

The etexcmds package

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Abstract

New primitive commands are introduced in ε -TeX. Sometimes the names collide with existing macros. This package solves this name clashes by adding a prefix to ε -TeX's commands. For example, ε -TeX's `\unexpanded` is provided as `\etex@unexpanded`.

Contents

1	Documentation	2
1.1	<code>\unexpanded</code>	2
1.2	<code>\expanded</code>	2
2	Implementation	2
2.1	Reload check and package identification	2
2.2	Catcodes	3
2.3	Provide <code>\newif</code>	4
2.4	Load package <code>infwarerr</code>	4
2.5	<code>\unexpanded</code>	5
2.6	<code>\expanded</code>	5
3	Test	6
3.1	Catcode checks for loading	6
3.2	Macro tests	8
4	Installation	9
4.1	Download	9
4.2	Bundle installation	9
4.3	Package installation	10
4.4	Refresh file name databases	10
4.5	Some details for the interested	10
5	Catalogue	11
6	History	11
	[2007/05/06 v1.0]	11
	[2007/09/09 v1.1]	11
	[2007/12/12 v1.2]	11
	[2010/01/28 v1.3]	11
	[2011/01/30 v1.4]	11
	[2011/02/16 v1.5]	12
7	Index	12

1 Documentation

1.1 `\unexpanded`

`\etex@unexpanded`

New primitive commands are introduced in ε -TeX. Unhappily `\unexpanded` collides with a macro in ConTeXt with the same name. This also affects the L^AT_EX world. For example, package `m-ch-de` loads `base/syst-gen.tex` that redefines `\unexpanded`. Thus this package defines `\etex@unexpanded` to get rid of the name clash.

`\ifetex@unexpanded`

Package `etexcmds` can be loaded even if ε -TeX is not present or `\unexpanded` cannot be found. The switch `\ifetex@unexpanded` tells whether it is safe to use `\etex@unexpanded`. The switch is true (`\iftrue`) only if the primitive `\unexpanded` has been found and `\etex@unexpanded` is available.

1.2 `\expanded`

Probably `\expanded` will be added in pdfTeX 1.50 and LuaTeX. Again ConTeXt defines this as macro. Therefore version 1.2 of this packages also provides `\etex@expanded` and `\ifetex@unexpanded`.

2 Implementation

1 `(*package)`

2.1 Reload check and package identification

Reload check, especially if the package is not used with L^AT_EX.

```
2 \begingroup\catcode61\catcode48\catcode32=10\relax%
3 \catcode13=5 % ^~M
4 \endlinechar=13 %
5 \catcode35=6 % #
6 \catcode39=12 % '
7 \catcode44=12 % ,
8 \catcode45=12 % -
9 \catcode46=12 % .
10 \catcode58=12 % :
11 \catcode64=11 % @
12 \catcode123=1 % {
13 \catcode125=2 % }
14 \expandafter\let\expandafter\x\csname ver@etexcmds.sty\endcsname
15 \ifx\x\relax % plain-TeX, first loading
16 \else
17 \def\empty{}%
18 \ifx\x\empty % LaTeX, first loading,
19 % variable is initialized, but \ProvidesPackage not yet seen
20 \else
21 \expandafter\ifx\csname PackageInfo\endcsname\relax
22 \def\x#1#2{%
23 \immediate\write-1{Package #1 Info: #2.}%
24 }%
25 \else
26 \def\x#1#2{\PackageInfo{#1}{#2, stopped}}%
27 \fi
28 \x{etexcmds}{The package is already loaded}%
```

```

29     \aftergroup\endinput
30     \fi
31     \fi
32 \endgroup%

```

Package identification:

```

33 \begingroup\catcode61\catcode48\catcode32=10\relax%
34 \catcode13=5 % ^~M
35 \endlinechar=13 %
36 \catcode35=6 % #
37 \catcode39=12 % '
38 \catcode40=12 % (
39 \catcode41=12 % )
40 \catcode44=12 % ,
41 \catcode45=12 % -
42 \catcode46=12 % .
43 \catcode47=12 % /
44 \catcode58=12 % :
45 \catcode64=11 % @
46 \catcode91=12 % [
47 \catcode93=12 % ]
48 \catcode123=1 % {
49 \catcode125=2 % }
50 \expandafter\ifx\csname ProvidesPackage\endcsname\relax
51   \def\x#1#2#3[#4]{\endgroup
52     \immediate\write-1{Package: #3 #4}%
53     \xdef#1{#4}%
54   }%
55 \else
56   \def\x#1#2[#3]{\endgroup
57     #2[#{#3}]%
58     \ifx#1@\undefined
59       \xdef#1{#3}%
60     \fi
61     \ifx#1\relax
62       \xdef#1{#3}%
63     \fi
64   }%
65 \fi
66 \expandafter\x\csname ver@etexcmds.sty\endcsname
67 \ProvidesPackage{etexcmds}%
68 [2011/02/16 v1.5 Avoid name clashes with e-TeX commands (HO)]%

```

2.2 Catcodes

```

69 \begingroup\catcode61\catcode48\catcode32=10\relax%
70 \catcode13=5 % ^~M
71 \endlinechar=13 %
72 \catcode123=1 % {
73 \catcode125=2 % }
74 \catcode64=11 % @
75 \def\x{\endgroup
76   \expandafter\edef\csname etexcmds@AtEnd\endcsname{%
77     \endlinechar=\the\endlinechar\relax
78     \catcode13=\the\catcode13\relax
79     \catcode32=\the\catcode32\relax
80     \catcode35=\the\catcode35\relax
81     \catcode61=\the\catcode61\relax
82     \catcode64=\the\catcode64\relax
83     \catcode123=\the\catcode123\relax
84     \catcode125=\the\catcode125\relax
85   }%
86 }%

```

```

87 \x\catcode61\catcode48\catcode32=10\relax%
88 \catcode13=5 % ^^M
89 \endlinechar=13 %
90 \catcode35=6 % #
91 \catcode64=11 % @
92 \catcode123=1 % {
93 \catcode125=2 % }
94 \def\TMP@EnsureCode#1#2{%
95   \edef\etexcmds@AtEnd{%
96     \etexcmds@AtEnd
97     \catcode#1=\the\catcode#1\relax
98   }%
99   \catcode#1=#2\relax
100 }
101 \TMP@EnsureCode{39}{12}% '
102 \TMP@EnsureCode{40}{12}% (
103 \TMP@EnsureCode{41}{12}% )
104 \TMP@EnsureCode{44}{12}% ,
105 \TMP@EnsureCode{45}{12}% -
106 \TMP@EnsureCode{46}{12}% .
107 \TMP@EnsureCode{47}{12}% /
108 \TMP@EnsureCode{60}{12}% <
109 \TMP@EnsureCode{91}{12}% [
110 \TMP@EnsureCode{93}{12}% ]
111 \edef\etexcmds@AtEnd{%
112   \etexcmds@AtEnd
113   \escapechar\the\escapechar\relax
114   \noexpand\endinput
115 }
116 \escapechar=92 % backslash

```

2.3 Provide \newif

\etexcmds@newif

```

117 \def\etexcmds@newif#1{%
118   \expandafter\edef\csname etex@#1false\endcsname{%
119     \let
120     \expandafter\noexpand\csname ifetex@#1\endcsname
121     \noexpand\iffalse
122   }%
123   \expandafter\edef\csname etex@#1true\endcsname{%
124     \let
125     \expandafter\noexpand\csname ifetex@#1\endcsname
126     \noexpand\iftrue
127   }%
128   \csname etex@#1false\endcsname
129 }

```

2.4 Load package infwarerr

```

130 \begingroup\expandafter\expandafter\expandafter\endgroup
131 \expandafter\ifx\csname RequirePackage\endcsname\relax
132   \def\TMP@RequirePackage#1[#2]{%
133     \begingroup\expandafter\expandafter\expandafter\endgroup
134     \expandafter\ifx\csname ver@#1.sty\endcsname\relax
135       \input #1.sty\relax
136     \fi
137   }%
138   \TMP@RequirePackage{infwarerr}[2007/09/09]%
139   \TMP@RequirePackage{ifluatex}[2010/03/01]%
140 \else
141   \RequirePackage{infwarerr}[2007/09/09]%
142   \RequirePackage{ifluatex}[2010/03/01]%

```

143 \fi

2.5 \unexpanded

\ifetex@unexpanded

144 \etexcmds@newif{unexpanded}

\etex@unexpanded

```
145 \begingroup
146 \edef\x{\string\unexpanded}%
147 \edef\y{\meaning\unexpanded}%
148 \ifx\x\y
149   \endgroup
150   \let\etex@unexpanded\unexpanded
151   \etex@unexpandedtrue
152 \else
153   \edef\y{\meaning\normalunexpanded}%
154   \ifx\x\y
155     \endgroup
156     \let\etex@unexpanded\normalunexpanded
157     \etex@unexpandedtrue
158   \else
159     \edef\y{\meaning\@@unexpanded}%
160     \ifx\x\y
161       \endgroup
162       \let\etex@unexpanded\@@unexpanded
163       \etex@unexpandedtrue
164     \else
165       \ifluatex
166         \ifnum\luatexversion<36 %
167         \else
168           \begingroup
169             \directlua{%
170               tex.enableprimitives('etex',{'unexpanded'})%
171             }%
172             \global\let\etex@unexpanded\etex@unexpanded
173           \endgroup
174         \fi
175       \fi
176       \edef\y{\meaning\etex@unexpanded}%
177       \ifx\x\y
178         \endgroup
179         \etex@unexpandedtrue
180       \else
181         \endgroup
182         \@PackageInfoNoLine{etexcmds}{%
183           Could not find \string\unexpanded.\MessageBreak
184           That can mean that you are not using e-TeX or%
185           \MessageBreak
186           that some package has redefined \string\unexpanded.%
187           \MessageBreak
188           In the latter case, load this package earlier%
189         }%
190         \etex@unexpandedfalse
191       \fi
192     \fi
193   \fi
194 \fi
```

2.6 \expanded

\ifetex@expanded

195 \etexcmds@newif{expanded}

`\etex@expanded`

```
196 \begingroup
197 \edef\x{\string\expanded}%
198 \edef\y{\meaning\expanded}%
199 \ifx\x\y
200 \endgroup
201 \let\etex@expanded\expanded
202 \etex@expandedtrue
203 \else
204 \edef\y{\meaning\normalexpanded}%
205 \ifx\x\y
206 \endgroup
207 \let\etex@expanded\normalexpanded
208 \etex@expandedtrue
209 \else
210 \edef\y{\meaning\@@expanded}%
211 \ifx\x\y
212 \endgroup
213 \let\etex@expanded\@@expanded
214 \etex@expandedtrue
215 \else
216 \ifluatex
217 \ifnum\luatexversion<36 %
218 \else
219 \begingroup
220 \directlua{%
221 tex.enableprimitives('etex',{'expanded'})%
222 }%
223 \global\let\etex@expanded\etex@expanded
224 \endgroup
225 \fi
226 \fi
227 \edef\y{\meaning\etex@expanded}%
228 \ifx\x\y
229 \endgroup
230 \etex@expandedtrue
231 \else
232 \endgroup
233 \@PackageInfoNoLine{etexcmds}{%
234 Could not find \string\expanded.\MessageBreak
235 That can mean that you are not using pdfTeX 1.50 or%
236 \MessageBreak
237 that some package has redefined \string\expanded.%
238 \MessageBreak
239 In the latter case, load this package earlier%
240 }%
241 \etex@expandedfalse
242 \fi
243 \fi
244 \fi
245 \fi

246 \etexcmds@AtEnd%
247 \endpackage
```

3 Test

3.1 Catcode checks for loading

```
248 \*test1)
249 \catcode`\{=1 %
```

```

250 \catcode`}=2 %
251 \catcode`#=6 %
252 \catcode`@=11 %
253 \expandafter\ifx\csname count@\endcsname\relax
254 \countdef\count@=255 %
255 \fi
256 \expandafter\ifx\csname @gobble\endcsname\relax
257 \long\def@gobble#1{%
258 \fi
259 \expandafter\ifx\csname @firstofone\endcsname\relax
260 \long\def@firstofone#1{#1}%
261 \fi
262 \expandafter\ifx\csname loop\endcsname\relax
263 \expandafter@firstofone
264 \else
265 \expandafter@gobble
266 \fi
267 {%
268 \def\loop#1\repeat{%
269 \def\body{#1}%
270 \iterate
271 }%
272 \def\iterate{%
273 \body
274 \let\next\iterate
275 \else
276 \let\next\relax
277 \fi
278 \next
279 }%
280 \let\repeat=\fi
281 }%
282 \def\RestoreCatcodes{}
283 \count@=0 %
284 \loop
285 \edef\RestoreCatcodes{%
286 \RestoreCatcodes
287 \catcode\the\count@=\the\catcode\count@\relax
288 }%
289 \ifnum\count@<255 %
290 \advance\count@ 1 %
291 \repeat
292
293 \def\RangeCatcodeInvalid#1#2{%
294 \count@=#1\relax
295 \loop
296 \catcode\count@=15 %
297 \ifnum\count@<#2\relax
298 \advance\count@ 1 %
299 \repeat
300 }
301 \def\RangeCatcodeCheck#1#2#3{%
302 \count@=#1\relax
303 \loop
304 \ifnum#3=\catcode\count@
305 \else
306 \errmessage{%
307 Character \the\count@\space
308 with wrong catcode \the\catcode\count@\space
309 instead of \number#3%
310 }%
311 \fi

```

```

312 \ifnum\count@<#2\relax
313   \advance\count@ 1 %
314 \repeat
315 }
316 \def\space{ }
317 \expandafter\ifx\csname LoadCommand\endcsname\relax
318   \def\LoadCommand{\input etexcmds.sty\relax}%
319 \fi
320 \def\Test{%
321   \RangeCatcodeInvalid{0}{47}%
322   \RangeCatcodeInvalid{58}{64}%
323   \RangeCatcodeInvalid{91}{96}%
324   \RangeCatcodeInvalid{123}{255}%
325   \catcode`\@=12 %
326   \catcode`\=0 %
327   \catcode`\%=14 %
328   \LoadCommand
329   \RangeCatcodeCheck{0}{36}{15}%
330   \RangeCatcodeCheck{37}{37}{14}%
331   \RangeCatcodeCheck{38}{47}{15}%
332   \RangeCatcodeCheck{48}{57}{12}%
333   \RangeCatcodeCheck{58}{63}{15}%
334   \RangeCatcodeCheck{64}{64}{12}%
335   \RangeCatcodeCheck{65}{90}{11}%
336   \RangeCatcodeCheck{91}{91}{15}%
337   \RangeCatcodeCheck{92}{92}{0}%
338   \RangeCatcodeCheck{93}{96}{15}%
339   \RangeCatcodeCheck{97}{122}{11}%
340   \RangeCatcodeCheck{123}{255}{15}%
341   \RestoreCatcodes
342 }
343 \Test
344 \csname @@end\endcsname
345 \end
346 </test1>

```

3.2 Macro tests

```

347 <*test2>
348 \immediate\write16{etexcmds-test2.tex: test file for plainTeX}
349 \input etexcmds.sty\relax
350 \catcode`\@=11 %
351 \edef\x{\string\unexpanded}
352 \edef\y{\meaning\etex@unexpanded}
353 \ifx\x\y
354 \else
355   \@PackageError{etexcmds-test2}{Test failed}\@ehc
356 \fi
357 \end
358 </test2>
359 <*test3>
360 \NeedsTeXFormat{LaTeX2e}
361 \ProvidesFile{etexcmds-test3.tex}[2011/02/16 v1.5 Test file for LaTeX]
362 \RequirePackage{etexcmds}
363 \makeatletter
364 \edef\x{\string\unexpanded}
365 \edef\y{\meaning\etex@unexpanded}
366 \ifx\x\y
367 \else
368   \@PackageError{etexcmds-test3}{Test failed}\@ehc
369 \fi
370 \stop
371 </test3>

```



```

372 <*test4>
373 \NeedsTeXFormat{LaTeX2e}
374 \ProvidesFile{etexcmds-test4.tex}[2011/02/16 v1.5 Test file for LaTeX]
375 \documentclass{article}
376 \usepackage{m-pictex}
377 \def\normalwritestatus#1#2{%
378   \typeout{EMERGENCY HACK \string\normalwritestatus}%
379   \typeout{#1: #2}%
380 }
381 \usepackage{m-ch-de}
382 \usepackage{etexcmds}
383 \makeatletter
384 \ifetex@unexpanded
385   \edef\x{\string\unexpanded}%
386   \edef\y{\meaning\etex@unexpanded}%
387   \ifx\x\y
388     \else
389       \@PackageWarningNoLine{etexcmds-test4}{Test failed}%
390     \fi
391   \else
392     \@PackageWarningNoLine{etexcmds-test4}{%
393       Test failed because of ConTeXt%
394     }%
395   \fi
396 \stop
397 </test4>

```

4 Installation

4.1 Download

Package. This package is available on CTAN¹:

[CTAN:macros/latex/contrib/oberdiek/etexcmds.dtx](#) The source file.

[CTAN:macros/latex/contrib/oberdiek/etexcmds.pdf](#) Documentation.

Bundle. All the packages of the bundle ‘oberdiek’ are also available in a TDS compliant ZIP archive. There the packages are already unpacked and the documentation files are generated. The files and directories obey the TDS standard.

[CTAN:install/macros/latex/contrib/oberdiek.tds.zip](#)

TDS refers to the standard “A Directory Structure for \TeX Files” ([CTAN:tds/tds.pdf](#)). Directories with `texmf` in their name are usually organized this way.

4.2 Bundle installation

Unpacking. Unpack the `oberdiek.tds.zip` in the TDS tree (also known as `texmf` tree) of your choice. Example (linux):

```
unzip oberdiek.tds.zip -d ~/texmf
```

Script installation. Check the directory `TDS:scripts/oberdiek/` for scripts that need further installation steps. Package `attachfile2` comes with the Perl script `pdfatfi.pl` that should be installed in such a way that it can be called as `pdfatfi`. Example (linux):

```
chmod +x scripts/oberdiek/pdfatfi.pl
cp scripts/oberdiek/pdfatfi.pl /usr/local/bin/
```

¹[ftp://ftp.ctan.org/tex-archive/](http://ftp.ctan.org/tex-archive/)

4.3 Package installation

Unpacking. The `.dtx` file is a self-extracting `docstrip` archive. The files are extracted by running the `.dtx` through plain \TeX :

```
tex etexcmds.dtx
```

TDS. Now the different files must be moved into the different directories in your installation TDS tree (also known as `texmf` tree):

```
etexcmds.sty      → tex/generic/oberdiek/etexcmds.sty
etexcmds.pdf      → doc/latex/oberdiek/etexcmds.pdf
test/etexcmds-test1.tex → doc/latex/oberdiek/test/etexcmds-test1.tex
test/etexcmds-test2.tex → doc/latex/oberdiek/test/etexcmds-test2.tex
test/etexcmds-test3.tex → doc/latex/oberdiek/test/etexcmds-test3.tex
test/etexcmds-test4.tex → doc/latex/oberdiek/test/etexcmds-test4.tex
etexcmds.dtx      → source/latex/oberdiek/etexcmds.dtx
```

If you have a `docstrip.cfg` that configures and enables `docstrip`'s TDS installing feature, then some files can already be in the right place, see the documentation of `docstrip`.

4.4 Refresh file name databases

If your \TeX distribution (`te \TeX` , `mik \TeX` , ...) relies on file name databases, you must refresh these. For example, `te \TeX` users run `texhash` or `mktextlsr`.

4.5 Some details for the interested

Attached source. The PDF documentation on CTAN also includes the `.dtx` source file. It can be extracted by AcrobatReader 6 or higher. Another option is `pdftk`, e.g. unpack the file into the current directory:

```
pdftk etexcmds.pdf unpack_files output .
```

Unpacking with \LaTeX . The `.dtx` chooses its action depending on the format:

plain \TeX : Run `docstrip` and extract the files.

\LaTeX : Generate the documentation.

If you insist on using \LaTeX for `docstrip` (really, `docstrip` does not need \LaTeX), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{etexcmds.dtx}
```

Do not forget to quote the argument according to the demands of your shell.

Generating the documentation. You can use both the `.dtx` or the `.drv` to generate the documentation. The process can be configured by the configuration file `ltxdoc.cfg`. For instance, put this line into this file, if you want to have A4 as paper format:

```
\PassOptionsToClass{a4paper}{article}
```

An example follows how to generate the documentation with `pdf \LaTeX` :

```
pdflatex etexcmds.dtx
makeindex -s gind.ist etexcmds.idx
pdflatex etexcmds.dtx
makeindex -s gind.ist etexcmds.idx
pdflatex etexcmds.dtx
```

5 Catalogue

The following XML file can be used as source for the [T_EX Catalogue](#). The elements `caption` and `description` are imported from the original XML file from the Catalogue. The name of the XML file in the Catalogue is `etexcmds.xml`.

```
398 (*catalogue)
399 <?xml version='1.0' encoding='us-ascii'?>
400 <!DOCTYPE entry SYSTEM 'catalogue.dtd'>
401 <entry datestamp='$Date$' modifier='$Author$' id='etexcmds'>
402   <name>etexcmds</name>
403   <caption>Avoid name clashes with e-TeX commands.</caption>
404   <authorref id='auth:oberdiek' />
405   <copyright owner='Heiko Oberdiek' year='2007,2010,2011' />
406   <license type='lppl1.3' />
407   <version number='1.5' />
408   <description>
409     New primitive commands are introduced in e-TeX; sometimes the
410     names collide with existing macros. This package solves the
411     name clashes by adding a prefix to e-TeX's commands. For
412     example, e-TeX's \unexpanded is provided as
413     \etex@unexpanded.
414
415     <p/>
416     The package is part of the <xref refid='oberdiek'>oberdiek</xref>
417     bundle.
418   </description>
419   <documentation details='Package documentation'
420     href='ctan:/macros/latex/contrib/oberdiek/etexcmds.pdf' />
421   <ctan file='true' path='/macros/latex/contrib/oberdiek/etexcmds.dtx' />
422   <miktex location='oberdiek' />
423   <texlive location='oberdiek' />
424   <install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip' />
425 </entry>
426 </catalogue>
```

6 History

[2007/05/06 v1.0]

- First version.

[2007/09/09 v1.1]

- Documentation for `\ifetex@unexpanded` added.
- Catcode section rewritten.

[2007/12/12 v1.2]

- `\etex@expanded` added.

[2010/01/28 v1.3]

- Compatibility to `iniTEX` added.

[2011/01/30 v1.4]

- Already loaded package files are not input in plain T_EX.

- Using LuaTeX's `tex.enableprimitives` if available.

7 Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; plain numbers refer to the code lines where the entry is used.

Symbols	
<code>\#</code>	251
<code>\%</code>	327
<code>\@</code>	252, 325, 350
<code>\@expanded</code>	210, 213
<code>\@unexpanded</code>	159, 162
<code>\@PackageError</code>	355, 368
<code>\@PackageInfoNoLine</code>	182, 233
<code>\@PackageWarningNoLine</code>	389, 392
<code>\@ehc</code>	355, 368
<code>\@firstofone</code>	260, 263
<code>\@gobble</code>	257, 265
<code>\@undefined</code>	58
<code>\@</code>	326
<code>\{</code>	249
<code>\}</code>	250
A	
<code>\advance</code>	290, 298, 313
<code>\aftergroup</code>	29
B	
<code>\body</code>	269, 273
C	
<code>\catcode</code> ..	2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 69, 70, 72, 73, 74, 78, 79, 80, 81, 82, 83, 84, 87, 88, 90, 91, 92, 93, 97, 99, 249, 250, 251, 252, 287, 296, 304, 308, 325, 326, 327, 350
<code>\count@</code>	254, 283, 287, 289, 290, 294, 296, 297, 298, 302, 304, 307, 308, 312, 313
<code>\countdef</code>	254
<code>\csname</code>	14, 21, 50, 66, 76, 118, 120, 123, 125, 128, 131, 134, 253, 256, 259, 262, 317, 344
D	
<code>\directlua</code>	169, 220
<code>\documentclass</code>	375
E	
<code>\empty</code>	17, 18
<code>\end</code>	345, 357
<code>\endcsname</code>	14, 21, 50, 66, 76, 118, 120, 123, 125, 128, 131, 134, 253, 256, 259, 262, 317, 344
<code>\endinput</code>	29, 114
<code>\endlinechar</code>	4, 35, 71, 77, 89
<code>\errmessage</code>	306
<code>\escapechar</code>	113, 116
<code>\etex@expanded</code>	196
<code>\etex@expandedfalse</code>	241
<code>\etex@expandedtrue</code>	202, 208, 214, 230
<code>\etex@unexpanded</code> 2, 145, 352, 365, 386, 413
<code>\etex@unexpandedfalse</code>	190
<code>\etex@unexpandedtrue</code>	151, 157, 163, 179
<code>\etexcmds@AtEnd</code> ..	95, 96, 111, 112, 246
<code>\etexcmds@newif</code>	117, 144, 195
<code>\expanded</code>	197, 198, 201, 234, 237
I	
<code>\ifetex@expanded</code>	195
<code>\ifetex@unexpanded</code>	2, 144, 384
<code>\iffalse</code>	121
<code>\ifluatex</code>	165, 216
<code>\ifnum</code>	166, 217, 289, 297, 304, 312
<code>\iftrue</code>	126
<code>\ifx</code>	15, 18, 21, 50, 58, 61, 131, 134, 148, 154, 160, 177, 199, 205, 211, 228, 253, 256, 259, 262, 317, 353, 366, 387
<code>\immediate</code>	23, 52, 348
<code>\input</code>	135, 318, 349
<code>\iterate</code>	270, 272, 274
L	
<code>\LoadCommand</code>	318, 328
<code>\loop</code>	268, 284, 295, 303
<code>\luatexversion</code>	166, 217
M	
<code>\makeatletter</code>	363, 383
<code>\meaning</code>	147, 153, 159, 176, 198, 204, 210, 227, 352, 365, 386
<code>\MessageBreak</code> 183, 185, 187, 234, 236, 238
N	
<code>\NeedsTeXFormat</code>	360, 373
<code>\next</code>	274, 276, 278
<code>\normalexpanded</code>	204, 207
<code>\normalunexpanded</code>	153, 156
<code>\normalwritestatus</code>	377, 378
<code>\number</code>	309
P	
<code>\PackageInfo</code>	26
<code>\ProvidesFile</code>	361, 374
<code>\ProvidesPackage</code>	19, 67

R		<code>\typeout</code> 378, 379
<code>\RangeCatcodeCheck</code>		U
. 301, 329, 330, 331, 332, 333,		<code>\unexpanded</code> 146, 147,
334, 335, 336, 337, 338, 339, 340		150, 183, 186, 351, 364, 385, 412
<code>\RangeCatcodeInvalid</code>		<code>\usepackage</code> 376, 381, 382
..... 293, 321, 322, 323, 324		W
<code>\repeat</code> 268, 280, 291, 299, 314		<code>\write</code> 23, 52, 348
<code>\RequirePackage</code> 141, 142, 362		X
<code>\RestoreCatcodes</code> .. 282, 285, 286, 341		<code>\x</code> 14, 15, 18, 22, 26, 28,
S		51, 56, 66, 75, 87, 146, 148, 154,
<code>\space</code> 307, 308, 316		160, 177, 197, 199, 205, 211,
<code>\stop</code> 370, 396		228, 351, 353, 364, 366, 385, 387
T		Y
<code>\Test</code> 320, 343		<code>\y</code> 147, 148, 153,
<code>\the</code> 77, 78, 79, 80,		154, 159, 160, 176, 177, 198,
81, 82, 83, 84, 97, 113, 287, 307, 308		199, 204, 205, 210, 211, 227,
<code>\TMP@EnsureCode</code> . 94, 101, 102, 103,		228, 352, 353, 365, 366, 386, 387
104, 105, 106, 107, 108, 109, 110		
<code>\TMP@RequirePackage</code> ... 132, 138, 139		