

The `twoopt` package

“Definitions with two optional arguments”

1999/04/12, v1.3

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Abstract

This package provides commands to define macros with two optional arguments.

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1 Usage

`\newcommandtwoopt`
`\renewcommandtwoopt`
`\providecommandtwoopt`

Similar to `\newcommand`, `\renewcommand` and `\providecommand` this package provides commands to define macros with two optional arguments. The names of the commands are built by appending the package name to the \LaTeX -pendants:

```
\newcommandtwoopt    {\langle cmd \rangle} [\langle num \rangle] [\langle default1 \rangle] [\langle default2 \rangle] {\langle def. \rangle}
\renewcommandtwoopt  {\langle cmd \rangle} [\langle num \rangle] [\langle default1 \rangle] [\langle default2 \rangle] {\langle def. \rangle}
\providecommandtwoopt {\langle cmd \rangle} [\langle num \rangle] [\langle default1 \rangle] [\langle default2 \rangle] {\langle def. \rangle}
```

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Also the `*`-forms are supported. Indeed it is better to use this ones, unless it is intended to hold whole paragraphs in some of the arguments. If the macro is defined with the `*`-form, missing braces can be detected earlier.

Example:

```
\newcommandtwoopt{\bsp}[3][AA][BB]{%
  \typeout{\string\bsp: #1,#2,#3}%
}
\bsp[aa][bb]{cc} → \bsp: aa,bb,cc
\bsp[aa]{cc}     → \bsp: aa,BB,cc
\bsp{cc}        → \bsp: AA,BB,cc
```

2 Installation

2.1 Package

Run `twoopt.ins` through \TeX to get file `twoopt.sty`:

```
tex twoopt.ins
```

Move the file `twoopt.sty` into a directory that is searched by \LaTeX . As location in a TDS tree I recommend:

```
texmf/tex/latex/oberdiek/twoopt.sty  or
texmf/tex/latex/misc/twoopt.sty
```

2.2 Documentation

2.2.1 With \LaTeX

If you have package `hyperref` installed and want to use another driver than the default, use the configuration file `hyperref.cfg` to set your driver choice:

```
\hypersetup{<your driver>}
```

The following commands produce the documentation, don't forget `MakeIndex`'s option `-r`, if you use `hyperref` (eventually you need another cycle with `MakeIndex` and \LaTeX):

```
latex twoopt.dtx
makeindex -rs gind twoopt
latex twoopt.dtx
makeindex -rs gind twoopt
latex twoopt.dtx
```

2.2.2 With $\pdf\LaTeX$

Package `hyperref` for hyperlinks and package `thumbpdf` for thumbnails are supported. Generate the pdf file with the following commands (eventually you need another cycle with `MakeIndex` and $\pdf\LaTeX$):

```
pdflatex twoopt.dtx
makeindex -rs gind twoopt
pdflatex twoopt.dtx
makeindex -rs gind twoopt
pdflatex twoopt.dtx
thumbpdf twoopt
pdflatex twoopt.dtx
hothread twoopt.dtx
```

Within the current pdfTeX there are still problems and bugs with the thread support. The perl script `hothread(.pl)` reads the informations of the `.pdf` and the `.log` file and corrects the `.pdf` file by appending an update section.

3 Implementation

```

1 (*package)

\newcommandtwoopt
2 \newcommand{\newcommandtwoopt}{%
3 \@ifstar{\@newcommandtwoopt*}{\@newcommandtwoopt}}%
4 }

\@newcommandtwoopt <#1>: star
                   <#2>: macro name to be defined
5 \newcommand{\@newcommandtwoopt}{%
6 \long\def\@newcommandtwoopt#1#2{%
7 \expandafter\@@newcommandtwoopt
8 \csname2\string#2\endcsname{#1}{#2}%
9 }

\@@newcommandtwoopt <#1>: help command to be defined (\2\<name>)
                   <#2>: star
                   <#3>: macro name to be defined
                   <#4>: number of total arguments
                   <#5>: default for optional argument one
                   <#6>: default for optional argument two
10 \newcommand{\@@newcommandtwoopt}{%
11 \long\def\@@newcommandtwoopt#1#2#3[#4] [#5] [#6]{%
12 \newcommand#2#3[1] [{#5}] {%
13 \to@ScanSecondOptArg#1{##1}{#6}%
14 }%
15 \newcommand#2#1 [{#4}]%
16 }

\renewcommandtwoopt
17 \newcommand{\renewcommandtwoopt}{%
18 \@ifstar{\@renewcommandtwoopt*}{\@renewcommandtwoopt}}%
19 }

\@renewcommandtwoopt <#1>: star
                   <#2>: command name to be defined
20 \newcommand{\@renewcommandtwoopt}{%
21 \long\def\@renewcommandtwoopt#1#2{%
22 \begingroup
23 \escapechar\m@ne
24 \xdef\@gtempa{\string#2}}%
25 \endgroup
26 \expandafter\@ifundefined\@gtempa{%
27 \latex@error{\noexpand#2undefined}\@ehc
28 }{}%
29 \let#2\undefined
30 \expandafter\let\csname2\string#2\endcsname\@undefined
31 \expandafter\@newcommandtwoopt
32 \csname2\string#2\endcsname{#1}{#2}%
33 }

```

```

\providecommandtwoopt
34 \newcommand{\providecommandtwoopt}{%
35 \ifstar{\@providecommandtwoopt*}{\@providecommandtwoopt}}%
36 }

\@providecommandtwoopt <#1>: star
                       <#2>: command name to be defined
37 \newcommand{\@providecommandtwoopt}{%
38 \long\def\@providecommandtwoopt#1#2{%
39 \begingroup
40 \escapechar\m@ne
41 \xdef\@gtempa{\string#2}}%
42 \endgroup
43 \expandafter\@ifundefined\@gtempa{%
44 \expandafter\@newcommandtwoopt
45 \csname2\string#2\endcsname{#1}{#2}%
46 }{%
47 \let\to@dumyA\@undefined
48 \let\to@dumyB\@undefined
49 \@newcommandtwoopt\to@dumyA{#1}\to@dumyB
50 }%
51 }

\to@ScanSecondOptArg <#1>: help command to be defined (\2\<name>)
                     <#2>: first arg of command to be defined
                     <#3>: default for second opt. arg.
52 \newcommand{\to@ScanSecondOptArg}[3]{%
53 \ifnextchar[{%
54 \expandafter#1\to@ArgOptToArgArg{#2}}%
55 }{%
56 #1{#2}{#3}%
57 }%
58 }

\to@ArgOptToArgArg
59 \newcommand{\to@ArgOptToArgArg}{%
60 \long\def\to@ArgOptToArgArg#1[#2]{#1}{#2}}

61 </package>

```

4 History

[1998/10/30 v1.0]

- The first version was built as a response to a question of Rebecca and Rowland², published in the newsgroup comp.text.tex:
“Re: [Q] LaTeX command with two optional arguments?”³

²Rebecca and Rowland’s email address: rebecca@astrid.u-net.com

³Url: [http://www.dejanews.com/\[ST_rn=ps\]/getdoc.xp?AN=406573518](http://www.dejanews.com/[ST_rn=ps]/getdoc.xp?AN=406573518)

[1998/10/30 v1.1]

- Improvements added in response to Stefan Ulrich⁴ in the same thread: “Re: [Q] LaTeX command with two optional arguments?”⁵

[1998/11/04 v1.2]

- Fixes for LaTeX bugs 2896, 2901, 2902 added.

[1999/04/12 v1.3]

- Fixes removed because of LaTeX [1998/12/01].
- Documentation in dtx format.
- Copyright: LPPL (CTAN:macros/latex/base/lppl.txt⁶)
- First CTAN release.

5 Index

Numbers written in *italic* refer to the page where the corresponding entry is described, the ones underlined to the code line of the definition, the rest to the code lines where the entry is used.

Symbols	<code>\@undefined</code> <i>29, 30, 47, 48</i> <i>1, 34</i>	
<code>\@@newcommandtwoopt</code> <i>7, 10, 31, 44, 49</i>	E	
<code>\@ehc</code> <i>27</i>	<code>\escapechar</code> <i>23, 40</i>	R
<code>\@gtempa</code> <i>24, 26, 41, 43</i>	M	<code>\renewcommandtwoopt</code> <i>1, 17</i>
<code>\@ifnextchar</code> <i>53</i>	<code>\m@ne</code> <i>23, 40</i>	
<code>\@ifstar</code> <i>3, 18, 35</i>	N	T
<code>\@ifundefined</code> <i>26, 43</i>	<code>\newcommand</code> <i>2,</i> <i>5, 10, 12, 15, 17,</i> <i>20, 34, 37, 52, 59</i>	<code>\to@ArgOptToArgArg</code> <i>54, 59</i>
<code>\@latex@error</code> <i>27</i>	<code>\newcommandtwoopt</code> <i>1, 2</i>	<code>\to@dumnyA</code> <i>47, 49</i>
<code>\@newcommandtwoopt</code> <i>3, 5</i>	P	<code>\to@dumnyB</code> <i>48, 49</i>
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<code>\@renewcommandtwoopt</code> <i>18, 20</i>		

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⁵Url: [http://www.dejanews.com/\[ST_rn=ps\]/getdoc.xp?AN=406703373](http://www.dejanews.com/[ST_rn=ps]/getdoc.xp?AN=406703373)

⁶Url: <ftp://ftp.dante.de/tex-archive/macros/latex/base/lppl.txt>