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The gmverb Package^{*}

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This is (a documentation of) file gmverb.sty, intended to be used with L^AT_EX 2_< as a package for a slight redefinition of the \verb macro and verbatim environment and for short verb marking such as |\mymacro|.

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LPPL status: "author-maintained".

Many thanks to my T_EX Guru Marcin Woliński for his T_EXnical support.

1 \NeedsTeXFormat{LaTeX2e}
2 \ProvidesPackage{gmverb}
3 [2007/11/13 v0.84 After shortvrb (FM) but my way (GM)]

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Intro, Usage

This package redefines the \verb command and the verbatim environment so that the verbatim text can break into lines, with % (or another character chosen to be the comment char) as a 'hyphen'. Moreover, it allows the user to define his own verbatim-like environments provided their contents would be not *horribly* long (as long as a macro's argument may be at most).

This package also allows the user to declare a chosen char(s) as a 'short verb' e.g., to write |\a\verbatim\example| instead of \verb|\a\verbatim\example|.

The gmverb package redefines the \verb command and the verbatim environment in such a way that , { and \ are breakable, the first with no 'hyphen' and the other two with the comment char as a hyphen. I.e. {\subsequent text} breaks into {%

* This file has version number v0.84 dated 2007/11/13.

	<p><i>(subsequent text)</i>} and <i><text>\mymacro</i> breaks into <i><text>%\mymacro</i>.</p>
\fixbslash \fixlbrace	<p>(If you don't like linebreaking at backslash, there's the \fixbslash declaration (observing the common scoping rules, hence OCSR) and an analogous declaration for the left brace: \fixlbrace.)</p>
\VerbHyphen	<p>The default 'hyphen' is % since it's the default comment char. If you wish another char to appear at the linebreak, use the \VerbHyphen declaration that takes \<char> as the only argument. This declaration is always global.</p>
\verb+0K	<p>Another difference is the \verb+0K declaration (OCSR). Within its scope, \verb allows an end of a line in its argument and typesets it just as a space.</p>
	<p>As in the standard version(s), the plain \verb typesets the spaces blank and \verb* makes them visible.</p>
\MakeShortVerb	<p>Moreover, gmverb provides the \MakeShortVerb macro that takes a one-char control sequence as the only argument and turns the char used into a short verbatim delimiter, e.g., after \MakeShortVerb* (as you guess, the declaration has its starred version, which is for visible spaces, and the non-starred for the spaces blank) you may type % \mymacro to get \mymacro instead of typing \verb+ \mymacro+. Because the char used in this example is my favourite and used just this way by DEK in the <i>The T_EXbook</i>'s format, gmverb provides a macro \dekclubs as a shorthand for \MakeShortVerb* .</p>
\DeleteShortVerb	<p>Be careful because such active chars may interfere with other things, e.g., the with the vertical marker in tables and with the tikz package. If this happens, you can declare e.g., \DeleteShortVerb and the previous meaning of the char used shall be restored.</p>
\OldMakeShortVerb	<p>One more difference between gmverb and shortverb is that the chars \activeated by \MakeShortVerb in the math mode behave as if they were 'other', so you may type e.g., \$ \$ to get and + \activeated this way is in the math mode typeset properly etc.</p>
\dekclubs \dekclubs*	<p>However, if you don't like such a conditional behaviour, you may use \OldMakeShortVerb instead, what I do when I like to display short verbatims in displaymath.</p>
	<p>There's one more declaration provided by gmverb: \dekclubs, which is a shorthand for \MakeShortVerb* and \dekclubs* for \OldMakeShortVerb* .</p>
	<p>So that, after the latter declaration, you can write</p>
	<p>\[<verbatim stuff> \]</p>
	<p>instead of</p>
	<p>\[\hbox{ <the stuff> }\]</p>
	<p>to get a displayed shortverb.</p>
	<p>Both versions of \dekclubs OCSR.</p>
	<p>As many good packages, this also does not support any options.</p>

Installation

Unpack the gmverb-tds.zip archive (this is an archive conforming the TDS standard, see CTAN/tds/tds.pdf) in a texmf directory or put the gmverb.sty somewhere in the texmf/tex/latex branch on your own. Creating a texmf/tex/latex/gm directory may be advisable if you consider using other packages written by me.

Then you should refresh your T_EX distribution's files' database most probably.

Contents of the gmverb.zip Archive

The distribution of the gmverb package consists of the following four files and a TDS-compliant archive.

```

gmverb.sty
README
gmverbDoc.tex
gmverbDoc.pdf
gmverb.tds.zip

```

Compiling the Documentation

The last of the above files (the .pdf, i.e., *this file*) is a documentation compiled from the .sty file by running L^AT_EX on the gmverbDoc.tex file twice, then MakeIndex on the gmverb.idx file, and then L^AT_EX on gmverbDoc.tex once more.

MakeIndex shell command:

```
makeindex -r gmverbDoc
```

The -r switch is to forbid MakeIndex to make implicit ranges since the (code line) numbers will be hyperlinks.

Compiling the documentation requires the packages: gmdoc (gmdoc.sty and gmdoc.cls), gmverb.sty, gmuutils.sty and also some standard packages: hyperref.sty, color.sty, geometry.sty, multicol.sty, lmodern.sty and fontenc.sty that should be installed on your computer by default.

If you had not installed the mwcls classes (available on CTAN and present in T_EX Live e.g.), the result of your compilation might differ a bit from the .pdf provided in this .zip archive in formatting: If you had not installed mwcls, the standard article.cls class would be used.

The Code

Preliminaries

⁴ \RequirePackage{gmuutils}[2007/04/24]

For \firstofone, \afterfi, \gmobeyspaces, \ifnextcat, \foone and \noexpand's and \expandafter's shorthands \nx and \xa resp.

⁵ \foone{\@makeother\%}

⁶ {\def\xiipercent{\%}}

Someone may want to use another char for comment, but we assume here ‘orthodoxy’. Other assumptions in gmdoc are made. The ‘knowledge’ what char is the comment char is used to put proper ‘hyphen’ when a verbatim line is broken.

\verbhyphen ⁷ \let\verbhyphen\xiipercent

Provide a declaration for easy changing it. Its argument should be of \⟨char⟩ form (of course, a ⟨char⟩₁₂ is also allowed).

\VerbHyphen ⁸ \def\VerbHyphen#1{%

⁹ {\escapechar`m@ne

¹⁰ \xa\gdef\xiipercent{\string#1}}}

As you see, it’s always global.

The Breakables

Let’s define a \discretionary left brace such that if it breaks, it turns {% at the end of line. We’ll use it in almost Knuthian \ttverbatim—it’s part of this ‘almost’.

¹¹ \foone{\catcode`\[=1 \@makeother{\ \catcode`\]=2 }%

¹² [%

```

\breakbrace 13 \def\breakbrace[\discretionary[{%
14   \verbhyphen} [] [{%
15     }]%]
16 \def\xiilbrace[{%
17   }]%
18 ]% of \firstofone
19 \foone{\catcode`\[=1 \catcode`\{=\active \catcode`\]=2 }%
20 [%]
21 \def\dobreakbrace[\catcode`\{=\active
22 \def{%
23   [\breakbrace\gm@lbracehook]]%
24 ]

```

Now we only initialize the hook. Real use of it will be made in gmdoc.

```
25 \relax\gm@lbracehook
```

The \bslash macro defined below I use also in more ‘normal’ TeXing, e.g., to \typeout some \outer macro’s name.

```

26 \foone{\catcode`\!=0 \makeother\}\%
27 {%
\bslash 28 !def!\bslash{\}%
29 !def!\breakbslash{!discretionary{!verbhyphen}{\}{\}}%
30 }

```

Sometimes linebreaking at a backslash may be unwelcome. The basic case, when the first CS in a verbatim breaks at the lineend leaving there %, is covered by line 186. For the others let’s give the user a countercrank:

```

\fixbslash 31 \newcommand*\fixbslash{\let\breakbslash=\bslash}% to use due to the common
            scoping rules. But for the special case of a backslash opening a verbatim scope,
            we deal specially in the line 186.

```

Analogously, let’s provide a possibility of ‘fixing’ the left brace:

```

\fixbrace 32 \newcommand*\fixbrace{\let\breakbrace=\xiilbrace}
33 \foone{\catcode`\!=0 \catcode`\{\active}%
34 {%
\dobreakbslash 35 !def!\dobreakbslash{!catcode`!\!=\active !def\{!breakbslash}\}%
36 }

```

The macros defined below, \visiblebreakspaces and \xiiclus we’ll use in the almost Knuthian macro making verbatim. This ‘almost’ makes a difference.

```

\fixspace 37 \foone{\catcode`\ =12 }% note this space is 10 and is gobbled by parsing the num-
            ber.
38 {\def\xiispace{ }%
39 \def\breakablexiispace{\discretionary{ }{}{ }}}
40 \foone\obeyspaces% it’s just re\catcode’ing.
41 {%
\activespace 42 \newcommand*\activespace{ }%
43 \newcommand*\dobreakvisiblespace{\def {\breakablexiispace}\obeyspaces}%%%
            \defining it caused a stack overflow disaster with gmdoc.
44 \newcommand*\dobreakblankspace{\let =\space\obeyspaces}%
45 }
46 \bgroup\makeother\|
\xiiclus 47 \firstofone{\egroup\def\xiiclus{|}}

```

Almost-Knuthian \ttverbatim

\ttverbatim comes from *The T_EXbook* too, but I add into it a L^AT_EX macro changing the \catcodes and make spaces visible and breakable and left braces too.

```
48 \newcommand*\ttverbatim{%
49   \let\do=\do@noligs \verb@nolig@list
50   \let\do=\@makeother \dospecials
51   \dobreakbrace\dobreakslash
52   \dobreakspace
53   \tt
54   \ttverbatim@hook}
```

While typesetting stuff in the QX fontencoding I noticed there were no spaces in verbatims. That was because the QX encoding doesn't have any reasonable char at position 32. So we provide a hook in the very core of the verbatim making macros to set proper fontencoding for instance.

```
55 \@emptyify\ttverbatim@hook
56 \def\VerbT1{\def\ttverbatim@hook{\fontencoding{T1}\selectfont}}
57 \VerbT
58 We wish the visible spaces to be the default.
59 \let\dobreakspace=\dobreakvisiblespace
```

The Core: From shortvrb

The below is copied verbatim ;-) from doc.pdf and then is added my slight changes.

```
\MakeShortVerb*
\MakeShortVerb
@shortvrbdef
@shortvrbdef
@MakeShortVerb
58 \def\MakeShortVerb{%
59   \@ifstar
60   {\def\@shortvrbdef{\verb*@\MakeShortVerb}%
61   {\def\@shortvrbdef{\verb@\MakeShortVerb}%
62 \def\@MakeShortVerb#1{%
63   \@xa\ifx\csname cc\string#1\endcsname\relax
64   \@shortvrbinfo{Made }{#1}\@shortvrbdef
65   \add@special{#1}%
66   \AddtoPrivateOthers#1% a macro to be really defined in gmdoc.
67   \@xa
68   \xdef\csname cc\string#1\endcsname{\the\catcode`#1}%
69   \begingroup
70   \catcode`\~\active \lccode`\~`#1%
71   \lowercase{%
72     \global\@xa\let
73     \csname ac\string#1\endcsname\%
74     \@xa\gdef\@xa~\@xa{%
75       \@xa\ifmmode\@xa\string\@xa~%
76       \@xa\else\@xa\afterfi{\@shortvrbdef~}\fi}}% This terrible number of \expandafters
77   is to make the shortverb char just other in the math mode (my addition).
77   \endgroup
78   \global\catcode`#1\active
79   \else
80   \@shortvrbinfo\@empty{#1 already}{\@empty\verb(*)}%
81   \fi}
82 \def\DeleteShortVerb#1{%
83   \@xa\ifx\csname cc\string#1\endcsname\relax
```

```

84  \@shortvrbinfo{\empty{#1 not}{\empty{\verb(*)}}%
85  \else
86  \@shortvrbinfo{Deleted }{#1 as}{\empty{\verb(*)}}%
87  \rem@special{#1}%
88  \global\catcode`#1\csname cc\string#1\endcsname
89  \global \xa\let \csname cc\string#1\endcsname \relax
90  \ifnum\catcode`#1=\active
91  \begingroup
92  \catcode`\~\active \lccode`\~`#1%
93  \lowercase{%
94    \global\xa\let\xa~%
95    \csname ac\string#1\endcsname}%
96  \endgroup \fi \fi}

```

My little addition

```

97 \@ifpackageloaded{gmdoc}{%
98   \def\gmv@packname{gmdoc}}{%
99   \def\gmv@packname{gmverb}}
\@shortvrbinfo 100 \def\@shortvrbinfo#1#2#3{%
101   \PackageInfo{\gmv@packname}{%
102     ^~J\empty #1\xa\gobble\string#2 a short reference
103     for \xa\string#3}}
\add@special 104 \def\add@special#1{%
105   \rem@special{#1}%
106   \xa\gdef\xa\dospecials\xa
107   {\dospecials \do #1}%
108   \xa\gdef\xa\@sanitize\xa
109   {\@sanitize \makeother #1}}

```

For the commentary on the below macro see the doc package's documentation. Here let's only say it's just amazing: so tricky and wicked use of \do. The internal macro \rem@special defines \do to expand to nothing if the \do's argument is the one to be removed and to unexpandable CSs \do and *\do's argument* otherwise. With \do defined this way the entire list is just globally expanded itself. Analogous hack is done to the \@sanitize list.

```

\rem@special 110 \def\rem@special#1{%
111   \def\do##1{%
112     \ifnum`#1=##1 \else \nx\do\nx##1\fi}%
113   \xdef\dospecials{\dospecials}%
114   \begingroup
115   \def\makeother##1{%
116     \ifnum`#1=##1 \else \nx\makeother\nx##1\fi}%
117   \xdef\@sanitize{\@sanitize}%
118   \endgroup}

```

And now the definition of `\begin{verbatim}` itself. As you'll see (I hope), the internal macros of it look for the name of the current environment (i.e., `\@currenvir`'s meaning) to set their expectation of the environment's `\end` properly. This is done to allow the user to define his/her own environments with `\begin{verbatim}` inside them. I.e., as with the verbatim package, you may write `\begin{verbatim}` in the `\begdef` of your environment and then necessarily `\endverbatim` in its `\enddef`. Of course (or maybe surprisingly), the commands written in the `\begdef` after `\begin{verbatim}` will also be executed at `\begin{environment}`.

```

verbatim 119 \def\begin{verbatim}{\begin{par penalty \predisplaypenalty \begin{verbatim}
\begin{verbatim}

```

```

120  \frenchspacing \gmobeyspaces {\xverbatim}%
121  in the LATEX version there's %%
122  \vobeyspaces instead of \gmobeyspaces.
verbatim* 123 \@namedef{verbatim*}{\begin{parpenalty}\predisplaypenalty \verbatim
124  \sxverbatim}
125 \end{parpenalty}\end{par}
126 \advance\tempskipa\parskip \advance\tempskipa -\outerparskip
127 \vskip\tempskipa
128 \fi
129 \addvspace\topsepadd
130 \end{parenv}
131 \n@melet{endverbatim*}{endverbatim}
132 \begingroup \catcode `!=0 %
133 \catcode `=[=1 \catcode`]=2 %
134 \catcode`\{=\active
135 \makeother\}%
136 \catcode`\\\=\active%
137 !gdef!\xverbatim[%]
138 !edef!\verbatim@edef[%]
139 !def!\noexpand!\verbatim@end%
140 #####1!noexpand\end!\noexpand{\!@\currenvir}[%]
141 #####1!noexpand\end[!@\currenvir]]]%
142 !verbatim@edef
143 !verbatim@end]%
144 !endgroup
\@sxverbatim 145 \let\@sxverbatim=\xverbatim

```

F. Mittelbach says the below is copied almost verbatim from L^AT_EX source, modulo \check@percent.

```
146 \def\@verbatim{%
```

Originally here was just \trivlist \item[], but it worked badly in my document(s), so let's take just highlights of if.

```
147 \parsep\parskip
```

From \trivlist:

```

148 \if@noskipsec \leavevmode \fi
149 \topsepadd \topsep
150 \ifvmode
151 \advance\topsepadd \partopsep
152 \else
153 \unskip \par
154 \fi
155 \topsep \topsepadd
156 \advance\topsep \parskip
157 \outerparskip \parskip

```

(End of \trivlistlist and \trivlist highlights.)

```

158 \@@par\addvspace\topsep
159 \if@minipage\else\vskip\parskip\fi
160 \leftmargin\parindent% please notify me if it's a bad idea.

```

```

161  \advance\@totalleftmargin\leftmargin
162  \raggedright
163  \leftskip\@totalleftmargin% so many assignments to preserve the list thinking
   for possible future changes. However, we may be sure no internal list shall use \@totalleftmargin as far as no inner environments are possible in verbatim(*) .
164  \@@par% most probably redundant.
165  \tempswafalse
166  \def\par{\% but I don't want the terribly ugly empty lines when a blank line is met.
   Let's make them gmdoc-like i.e., let a vertical space be added as in between stanzas of poetry. Originally \if@tempswa\hbox{}\fi, in my version will be
167  \ifvmode\if@tempswa\addvspace\stanzaskip\@tempswafalse\fi\fi
168  \@@par
169  \penalty\interlinepenalty \check@percent\%
170  \everypar{\@tempswatrue\hangindent\verbatimhangindent\hangafter\@ne}\% since several chars are breakable, there's a possibility of breaking some lines. We wish them to be hanging indented.
171  \obeylines
172  \ttverbatim}

\stanzaskip
173 \@ifundefined{stanzaskip}{\newlength\stanzaskip}{}
174 \stanzaskip=\medskipamount

\verbatimhangindent
175 \newlength\verbatimhangindent
176 \verbatimhangindent=3em

\check@percent
177 \providecommand*\check@percent{}
```

In the gmdoc package shall it be defined to check if the next line begins with a comment char.

Similarly, the next macro shall in gmdoc be defined to update a list useful to that package. For now let it just gobble its argument.

```
\AddtoPrivateOthers
178 \providecommand*\AddtoPrivateOthers[1]{}
```

Both of the above are \provided to allow the user to load gmverb after gmdoc (which would be redundant since gmdoc loads this package on its own, but anyway should be harmless).

Let's define the 'short' verbatim command.

```
\verb*
\verb
179 \def\verb{\relax\ifmmode\hbox\else\leavevmode\null\fi
180   \bgroup
181   \ttverbatim
182   \gm@verb@eol
183   \@ifstar{\@sverb@chbsl}{\gmobeyspaces\frenchspacing@sverb@chbsl}\% in the LATEX version there's \vobeyspaces instead of \gmobeyspaces.
\@sverb@chbsl
184 \def\@sverb@chbsl#1{\@sverb#1\check@bslash}
\@def@breakbslash
185 \def\@def@breakbslash{\breakbslash}\% because \ is \defined as \breakbslash not \let.
```

For the special case of a backslash opening a (short) verbatim, in which it shouldn't be breakable, we define the checking macro.

```
\check@bslash
186 \def\check@bslash{\@ifnextchar{\@def@breakbslash}{\bslash\@gobble}\{}}
187 \let\verb@balance@group\empty
\verb@egroup
188 \def\verb@egroup{\global\let\verb@balance@group\empty\egroup}
\gm@verb@eol
189 \let\gm@verb@eol\verb@eol@error
```

The latter is a L^AT_EX 2 _{ε} kernel macro that \activeates line end and defines it to close the verb group and to issue an error message. We use a separate CS 'cause we are not quite positive to the forbidden line ends idea. (Although the allowed line ends with a forgotten closing shortverb char caused funny disasters at my work a few times.) Another reason is that gmdoc wishes to redefine it for its own queer purpose.

However, let's leave my former 'permissive' definition under the \verb@eol name.

```

190 \begingroup
191 \obeylines\obeyspaces%
192 \gdef\verb@eolOK{\obeylines%
\check@percent
193 \def^^M{ \check@percent}%
194 }%
195 \endgroup

```

The \check@percent macro here is \provided to be \empty but in gmdoc employed shall it be.

Let us leave (give?) a user freedom of choice:

```
\verb@eolOK 196 \def\verb@eolOK{\let\gm@verb@eol\verb@eolOK}
```

And back to the main matter,

```

197 \def\@sverb#1{%
198   \catcode`#1\active \lccode`\~`#1%
199   \gdef\verb@balance@group{\verb@egroup%
200     \@latex@error{Illegal use of \bslash verb command}\@ehc}%
201   \aftergroup\verb@balance@group
202   \lowercase{\let~\verb@egroup}}}

\verbatim@nolig@list 203 \def\verbatim@nolig@list{\do\`\do\<\do\>\do\,\do\'\do\-\}

\do@noligs 204 \def\do@noligs#1{%
205   \catcode`#1\active
206   \begingroup
207   \lccode`\~=`#1\relax
208   \lowercase{\endgroup\def~{\leavevmode\kern\z@\char`#1}}}

```

And finally, what I thought to be so smart and clever, now is just one of many possible uses of a general almost Rainer Schöpf's macro:

```
\dekclubs 209 \def\dekclubs{@ifstar{\OldMakeShortVerb*{}{\MakeShortVerb*{}}}}
```

But even if a shortverb is unconditional, the spaces in the math mode are not printed. So,

```

\edverbs 210 \newcommand*\edverbs{%
211   \let\gmv@dismath\[%]
212   \let\gmv@edismath\]%
213   \def\[{%
214     \@ifnextac\gmv@disverb\gmv@dismath}%
215   \let\edverbs\relax}%

\gmv@disverb 216 \def\gmv@disverb{%
217   \gmv@dismath
218   \hbox\bgroup\def\]\{\egroup\gmv@edismath\}}

```

doc- And shortverb-Compatibility

One of minor errors while T_EXing doc.dtx was caused by my understanding of a 'shortverb' char: at my settings, in the math mode an active 'shortverb' char expands to itself's

'other' version thanks to \string. doc/shortvrb's concept is different, there a 'shortverb' char should work as usual in the math mode. So let it may be as they wish:

```

\old@MakeShortVerb 219 \def\old@MakeShortVerb#1{%
220   \@xa\ifx\csname cc\string#1\endcsname\relax
221   \@shortvrbinfo{Made }{\#1}\@shortvrbdef
222   \add@special{\#1}%
223   \AddtoPrivateOthers#1% a macro to be really defined in gmdoc.
224   \@xa
225   \xdef\csname cc\string#1\endcsname{\the\catcode`\#1}%
226   \begingroup
227   \catcode`\~\active \lccode`\~`#1%
228   \lowercase{%
229     \global\@xa\let\csname ac\string#1\endcsname\%
230     \@xa\gdef\@xa~\@xa{%
231       \@shortvrbdef~}}%
232   \endgroup
233   \global\catcode`\#1\active
234 \else
235   \@shortvrbinfo{@empty{\#1 already}}{@empty\verb(*)}%
236 \fi}

\OldMakeShortVerb 237 \def\OldMakeShortVerb{\begingroup
238   \let\@MakeShortVerb=\old@MakeShortVerb
239   \@ifstar{\eg@MakeShortVerbStar}{\eg@MakeShortVerb}{}}

\eg@MakeShortVerbStar 240 \def\eg@MakeShortVerbStar#1{\MakeShortVerb*#1\endgroup}
241 \def\eg@MakeShortVerb#1{\MakeShortVerb#1\endgroup}
242 \endinput% for the Tradition.

```

Change History

v0.79	v0.82
\edverbs: added, 9	General: CheckSum 663, 1
v0.80	v0.83
\edverbs: debugged, i.e. \hbox added back and redefinition of \[, 9	General: added a hook in the active left brace definition intended for gmdoc automatic detection of definitions (in line 23), 10
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v0.81	v0.84
General: \afterfi made two-argument (first undelimited, the stuff to be put after \fi, and the other, delimited with \fi, to be discarded, 10	General: CheckSum 658, 1

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