587  |
| \makebox: Fix: Handles width and<br>horiz position. ....   | 586  |
| General: 2017/08/17 ....   | 1    |
| babel-french: Adjustements for<br>French variants, load order,<br>footnotes, ellipses. ....  | 344  |
| footnote: Extra HTML source<br>space after paragraphs. ....  | 806  |
| siunitx: Fix for babel-french. ....  | 572  |
| siunitx: Improved symbol<br>support. ....  | 1080 |
| transparent: Added. ....   | 1186 |
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| xcolor: Added \fcolorboxBlock,<br>\colorboxBlock. ....   | 1213 |
| xcolor: Fix: Background none in<br>print mode. ....  | 1213 |
| xcolor: Refactored<br>\LWR@colorstyle. ....  | 1217 |
| xcolor: Uses \fboxrule and<br>\fboxsep. ....   | 1213 |
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| LATEX accents: Added. ....   | 258  |
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| color: Prevented. ....   | 732  |
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| \ForceHTMLPage: Added. ....  | 386  |
| \ForceHTMLTOC: Added. ....   | 387  |
| \LWR@section: \part* starts a new<br>HTML page, for appendix. ....   | 389  |
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| \part: Fix with article class. ....  | 395  |
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| appendix: Added. ....  | 645  |
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| chappg: Added. ....  | 696  |
| color: Forces xcolor as well. ....   | 732  |
| fix2col: Added. ....   | 789  |
| fncychap: Added. ....  | 801  |
| grffile: Added. ....   | 836  |
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| nonumonpart: Added. ....   | 985  |
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| relsize: Added. ....   | 1035 |
| romanbarpagenumber: Added. ....  | 1039 |
| romanbar: Added. ....  | 1039 |
| scalefont: Added. ....   | 1041 |
| siunitx: Removed from lwarpm<br>core. ....   | 1080 |
| textcomp: Removed from lwarpm<br>core. ....  | 1147 |

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| tocbibind: Added.  | 1174      |
| xltextra: Added.   | 1228      |
| <i>lwarpmk</i> : Added <b>print1</b> and<br><b>html1</b> actions.                                      | 311       |
| Added \markboth, \sloppy, etc.   | 342       |
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| Native L <sup>A</sup> T <sub>E</sub> X version.  | 413       |
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| Supports authblk with <div>s of<br>class oneauthor instead of<br>tabular.                              | 413, 1171 |
| \AddSubtitlePublished: Added.  | 414       |
| \LWR@domulticolumn: Add:<br>Optional vpos and # rows.  | 471       |
| \LWR@restoreorigformatting:<br>Appended with \appto instead<br>of calling various macros.              | 528       |
| \LWR@tabledatacolumntag: Don't<br>start a data cell if see<br>\TabularMacro.                           | 480       |
| \ResumeTabular: Added.   | 479       |
| \TabularMacro: Added.  | 479       |
| \multicolumnrow: multirow:<br>Added.   | 961       |
| Added.   | 478       |
| \printauthor: Removed<br>minipages.  | 410       |
| Supports authblk with <div>s of<br>class oneauthor instead of<br>tabular.                              | 410       |
| \thanksmarkseries: Removed<br>minipage footnotes.  | 1172      |
| General: 2017/09/05  | 1         |
| a4wide: Added.   | 620       |
| a4: Added.   | 620       |
| a5comb: Added.   | 621       |
| addlines: Added.   | 630       |
| anysize: Added.  | 645       |
| authblk: Added.  | 654       |
| bigdelim: Added.   | 671       |
| bigstrut: Added.   | 673       |
| ebook: Added.  | 746       |
| fullwidth: Added.  | 815       |
| midpage: Added.  | 946       |
| multirow: Add: New optional<br>vpos argument.  | 960       |
| multirow: Add: Supports<br>left/right border for bigdelim.   | 960       |
| multirow: Fix: Long text<br>argument.  | 960       |
| supertabular: Added.   | 1130      |
| textarea: Added.   | 1147      |
| titling: Improved compatibility.   | 1169      |
| titling: Removed extraneous<br>center environments.  | 1170      |
| <b>v0.40</b>   |           |
| \chapcntformat: Added for<br>tocbibind, anonchap.  | 389       |
| \LWR@HTMLhline: Added.   | 484       |
| \LWR@nullfonts: Fix: Long<br>arguments for expandable<br>command.                                      | 530       |
| \LWR@restoreorigformatting:<br>Improved L <sup>A</sup> T <sub>E</sub> X logos inside a<br>latextimage. | 528       |
| Improved symbols inside a<br>latextimage.  | 528       |
| Nullified \InlineClass, etc.<br>inside a latextimage.  | 528       |
| \LWR@tabledatacolumntag: Fix for<br>bigdelim: \ldelim, \rdelim.  | 480       |
| \chapter: Added support for<br>quotchap.   | 395       |
| \multicolumnrow: Fix: Adapts to<br>older multirow and xparse.  | 478       |
| \simplechapterdelim: Added for<br>tocbibind, anonchap.   | 388       |
| \underline: Added.   | 599       |
| General: 2017/09/25  | 1         |
| adjmulticol: Added.  | 629       |
| anonchap: Added.   | 644       |
| bigdelim: Improved<br>documentation.   | 671       |
| cuted: Added.  | 738       |
| dblfnote: Added.   | 739       |
| fnpos: Added.  | 802       |
| graphics: Add: Full<br>\graphicspath support.  | 831       |
| graphics: Moved out of the <i>l warp</i><br>core.  | 824       |
| graphics: Restores<br>\includegraphics and<br>\DeclareGraphicsExtensions<br>in a latextimage.          | 824       |
| graphicx: Moved out of the <i>l warp</i><br>core.  | 836       |
| grffile: Directly supported.   | 836       |
| midfloat: Added.   | 945       |
| multirow: Improved bigdelim<br>borders.  | 960       |
| pfnote: Added.   | 1017      |

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| quotchap:                      | Added.  | 1029 |
| sectsty:                       | Added.  | 1052 |
| stabular:                      | Added.  | 1109 |
| tabls:                         | Added.  | 1134 |
| textcomp:                      | Additional symbols,<br>improved XeLaTeX and<br>LuaLaTeX support.              | 1147 |
| tocbibind:                     | Improved for<br>\simplechapter.   | 1174 |
| xfrac:                         | No longer preloaded.  | 240  |
| xltxta:                        | Fix for \showhyphens<br>with XeLaTeX.   | 1228 |
| v0.41                          |   |      |
| \LWR@addcmidruletrim:          | Add:<br>\cmidrule trims.  | 462  |
| \LWR@clearmidrules:            | Add:<br>\cmidrule trims.  | 460  |
| \LWR@closetabledatacell:       | Add:<br>Mute > for \bottomrule.   | 436  |
|                                | Fix: At/bang column with<br>\multirow.  | 437  |
|                                | Fix: Cancel < for \multicolumn.   | 437  |
| \LWR@domulticolumn:            | Add:<br>\cmidrule trims.  | 471  |
|                                | Added vertical rules.   | 472  |
| \LWR@nullifyNoAutoSpacing:     |   |      |
| babel-french:                  | Fix:<br>\NoAutoSpacing in a tabular.  | 484  |
| \LWR@parsebarcolumn:           | Added<br>vertical rules.  | 445  |
| \LWR@printatbang:              | Add: \cmidrule<br>trims.  | 456  |
|                                | Add: Mute at and bang columns<br>for \bottomrule.                             | 456  |
| \LWR@printbartag:              | Added vertical<br>rules.  | 456  |
| \LWR@subaddcmidruletrim:       | Added.  | 462  |
| \LWR@subcmidrule:              | Add: \cmidrule<br>trims.  | 460  |
| \LWR@tabledatasinglecolumntag: | Add: \cmidrule trims.   | 457  |
|                                | Add: Mute < for \bottomrule.  | 457  |
| \LWR@tabularfinishrow:         |   |      |
|                                | Unfinished tabular rows<br>automatically filled.                              | 439  |
| \mcolrowcell:                  | Added for<br>\multicolumn cells.  | 483  |
| General:                       | 2017/10/07  | 1    |
|                                | booktabs: Improved rules.   | 676  |
|                                | multirow: Add: \cmidrule trims.   | 960  |
|                                | multirow: Added vertical rules.   | 960  |
|                                | multirow: Fix: < spec.  | 961  |
| tabular:                       | Fix: \NoAutoSpacing in a<br>tabular with babel-french.                        | 485  |
| v0.42                          |   |      |
| \@ensuredmath:                 | Improved<br>\ensuremath.  | 545  |
| \@textsubscript:               | Added.  | 599  |
| \@textsuperscript:             | Added.  | 598  |
| \LWR@HTMLhline:                | If FormatWP force<br>explicit border.   | 484  |
| \LWR@addformatwpalignment:     | If<br>FormatWP add explicit style for<br>cell alignment.                      | 464  |
| \LWR@addrulewidth:             | If FormatWP<br>force explicit border.   | 462  |
| \LWR@amsmathbody:              | Fix: Numbering<br>and naming AMS math<br>environments.                        | 560  |
| \LWR@amsmathbodynumbered:      | Fix:<br>Numbering and naming AMS<br>math environments.                        | 561  |
| \LWR@doequation:               | If FormatWP print<br>LaTeX expression.  | 550  |
| \LWR@domulticolumn:            | If FormatWP<br>add cell alignment.  | 473  |
| \LWR@doubledollar:             | If FormatWP<br>print LaTeX expression.  | 543  |
|                                | Improved \ensuremath.   | 543  |
|                                | Improved line spacing with<br>mathjax.  | 543  |
| \LWR@floatbegin:               | If FormatWP add<br>a text frame.  | 504  |
| \LWR@floatend:                 | If FormatWP add a<br>text frame.  | 505  |
| \LWR@remembertag:              | Fix: Numbering<br>and naming AMS math<br>environments.                        | 560  |
| \LWR@restoreorigformatting:    | Improved \ensuremath.   | 529  |
| \LWR@subaddcmidruletrim:       | Opt if<br>no rule given.  | 462  |
| \LWR@subsingledollar:          | If<br>FormatWP print LaTeX<br>expression.                                     | 541  |
| \LWR@tabledatasinglecolumntag: | If FormatWP add cell alignment.   | 458  |
| \TeX:                          | If FormatWP use explicit<br>style.  | 609  |
| \TeX:                          | If FormatWP use explicit style.   | 609  |
| \hspace:                       | If FormatWP add \quads.   | 604  |
| \listoffigures:                | Added boolean<br>WPMarkLOFT.  | 513  |
| \listoftables:                 | Added boolean<br>WPMarkLOFT.  | 514  |
| \marginpar:                    | If FormatWP emulate a<br>wrapfig.   | 369  |
| \marginparblock:               | If FormatWP<br>emulate a wrapfig.   | 369  |
| \rule:                         | If FormatWP add \quads.   | 607  |
| \tableofcontents:              | Added boolean<br>WPMarkTOC.   | 513  |
| \underline:                    | If FormatWP, use<br>explicit styles for \underline,<br>etc.                   | 599  |
| General:                       | 2017/10/30  | 1    |
|                                | \textbf and related: If FormatWP,<br>use explicit styles for \textsc,<br>etc. | 591  |

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|--------------------------------------|------|
| algorithmicx: If FormatWP add        |      |
| \quads. ....                         | 634  |
| booktabs: If FormatWP force          |      |
| explicit border. ....                | 676  |
| epigraph: If FormatWP add HTML       |      |
| styles. ....                         | 760  |
| fancybox: If FormatWP add HTML       |      |
| styles. ....                         | 772  |
| floatflt: Added width. ....          | 794  |
| graphics: Fix: Class key. ....       | 828  |
| graphics: Fix: Filename              |      |
| expansion. ....                      | 831  |
| graphics: If FormatWP, use explicit  |      |
| size. ....                           | 829  |
| keyfloat: If FormatWP add explicit   |      |
| HTML style. ....                     | 872  |
| moreverb: Simplified formatting      |      |
| of listings. ....                    | 952  |
| multirow: If FormatWP add cell       |      |
| alignment. ....                      | 960  |
| overpic: Added. ....                 | 1000 |
| realscripts: Fix for subscripts in a |      |
| lateximage. ....                     | 1031 |
| sidenotes: If FormatWP add           |      |
| explicit HTML style. ....            | 1060 |
| siunitx-v2: Improved                 |      |
| \ensuremath. ....                    | 1080 |
| soul: If FormatWP, add explicit      |      |
| styles. ....                         | 1104 |
| textcomp: Improved                   |      |
| \interrobangdown. ....               | 1147 |
| wrapfig: If FormatWP add explicit    |      |
| HTML style. ....                     | 1209 |
| Added boolean WPMarkLOFT. .          | 255  |
| Added boolean WPMarkMath. .          | 255  |
| Added boolean                        |      |
| WPMarkMinipages. ....                | 254  |
| Added boolean WPMarkTOC. .           | 254  |
| Added boolean WPTitleHeading.        | 255  |
| Docs: Added support page. ....       | 2    |
| Docs: Improper \prevdepth. .         | 192  |
| Docs: Reorganized math               |      |
| limitations ....                     | 147  |
| File: lwp_mathjax.txt:               |      |
| Updated siunitx script. ....         | 307  |
| Fix: Numbering and naming AMS        |      |
| math environments. ....              | 559  |
| If FormatWP, shift section           |      |
| headings. ....                       | 255  |
| tabbing: Added. ....                 | 421  |
| lateximage: Fix: Numbering and       |      |
| naming AMS math                      |      |
| environments. ....                   | 562  |
| center: If FormatWP use explicit     |      |
| text-align. ....                     | 567  |
| minipage: Added boolean              |      |
| WPMarkMinipages. ....                | 584  |
| If FormatWP add a text frame. .      | 583  |
| eqnarray: Fix: Numbering and         |      |
| naming AMS math                      |      |
| environments. ....                   | 556  |
| If FormatWP print LaTeX              |      |
| expression. ....                     | 555  |
| LWR@BlockClassWP: Added to factor    |      |
| code. ....                           | 352  |
| LWR@figcaption: If FormatWP forces   |      |
| italic captions. ....                | 508  |
| v0.43                                |      |
| \lwr@domulticolumn: Fix for          |      |
| vertical rules. ....                 | 472  |
| Fix: Multicolumn trim. ....          | 472  |
| \lwr@href: Made robust. ....         | 500  |
| \lwr@maybeprintpendingfootnotes:     |      |
| Added FootnoteDepth. ....            | 368  |
| \lwr@nolinkurl: Made robust. .       | 501  |
| \lwr@nullfonts: Fix: Nullify dollar  |      |
| inside filenames. ....               | 530  |
| \lwr@parsetablecols: Ignore          |      |
| spaces in col spec. ....             | 452  |
| \lwr@section: Fix: Expansion in      |      |
| comparison. ....                     | 390  |
| Fix: Math in section name. 391, 394  |      |
| Fix: Nullify fonts inside HTML       |      |
| comment. ....                        | 391  |
| \lwr@url: Made robust. ....          | 501  |
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| supertabular and xtab. ....          | 479  |
| \nameref: Made robust. ....          | 498  |
| General: 2017/11/08 ....             | 1    |
| \lwr@currentautosecpage:             |      |
| Added. ....                          | 370  |
| breakurl: Added. ....                | 679  |
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| hyperref: \Gauge added. ....         | 852  |
| luatodonotes: Added. ....            | 907  |
| todonotes: Added. ....               | 1183 |
| Added FootnoteDepth. ....            | 364  |
| Docs: HTML settings table. ....      | 107  |
| Docs: Reorganized HTML               |      |
| customization. ....                  | 107  |
| v0.44                                |      |
| @\currentlabelname: Adjustment       |      |
| for koma-script. ....                | 490  |
| \HTMLTitle: Added. ....              | 362  |
| \lwr@addformatwpalignment: Fix       |      |
| for multicolumn alignment if         |      |
| FormatWP. ....                       | 464  |
| \lwr@backgroundcolor: xcolor:        |      |
| Added                                |      |
| \lwr@backgroundcolor. ....           | 1217 |
| \lwr@filestart: Add \HTMLTitle.      | 399  |
| Fix \HTMLAuthor. ....                | 399  |
| \lwr@listitem: Added list and        |      |
| trivlist. ....                       | 425  |
| \lwr@patchlists: Added list and      |      |
| trivlist. ....                       | 428  |

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| \LWR@strresult: Fix:               |      |
| \providecommand. ....              | 435  |
| \LWR@textcurrentcolor: xcolor:     |      |
| Added                              |      |
| \LWR@textcurrentcolor. .           | 1216 |
| \addcontentsline: Automatic        |      |
| \LWR@newfloatanchor. ....          | 510  |
| \chapter: Add preamble for         |      |
| koma-script. ....                  | 395  |
| \marginparBlock: Added.            | 369  |
| \nopagecolor: xcolor: Fix for      |      |
| \nopagecolor. ....                 | 1218 |
| \part: Add preamble for            |      |
| koma-script. ....                  | 395  |
| \title: Added \thetitle.           | 362  |
| General: 2017/11/22                | 1    |
| algorithmic: Improved comment      |      |
| symbol. ....                       | 634  |
| atbegshi: Added.                   | 651  |
| cancel: Added.                     | 682  |
| changepage: Additional options.    | 691  |
| easy-todo: Added.                  | 746  |
| fancyref: Added.                   | 778  |
| fixmetodonotes: Added.             | 791  |
| fixme: Added.                      | 790  |
| fontenc: Allowed after lwrap.      | 804  |
| hang: Added.                       | 838  |
| ifoddpage: Added.                  | 855  |
| lxtable: Added.                    | 903  |
| luatodonotes: Improved.            | 907  |
| lwrap-patch-komascript:            |      |
| Added. ....                        | 1237 |
| overpic: Fix: Groups for           |      |
| lateximages. ....                  | 1000 |
| pdfsync: Fixes.                    | 1014 |
| preview: Added.                    | 1025 |
| scrextend: Added.                  | 1043 |
| scrhack: Added.                    | 1046 |
| scrlayer-notecolumn: Added.        | 1048 |
| scrlayer-scrpage: Added.           | 1049 |
| scrlayer: Added.                   | 1047 |
| section: Added.                    | 1051 |
| soulpos: Added.                    | 1105 |
| soulutf8: Added.                   | 1106 |
| supertabular: Fix for caption.     | 1130 |
| tikz: Fix: Groups for              |      |
| lateximages. ....                  | 1161 |
| tocbasic: Added.                   | 1173 |
| tocloft: Added \newlistentry.      | 1181 |
| tocloft: Improved \newlistof.      | 1181 |
| tocstyle: Added.                   | 1182 |
| todonotes: Improved.               | 1183 |
| todo: Added.                       | 1182 |
| typearea: Added expert             |      |
| commands. ....                     | 1189 |
| watermark: Added.                  | 1206 |
| xcolor: Added                      |      |
| \LWR@currenttextcolorstyle.        |      |
|                                    | 1216 |
| xcolor: Added                      |      |
| \LWR@findcurrenttextcolor.         | 1216 |
| xtab: Fix for caption.             | 1232 |
| Adjustment for koma-script.        | 216  |
| AMS environments: Fix: Groups      |      |
| for lateximages. ....              | 637  |
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| encoding. ....                     | 218  |
| picture: overpic: Fix: Groups for  |      |
| lateximages. ....                  | 579  |
| list: Added list and trivlist.     | 425  |
| \LWR@nestspan: Added list and      |      |
| trivlist. ....                     | 347  |
| v0.45                              |      |
| @\currentHref: Added. ....         | 499  |
| @\donoparitem: Modified for HTML.  | 423  |
| @\item: Modified for HTML. ....    | 423  |
| @\mklab: Modified for HTML. ....   | 423  |
| \CSSFilename: Improved filenames   |      |
| with underscores. ....             | 361  |
| \LWR@lwrapStart: Fix: Lateximages  |      |
| on incorrect pages with            |      |
| MATHJAX. ....                      | 402  |
| \LWR@label@createtag: Fix: Labels  |      |
| with underscores. ....             | 494  |
| \LWR@newautoidanchor: Fix: No      |      |
| anchor if frozen autoid. ....      | 506  |
| \LWR@nolinkurl: Fix: Underscore in |      |
| URL. ....                          | 501  |
| \LWR@notmemoirloadafter: Added.    | 202  |
| \LWR@printpendingmpfootnotes:      |      |
| Added. ....                        | 368  |
| \LWR@startref: Fix: Labels with    |      |
| underscores. ....                  | 496  |
| \LWR@subhyperref: Improved URLs    |      |
| with underscores. ....             | 500  |
| \LWR@subhyperrefclass: Improved    |      |
| URLs with underscores. ....        | 500  |
| \LWR@tabledatacolumntag: Fix:      |      |
| Empty line between rows. ....      | 482  |
| \LWR@url: Improved URLs with       |      |
| underscores. ....                  | 501  |
| \chapter: Add optional heading     |      |
| title for memoir. ....             | 395  |
| \newpage: Added.                   | 602  |
| \normalmarginpar: Added.           | 370  |
| \reversemarginpar: Added.          | 370  |
| \section: Add optional heading     |      |
| title for memoir. ....             | 396  |
| \tableofcontents: Fix: Empty       |      |
| sidetoc. ....                      | 513  |
| Fix: Patch \AtBeginDocument. .     | 513  |
| General: 2018/01/14                | 1    |
| array: Added.                      | 647  |
| babel-french: Robust               |      |
| commands. ....                     | 344  |
| backref: Added.                    | 660  |
| breakurl: Fix: Underscore in URL.  | 679  |
| changebar: Added.                  | 689  |
| cite: Added.                       | 725  |

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|--|---|------------|
| continue:  | Added.  | 734        |
| endfloat:  | Added.  | 751        |
| fancyvrb:  | Improvements.   | 779–781    |
| flafter:   | Added.  | 792        |
| filtrace:  | Added.  | 800        |
| footnpag:  | Added.  | 808        |
| fwlw:  | Added.  | 818        |
| graphics:  | Improved URLs with underscores.   | 831        |
| hanging:   | Added.  | 839        |
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# Troubleshooting Index

This index is a sorted reference of problems and solutions. In order to make it easier to locate a solution, the same issue may be addressed by more than one entry.

Entries starting with page 200 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.

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