The **latexrelease** package[*]

The LaTeXProject

2021/01/23

> This file is maintained by the LaTeX Project team.
> Bug reports can be opened (category `latex`) at
> https://latex-project.org/bugs.html.

1 Introduction

Prior to the 2015 release of LaTeX, essentially no changes had been made to the LaTeX format code for some years, with all improvements being instead added to the package fixltx2e.

While this worked at a technical level it meant that you had to explicitly opt-in to bug fixes and improvements, and the vast majority of documents did not benefit.

As described in LaTeX News 22, a new policy is being implemented in which improvements will now be added to the format by default, and this latexrelease package may be used to ensure stability where needed, either by making a new format use an older definition of some commands, or conversely may be used to supply the new definitions for use with an old format.

The basic use is:

```
\RequirePackage[2015/01/01]{latexrelease}
\documentclass{article}
....
```

After such a declaration the document will use definitions current in the January 2015 LaTeX, whether the actual format being used is older, or newer than that date. In the former case a copy of `latexrelease.sty` would need to be made available for use with the older format. This may be used, for example, to share a document between co-workers using different LaTeX releases, or to protect a document from being affected by system updates. As well as the definitions within the format itself, individual packages may use the commands defined here to adjust their definitions to the specified date as described below.

Note that the latexrelease package is intended for use at the start of a *document*. Package and class code should not include this package as loading a package should not normally globally reset the effective version of LaTeX that is in force, so affecting all other packages used in the document.

---

[*]This file has version number v1.0l, last revised 2021/01/23.

The bulk of this package, after some initial setup and option handling consists of a series of \IncludeInRelease commands which have been extracted from the main source files of the LaTeX format. These contain the old and new versions of any commands with modified definitions.

2   Package Options

- *yyyy/mm/dd* or *yyyy-nn-dd* The package accepts any possible LaTeX format date as argument, although dates in the future for which the current release of this package has no information will generate a warning. Dates earlier than 2015 will work but will roll back to some point in 2015 when the method was introduced. The \requestedLaTeXdate is set to the normalized date argument so that package rollback defaults to the specified date.

- current This is the default behaviour, it does not change the effective date of the format but does ensure that the \IncludeInRelease command is defined. The \requestedLaTeXdate macro is reset to 0 so that package rollback does not use the implicit date.

- latest sets the effective date of the format to the release date of this file, so in an older format applies all patches currently available. The \requestedLaTeXdate macro is reset to 0 so that package rollback does not use the implicit date.

In all cases, when the package is loaded, the \sourceLaTeXdate is defined to be the numerical representation of \fmtversion before the rollback/forward actually happens, so it is possible to test from which was the original LaTeX version before latexrelease was loaded. This is particularly useful when some code in a package has to be redefined differently if rolling backwards in time or forwards.

3   Release Specific Code

The \IncludeInRelease mechanism allows the kernel developer to associate code with a specific date to choose different versions of definitions depending on the date specified as an option to the latexrelease package. Is also available for use by package authors (or even in a document if necessary).

\IncludeInRelease   {⟨*code-date*⟩}[⟨*format-date*⟩]{⟨*label*⟩}{⟨*message*⟩}⟨*code*⟩\EndIncludeInRelease

{⟨***code-date***⟩} This date is associated with the {⟨*code*⟩} argument and will be compared to the requested date in the option to the latexrelease.

[⟨***format-date***⟩] This optional argument can be used to specify a format date with the code in addition to the mandatory {⟨*code-date*⟩} argument. This can be useful for package developers as described below.

{⟨***label***⟩} The {⟨*label*⟩} argument is an identifier (string) that within a given package must be a unique label for each related set of optional definitions. Per package at most one code block from all the \IncludeInRelease declarations with the same label will be executed.

{⟨*message*⟩} The {⟨*message*⟩} is an informative string that is used in messages. It has no other function.

⟨*code*⟩ Any TEX code after the `\IncludeInRelease` arguments up until the and the following `\EndIncludeInRelease` is to be conditionally included depending on the date of the format as described below.

The `\IncludeInRelease` declarations with a given label should be in reverse chronological order in the file. The one chosen will depend on this order, the effective format version and the date options, as described below.

If your package mypackage defines a `\widget` command but has one definition using the features available in the 2015 LATEX release, and a different definition is required for older formats then you can use:

```
\IncludeInRelease{2015/01/01}{\widget}{Widget Definition}
 \def\widget{new version}%
\EndIncludeInRelease

\IncludeInRelease{0000/00/00}{\widget}{Widget Definition}
 \def\widget{old version}%
\EndIncludeInRelease
```

If a document using this package is used with a format with effective release date of 2015/01/01 or later the new code will be used, otherwise the old code will be used. Note the *effective release date* might be the original LATEX release date as shown at the start of every LATEX job, or it may be set by the latexrelease package, so for example a document author who wants to ensure the new version is used could use

```
\RequirePackage[2015/01/01]{latexrelease}
\documentclass{article}
\usepackage{mypackage}
```

If the document is used with a LATEX format from 2014 or before, then latexrelease will not have been part of the original distribution, but it may be obtained from a later LATEX release or from CTAN and distributed with the document, it will make an older LATEX release act essentially like the 2015 release.

3.1   Intermediate Package Releases

The above example works well for testing against the latex format but is not always ideal for controlling code by the release date of the *package*. Suppose LATEX is not updated but in March you update the mypackage package and modify the definition of `\widget`. You could code the package as:

```
\IncludeInRelease{2015/03/01}{\widget}{Widget Definition}
 \def\widget{even newer improved March version}%
\EndIncludeInRelease

\IncludeInRelease{2015/01/01}{\widget}{Widget Definition}
 \def\widget{new version}%
\EndIncludeInRelease

\IncludeInRelease{0000/00/00}{\widget}{Widget Definition}
```

```
   \def\widget{old version}%
 \EndIncludeInRelease
```

This would work and allow a document author to choose a date such as

```
\RequirePackage[2015/03/01]{latexrelease}
\documentclass{article}
\usepackage{mypackage}
```

To use the latest version, however it would have disadvantage that until the next release of LaTeX, by default, if the document does not use latexrelease to specify a date, the new improved code will not be selected as the effective date will be 2015/01/01 and so the first code block will be skipped.

For this reason `\IncludeInRelease` has an optional argument that specifies an alternative date to use if a date option has not been specified to latexrelease.

```
\IncludeInRelease{2015/03/01}[2015/01/01]{\widget}{Widget Definition}
 \def\widget{even newer improved March version}%
\EndIncludeInRelease

\IncludeInRelease{2015/01/01}{\widget}{Widget Definition}
 \def\widget{new version}%
\EndIncludeInRelease

\IncludeInRelease{0000/00/00}{\widget}{Widget Definition}
 \def\widget{old version}%
\EndIncludeInRelease
```

Now, by default on a 2015/01/01 LaTeX format, the first code block will compare the format date to the optional argument 2015/01/01 and so will execute the *even newer improved* version. The remaining blocks using the `\widget` label argument will all then be skipped.

If on the other hand the document requests an explicit release date using latexrelease then this date will be used to decide what code block to include.

3.2   Using \IncludeInRelease in Packages

If `\IncludeInRelease` is used within a package then all such conditional code needs to be within such declarations, e.g., it is not possible in the above example to have the "current" definition of `\widget` somewhere in the main code and only the two older definitions inside `\IncludeInRelease` declarations. If you would do this then one of those `\IncludeInRelease` declarations would be included overwriting the even newer code in the main part of the package. As a result your package may get fragmented over time with various `\IncludeInRelease` declarations sprinkled throughout your code or you have to interrupt the reading flow by putting those declarations together but not necessarily in the place where they belong.

To avoid this issue you can use the following coding strategy: place the current `\widget` definition in the main code where it correctly belongs.

```
  ...
 \def\widget {even newer improved March version}
 \def\@widget{newly added helper command no defined in older releases}
  ...
```

Then, near the end of your package place the following:

```
\IncludeInRelease{2015/03/01}[2015/01/01]{\widget}{Widget Definition}
\EndIncludeInRelease

\IncludeInRelease{2015/01/01}{\widget}{Widget Definition}
 \def\widget{new version}%
 \let\@widget\@undefined % this doesn't exist in earlier releases
\EndIncludeInRelease

\IncludeInRelease{0000/00/00}{\widget}{Widget Definition}
 \def\widget{old version}%
\EndIncludeInRelease
```

This way the empty code block hides the other `\IncludeInRelease` declarations unless there is an explicit request with a date 2015/01/01 or earlier.

Now if you make a further change to `\widget` in the future you simply copy the current definition into the empty block and add a new empty declaration with today's date and the current format date. This way your main code stays readable and the old versions accumulate at the end of the package.[1]

The only other "extra effort" necessary when using this approach is that it may be advisable to undo new definitions in the code block for the previous release, e.g., in the above example we undefined `\@widget` as that isn't available in the 2015/01/01 release but was defined in the main code. If all your conditional code is within `\IncludeInRelease` declarations that wouldn't been necessary as the new code only gets defined if that release is chosen.

4   fixltx2e

As noted above, prior to the 2015 LATEX release updates to the LATEX kernel were not made in the format source files but were made available in the fixltx2e package. That package is no longer needed but we generate a small package from this source that just makes a warning message but otherwise does nothing.

5   Implementation

We require at least a somewhat sane version of LATEX 2$_\varepsilon$. Earlier ones where really quite different from one another.

```
1 ⟨*latexrelease⟩
2 \NeedsTeXFormat{LaTeX2e}[1996/06/01]
```

6   Setup

\sourceLaTeXdate   Store the original LATEX format version as a number in the format YYYYMMDD:

```
3 \edef\sourceLaTeXdate{%
4   \expandafter\@parse@version\fmtversion//00\@nil}
```

---

[1]Of course there may be some cases in which the old code has to be in a specific place within the package as other code depends on it (e.g., if you `\let` something to it). In that case you have to place the code variations in the right place in your package rather than accumulating them at the very end.

\IncludeInRelease
\EndIncludeInRelease

```
 5 \DeclareOption*{%
 6   \def\@IncludeInRelease#1[#2]{\@IncludeInRele@se{#1}}%
 7   \let\requestedpatchdate\CurrentOption}
 8 \DeclareOption{latest}{%
 9   \let\requestedpatchdate\latexreleaseversion
10   \AtEndOfPackage{\def\requestedLaTeXdate{0}}}
11 \DeclareOption{current}{%
12   \let\requestedpatchdate\fmtversion
13   \AtEndOfPackage{\def\requestedLaTeXdate{0}}}
14 \let\requestedpatchdate\fmtversion
15 \ProcessOptions\relax
```

Sanity check options, it allows some non-legal dates but always ensures `requestedLaTeXdate` gets set to a number. Generate an error if there are any non digit tokens remaining after removing the //.

```
16 \def\reserved@a{%
17 \edef\requestedLaTeXdate{\the\count@}%
18 \reserved@b}
19 \def\reserved@b#1\\{%
20 \def\reserved@b{#1}%
21 \ifx\reserved@b\@empty\else
22 \PackageError{latexrelease}%
23             {Unexpected option \requestedpatchdate}%
24             {The option must be of the form yyyy/mm/dd or yyyy-mm-dd}%
25 \fi}
26 \afterassignment\reserved@a
27 \count@\expandafter
28   \@parse@version\expandafter0\requestedpatchdate//00\@nil\\
```

less precautions needed for `\fmtversion`

```
29 \edef\currentLaTeXdate{%
30    \expandafter\@parse@version\fmtversion//00\@nil}
31 \ifnum\requestedLaTeXdate=\currentLaTeXdate
32 \PackageWarningNoLine{latexrelease}{%
33   Current format date selected, no patches applied}
34 \expandafter\endinput
35 \fi
```

A newer version of latexrelease should have been distributed with the later format.

```
36 \ifnum\currentLaTeXdate
37   >\expandafter\@parse@version\latexreleaseversion//00\@nil
38 \PackageWarningNoLine{latexrelease}{%
39 The current package is for an older LaTeX format:\MessageBreak
40 LaTeX \latexreleaseversion\space\MessageBreak
41 Obtain a newer version of this package!}
42 \expandafter\endinput
43 \fi
```

can't patch into the future, could make this an error but it has some uses to control package updates so allow for now.

```
44 \ifnum\requestedLaTeXdate
```

```
45   >\expandafter\@parse@version\latexreleaseversion//00\@nil
46 \PackageWarningNoLine{latexrelease}{%
47 The current package is for LaTeX \latexreleaseversion:\MessageBreak
48 It has no patches beyond that date\MessageBreak
49 There may be an updated version\MessageBreak
50 of this package available from CTAN}
51 \expandafter\endinput
52 \fi
```

   Update the format version to the requested date.

```
53 \let\fmtversion\requestedpatchdate
54 \let\currentLaTeXdate\requestedLaTeXdate
```

7   Individual Changes

The code for each change will be inserted at this point, extracted from the kernel source files.

```
55 ⟨/latexrelease⟩
```

8   fixltx2e

Generate a stub fixltx2e package:

```
56 ⟨*fixltx2e⟩
57 \IncludeInRelease{2015/01/01}{\fixltxe}{Old fixltx2e package}
58 \NeedsTeXFormat{LaTeX2e}
59 \PackageWarningNoLine{fixltx2e}{%
60 fixltx2e is not required with releases after 2015\MessageBreak
61 All fixes are now in the LaTeX kernel.\MessageBreak
62 See the latexrelease package for details}
63 \EndIncludeInRelease
64 \IncludeInRelease{0000/00/00}{\fixltxe}{Old fixltx2e package}
65 \def\@outputdblcol{%
66   \if@firstcolumn
67     \global\@firstcolumnfalse
68     \global\setbox\@leftcolumn\copy\@outputbox
69     \splitmaxdepth\maxdimen
70     \vbadness\maxdimen
71     \setbox\@outputbox\vbox{\unvbox\@outputbox\unskip}%
72     \setbox\@outputbox\vsplit\@outputbox to\maxdimen
73     \toks@\expandafter{\topmark}%
74     \xdef\@firstcoltopmark{\the\toks@}%
75     \toks@\expandafter{\splitfirstmark}%
76     \xdef\@firstcolfirstmark{\the\toks@}%
77     \ifx\@firstcolfirstmark\@empty
78       \global\let\@setmarks\relax
79     \else
80       \gdef\@setmarks{%
81         \let\firstmark\@firstcolfirstmark
82         \let\topmark\@firstcoltopmark}%
83     \fi
84   \else
85     \global\@firstcolumntrue
```

```latex
86      \setbox\@outputbox\vbox{%
87       \hb@xt@\textwidth{%
88          \hb@xt@\columnwidth{\box\@leftcolumn \hss}%
89          \hfil
90          {\normalcolor\vrule \@width\columnseprule}%
91          \hfil
92         \hb@xt@\columnwidth{\box\@outputbox \hss}}}%
93    \@combinedblfloats
94       \@setmarks
95       \@outputpage
96       \begingroup
97         \@dblfloatplacement
98         \@startdblcolumn
99         \@whilesw\if@fcolmade \fi{\@outputpage\@startdblcolumn}%
100      \endgroup
101   \fi}
102 \def\end@dblfloat{%
103   \if@twocolumn
104      \@endfloatbox
105      \ifnum\@floatpenalty <\z@
106        \@largefloatcheck
107        \global\dp\@currbox1sp %
108        \@cons\@currlist\@currbox
109        \ifnum\@floatpenalty <-\@Mii
110          \penalty -\@Miv
111          \@tempdima\prevdepth
112          \vbox{}%
113          \prevdepth\@tempdima
114          \penalty\@floatpenalty
115        \else
116          \vadjust{\penalty -\@Miv \vbox{}\penalty\@floatpenalty}\@Esphack
117        \fi
118      \fi
119   \else
120      \end@float
121   \fi
122 }
123 \def\@testwrongwidth #1{%
124   \ifdim\dp#1=\f@depth
125   \else
126      \global\@testtrue
127   \fi}
128 \let\f@depth\z@
129 \def\@dblfloatplacement{\global\@dbltopnum\c@dbltopnumber
130    \global\@dbltoproom \dbltopfraction\@colht
131    \@textmin \@colht
132    \advance \@textmin -\@dbltoproom
133    \@fpmin \dblfloatpagefraction\textheight
134    \@fptop \@dblfptop
135    \@fpsep \@dblfpsep
136    \@fpbot \@dblfpbot
137    \def\f@depth{1sp}}
138 \def \@doclearpage {%
139     \ifvoid\footins
```

```
140         \setbox\@tempboxa\vsplit\@cclv to\z@ \unvbox\@tempboxa
141         \setbox\@tempboxa\box\@cclv
142         \xdef\@deferlist{\@toplist\@botlist\@deferlist}%
143         \global \let \@toplist \@empty
144         \global \let \@botlist \@empty
145         \global \@colroom \@colht
146         \ifx \@currlist\@empty
147         \else
148            \@latexerr{Float(s) lost}\@ehb
149            \global \let \@currlist \@empty
150         \fi
151         \@makefcolumn\@deferlist
152         \@whilesw\if@fcolmade \fi{\@opcol\@makefcolumn\@deferlist}%
153         \if@twocolumn
154           \if@firstcolumn
155             \xdef\@deferlist{\@dbltoplist\@deferlist}%
156             \global \let \@dbltoplist \@empty
157             \global \@colht \textheight
158             \begingroup
159                \@dblfloatplacement
160                \@makefcolumn\@deferlist
161                \@whilesw\if@fcolmade \fi{\@outputpage
162                                        \@makefcolumn\@deferlist}%
163             \endgroup
164           \else
165             \vbox{}\clearpage
166           \fi
167         \fi
168         \ifx\@deferlist\@empty \else\clearpage \fi
169       \else
170         \setbox\@cclv\vbox{\box\@cclv\vfil}%
171         \@makecol\@opcol
172         \clearpage
173       \fi
174 }
175 \def \@startdblcolumn {%
176   \@tryfcolumn \@deferlist
177   \if@fcolmade
178   \else
179     \begingroup
180       \let \reserved@b \@deferlist
181       \global \let \@deferlist \@empty
182       \let \@elt \@sdblcolelt
183       \reserved@b
184     \endgroup
185   \fi
186 }
187 \def\@addtonextcol{%
188   \begingroup
189    \@insertfalse
190    \@setfloattypecounts
191    \ifnum \@fpstype=8
192    \else
193      \ifnum \@fpstype=24
```

```
194        \else
195          \@flsettextmin
196          \@reqcolroom \ht\@currbox
197          \advance \@reqcolroom \@textmin
198          \ifdim \@colroom>\@reqcolroom
199            \@flsetnum \@colnum
200            \ifnum\@colnum>\z@
201              \@bitor\@currtype\@deferlist
202              \@testwrongwidth\@currbox
203              \if@test
204              \else
205                \@addtotoporbot
206              \fi
207            \fi
208          \fi
209        \fi
210      \fi
211      \if@insert
212      \else
213        \@cons\@deferlist\@currbox
214      \fi
215    \endgroup
216 }
217 \def\@addtodblcol{%
218    \begingroup
219      \@insertfalse
220      \@setfloattypecounts
221      \@getfpsbit \tw@
222      \ifodd\@tempcnta
223        \@flsetnum \@dbltopnum
224        \ifnum \@dbltopnum>\z@
225          \@tempswafalse
226          \ifdim \@dbltoproom>\ht\@currbox
227            \@tempswatrue
228          \else
229            \ifnum \@fpstype<\sixt@@n
230              \advance \@dbltoproom \@textmin
231              \ifdim \@dbltoproom>\ht\@currbox
232                \@tempswatrue
233              \fi
234              \advance \@dbltoproom -\@textmin
235            \fi
236          \fi
237          \if@tempswa
238            \@bitor \@currtype \@deferlist
239            \@testwrongwidth\@currbox
240            \if@test
241            \else
242              \@tempdima -\ht\@currbox
243              \advance\@tempdima
244                -\ifx \@dbltoplist\@empty \dbltextfloatsep \else
245                                          \dblfloatsep \fi
246              \global \advance \@dbltoproom \@tempdima
247              \global \advance \@colht \@tempdima
```

10

```
248              \global \advance \@dbltopnum \m@ne
249              \@cons \@dbltoplist \@currbox
250              \@inserttrue
251           \fi
252        \fi
253      \fi
254    \fi
255    \if@insert
256    \else
257      \@cons\@deferlist\@currbox
258    \fi
259  \endgroup
260 }
261 \def \@addtocurcol {%
262    \@insertfalse
263    \@setfloattypecounts
264    \ifnum \@fpstype=8
265    \else
266      \ifnum \@fpstype=24
267      \else
268        \@flsettextmin
269        \advance \@textmin \@textfloatsheight
270        \@reqcolroom \@pageht
271        \ifdim \@textmin>\@reqcolroom
272          \@reqcolroom \@textmin
273        \fi
274        \advance \@reqcolroom \ht\@currbox
275        \ifdim \@colroom>\@reqcolroom
276          \@flsetnum \@colnum
277          \ifnum \@colnum>\z@
278            \@bitor\@currtype\@deferlist
279           \@testwrongwidth\@currbox
280            \if@test
281            \else
282              \@bitor\@currtype\@botlist
283              \if@test
284                \@addtobot
285              \else
286                \ifodd \count\@currbox
287                  \advance \@reqcolroom \intextsep
288                  \ifdim \@colroom>\@reqcolroom
289                    \global \advance \@colnum \m@ne
290                    \global \advance \@textfloatsheight \ht\@currbox
291                    \global \advance \@textfloatsheight 2\intextsep
292                    \@cons \@midlist \@currbox
293                    \if@nobreak
294                      \nobreak
295                      \@nobreakfalse
296                      \everypar{}%
297                    \else
298                      \addpenalty \interlinepenalty
299                    \fi
300                    \vskip \intextsep
301                    \box\@currbox
```

11

```
302                   \penalty\interlinepenalty
303                   \vskip\intextsep
304                   \ifnum\outputpenalty <-\@Mii \vskip -\parskip\fi
305                   \outputpenalty \z@
306                   \@inserttrue
307                 \fi
308               \fi
309               \if@insert
310               \else
311                 \@addtotoporbot
312               \fi
313             \fi
314           \fi
315         \fi
316       \fi
317     \fi
318   \fi
319   \if@insert
320   \else
321     \@resethfps
322     \@cons\@deferlist\@currbox
323   \fi
324 }
325 \def\@xtryfc #1{%
326   \@next\reserved@a\@trylist{}{}%
327   \@currtype \count #1%
328   \divide\@currtype\@xxxii
329   \multiply\@currtype\@xxxii
330   \@bitor \@currtype \@failedlist
331   \@testfp #1%
332   \@testwrongwidth #1%
333   \ifdim \ht #1>\@colht
334       \@testtrue
335   \fi
336   \if@test
337     \@cons\@failedlist #1%
338   \else
339     \@ytryfc #1%
340   \fi}
341 \def\@ztryfc #1{%
342   \@tempcnta\count #1%
343   \divide\@tempcnta\@xxxii
344   \multiply\@tempcnta\@xxxii
345   \@bitor \@tempcnta {\@failedlist \@flfail}%
346   \@testfp #1%
347   \@testwrongwidth #1%
348   \@tempdimb\@tempdima
349   \advance\@tempdimb\ht #1%
350   \advance\@tempdimb\@fpsep
351   \ifdim \@tempdimb >\@colht
352     \@testtrue
353   \fi
354   \if@test
355     \@cons\@flfail #1%
```

```latex
356   \else
357     \@cons\@flsucceed #1%
358     \@tempdima\@tempdimb
359   \fi}
360 \def\@{\spacefactor\@m{}}
361 \def\@tempa#1#2{#1#2\relax}
362 \ifx\setlength\@tempa
363   \def\setlength#1#2{#1 #2\relax}
364 \fi
365 \def\addpenalty#1{%
366   \ifvmode
367     \if@minipage
368     \else
369       \if@nobreak
370       \else
371         \ifdim\lastskip=\z@
372           \penalty#1\relax
373         \else
374           \@tempskipb\lastskip
375           \begingroup
376             \advance \@tempskipb
377               \ifdim\prevdepth>\maxdepth\maxdepth\else
378                 \ifdim \prevdepth = -\@m\p@ \z@ \else \prevdepth \fi
379               \fi
380             \vskip -\@tempskipb
381             \penalty#1%
382             \vskip\@tempskipb
383           \endgroup
384           \vskip -\@tempskipb
385           \vskip \@tempskipb
386         \fi
387       \fi
388     \fi
389   \else
390     \@noitemerr
391   \fi}
392 \def\@fnsymbol#1{%
393   \ifcase#1\or \TextOrMath\textasteriskcentered *\or
394   \TextOrMath \textdagger \dagger\or
395   \TextOrMath \textdaggerdbl \ddagger \or
396   \TextOrMath \textsection  \mathsection\or
397   \TextOrMath \textparagraph \mathparagraph\or
398   \TextOrMath \textbardbl \|\or
399   \TextOrMath {\textasteriskcentered\textasteriskcentered}{**}\or
400   \TextOrMath {\textdagger\textdagger}{\dagger\dagger}\or
401   \TextOrMath {\textdaggerdbl\textdaggerdbl}{\ddagger\ddagger}\else
402   \@ctrerr \fi
403 }
404 \begingroup\expandafter\expandafter\expandafter\endgroup
405 \expandafter\ifx\csname eTeXversion\endcsname\relax
406 \DeclareRobustCommand\TextOrMath{%
407   \ifmmode  \expandafter\@secondoftwo
408   \else     \expandafter\@firstoftwo  \fi}
409 \protected@edef\TextOrMath#1#2{\TextOrMath{#1}{#2}}
```

```latex
410 \else
411 \protected\expandafter\def\csname TextOrMath\space\endcsname{%
412   \ifmmode  \expandafter\@secondoftwo
413   \else     \expandafter\@firstoftwo  \fi}
414 \edef\TextOrMath#1#2{%
415   \expandafter\noexpand\csname TextOrMath\space\endcsname
416   {#1}{#2}}
417 \fi
418 \def\@esphack{%
419   \relax
420   \ifhmode
421     \spacefactor\@savsf
422     \ifdim\@savsk>\z@
423       \nobreak \hskip\z@skip  % <------
424       \ignorespaces
425     \fi
426   \fi}
427 \def\@Esphack{%
428   \relax
429   \ifhmode
430     \spacefactor\@savsf
431     \ifdim\@savsk>\z@
432       \nobreak \hskip\z@skip  % <------
433       \@ignoretrue
434       \ignorespaces
435     \fi
436   \fi}
437 \DeclareRobustCommand\em
438        {\@nomath\em \ifdim \fontdimen\@ne\font >\z@
439                     \eminnershape \else \itshape \fi}
440 \def\eminnershape{\upshape}
441 \DeclareRobustCommand*\textsubscript[1]{%
442   \@textsubscript{\selectfont#1}}
443 \def\@textsubscript#1{%
444   {\m@th\ensuremath{_{\mbox{\fontsize\sf@size\z@#1}}}}}
445 \def\@DeclareMathSizes #1#2#3#4#5{%
446   \@defaultunits\dimen@ #2pt\relax\@nnil
447   \if $#3$%
448     \expandafter\let\csname S@\strip@pt\dimen@\endcsname\math@fontsfalse
449   \else
450     \@defaultunits\dimen@ii #3pt\relax\@nnil
451     \@defaultunits\@tempdima #4pt\relax\@nnil
452     \@defaultunits\@tempdimb #5pt\relax\@nnil
453     \toks@{#1}%
454     \expandafter\xdef\csname S@\strip@pt\dimen@\endcsname{%
455       \gdef\noexpand\tf@size{\strip@pt\dimen@ii}%
456       \gdef\noexpand\sf@size{\strip@pt\@tempdima}%
457       \gdef\noexpand\ssf@size{\strip@pt\@tempdimb}%
458       \the\toks@
459     }%
460   \fi
461 }
462 \providecommand*\MakeRobust[1]{%
463   \@ifundefined{\expandafter\@gobble\string#1}{%
```

14

```
464    \@latex@error{The control sequence '\string#1' is undefined!%
465       \MessageBreak There is nothing here to make robust}%
466    \@eha
467 }%
468 {%
469    \@ifundefined{\expandafter\@gobble\string#1\space}%
470    {%
471       \expandafter\let\csname
472       \expandafter\@gobble\string#1\space\endcsname=#1%
473       \edef\reserved@a{\string#1}%
474       \def\reserved@b{#1}%
475       \edef\reserved@b{\expandafter\strip@prefix\meaning\reserved@b}%
476       \edef#1{%
477          \ifx\reserved@a\reserved@b
478             \noexpand\x@protect\noexpand#1%
479          \fi
480          \noexpand\protect\expandafter\noexpand
481          \csname\expandafter\@gobble\string#1\space\endcsname}%
482    }%
483    {\@latex@info{The control sequence '\string#1' is already robust}}%
484    }%
485 }
486 \MakeRobust\(
487 \MakeRobust\)
488 \MakeRobust\[
489 \MakeRobust\]
490 \MakeRobust\makebox
491 \MakeRobust\savebox
492 \MakeRobust\framebox
493 \MakeRobust\parbox
494 \MakeRobust\rule
495 \MakeRobust\raisebox
496 \def\@xfloat #1[#2]{%
497   \@nodocument
498   \def \@captype {#1}%
499   \def \@fps {#2}%
500   \@onelevel@sanitize \@fps
501   \def \reserved@b {!}%
502   \ifx \reserved@b \@fps
503     \@fpsadddefault
504   \else
505     \ifx \@fps \@empty
506       \@fpsadddefault
507     \fi
508   \fi
509   \ifhmode
510     \@bsphack
511     \@floatpenalty -\@Mii
512   \else
513     \@floatpenalty-\@Miii
514   \fi
515   \ifinner
516     \@parmoderr\@floatpenalty\z@
517   \else
```

```
518     \@next\@currbox\@freelist
519       {%
520        \@tempcnta \sixt@@n
521        \expandafter \@tfor \expandafter \reserved@a
522          \expandafter :\expandafter =\@fps
523          \do
524          {%
525          \if \reserved@a h%
526            \ifodd \@tempcnta
527            \else
528              \advance \@tempcnta \@ne
529            \fi
530          \else\if \reserved@a t%
531            \@setfpsbit \tw@
532          \else\if \reserved@a b%
533            \@setfpsbit 4%
534          \else\if \reserved@a p%
535            \@setfpsbit 8%
536          \else\if \reserved@a !%
537            \ifnum \@tempcnta>15
538              \advance\@tempcnta -\sixt@@n\relax
539            \fi
540          \else
541            \@latex@error{Unknown float option `\reserved@a'}%
542            {Option `\reserved@a' ignored and `p' used.}%
543            \@setfpsbit 8%
544          \fi\fi\fi\fi\fi
545          }%
546        \@tempcntb \csname ftype@\@captype \endcsname
547        \multiply \@tempcntb \@xxxii
548        \advance \@tempcnta \@tempcntb
549        \global \count\@currbox \@tempcnta
550        }%
551      \@fltovf
552   \fi
553   \global \setbox\@currbox
554     \color@vbox
555       \normalcolor
556       \vbox \bgroup
557         \hsize\columnwidth
558         \@parboxrestore
559         \@floatboxreset
560 }
561 \def\@stpelt#1{\global\csname c@#1\endcsname \m@ne\stepcounter{#1}}
562 \EndIncludeInRelease
563 ⟨/fixltx2e⟩
```