

# The fonttable package\*

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## Abstract

The package lets you typeset the characters in a font in tabular and/or running text forms.

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## 1 Introduction

The fonttable package lets you typeset a font's character set in tabular and/or running text forms.

This manual is typeset according to the conventions of the L<sup>A</sup>T<sub>E</sub>X DOC-STRIP utility which enables the automatic extraction of the L<sup>A</sup>T<sub>E</sub>X macro source files [MG04].

## 2 The package

The package provides commands to typeset a table of all the glyphs in a given font and to typeset an example of regular text.

<code>\fonttable</code>	The command <code>\fonttable{⟨testfont⟩}</code> typesets a table showing all the glyphs in the <code>⟨testfont⟩</code> , where <code>⟨testfont⟩</code> is the name of a font like <code>cmr10</code> .
<code>\fontrange</code>	The package attempts to populate the table with a maximum of 256 glyphs,

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numbered from 0 to 255. The `\fontrange{⟨low⟩}{⟨high⟩}` declaration changes this by reducing the range so that it extends from `⟨low⟩` to `⟨high⟩`, where `⟨low⟩` should be at least 0 and `⟨high⟩` at most 256, and `⟨low⟩` less than `⟨high⟩`.

The table is composed of blocks of sixteen characters. If necessary the value of `⟨low⟩` is adjusted lower and `⟨high⟩` is adjusted higher to match this block structure. For example, if you wanted a table of the lower 128 characters then `\fontrange{0}{127}` would do the job, while the upper half of a 256 character font could be tabulated via `\fontrange{128}{255}`.

<code>\decimals</code>	Normally each cell in the table includes the decimal number of the position
<code>\nodecimals</code>	in the (256) character set. <code>\nodecimals</code> turns off this numbering and <code>\decimals</code> turns it on. The default is <code>\decimals</code> .
<code>\hexoct</code>	Normally the columns and rows in the table are numbered using hexadecimal
<code>\nohexoct</code>	and octal numbers. These can be turned off by <code>\nohexoct</code> and turned on again with <code>\hexoct</code> , which is the default.
<code>\ftablewidth</code>	The font table's width is the length <code>\ftablewidth</code> , which by default is set to the normal textwidth (or more exactly, to <code>\hsize</code> ). The table itself is left aligned. However, if <code>\nohexoct</code> is in effect the width of the table is its natural width.
<code>\fntcolwidth</code>	When <code>\nohexoct</code> is in effect the minimum width of a table column is <code>\fntcolwidth</code> . This is initially declared as <code>\setwidth{\fntcolwidth}{0.08\ftablewidth}</code>
<code>\fonttext</code>	The command <code>\fonttext{⟨testfont⟩}</code> typesets an example text using the <code>⟨testfont⟩</code> (e.g. <code>cmr10</code> ).
<code>\simpletext</code>	The example text can be just a paragraph and a line of capitals, or include
<code>\fulltext</code>	more complex accented words as well. Following the declaration <code>\fulltext</code> the complex words are included as well as the example paragraph. The default is <code>\simpletext</code> for just the paragraph.
<code>\regulartext</code>	The command <code>\regulartext{⟨fontspec⟩}</code> typesets the example text using <code>⟨fontspec⟩</code> , for example <code>\rmfamily\itshape</code> .
<code>\fonttexts</code>	The macro <code>\fonttexts{⟨testfont⟩}{⟨text⟩}</code> typesets <code>⟨text⟩</code> using the <code>⟨testfont⟩</code>
<code>\regulartexts</code>	(e.g. <code>cmr10</code> ). Similarly the macro <code>\regulartexts{⟨fontspec⟩}{⟨text⟩}</code> typesets <code>⟨text⟩</code> using <code>⟨fontspec⟩</code> (e.g., <code>\rmfamily\itshape</code> ).
<code>\germantext</code>	<code>\germantext</code> expands to German language paragraph, borrowed from the
<code>\latintext</code>	<code>blindtext</code> package [Lik05]. <code>\latintext</code> expands to one version of a paragraph of the traditional <i>lorem ipsum</i> dummy Latin text. Either, or both, of these could be used as the <code>⟨text⟩</code> argument to <code>\fonttexts</code> or <code>\regulartexts</code> .
<code>\aztext</code>	<code>\aztext</code> expands to the lowercase Latin alphabet a to z, and <code>\AZtext</code> is the
<code>\AZtext</code>	corresponding command for the uppercase A to Z. The macros <code>\digitstext</code> and
<code>\digitstext</code>	<code>\puncttext</code> expand respectively to the digits 0 to 9, and to the typical punctuation
<code>\puncttext</code>	marks. In all cases there is a space between each character.

### 3 The code

Most of the code below is an edited version of code used in `nfssfont.tex` for displaying aspects of the set of glyphs in a font.

```
1 (*pack)
```

```

2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{fonttable}[2009/04/30 v1.3 displays a font]
4

\sevenrm A small fixed size roman font.
5 \providecommand*\sevenrm{\fontsize{7}{9pt}\rmfamily}

\fontm Counts and a dimen.
\fontn 6 \newcount\fontm \newcount\fontn \newcount\fontp \newdimen\fontdim
\fontp 7
\fontdim
\fonttable \fonttable{<font>} typesets a table of all the glyphs in the <font> (e.g., aunc110).
8 \newcommand*\fonttable[1]{%
9   \def\fontname{#1}%
10  \bgroup
11  \fontstartfont
12  \ftable
13  \egroup}
14

\fontstartfont Sets up for a font table.
15 \newcommand*\fontstartfont{\font\fonttestfont=\fontname
16   \fonttestfont \fontsetbaselineskip
17   \ifdim\fontdimen6\fonttestfont<10pt \rightskip=0pt plus 20pt
18   \else\rightskip=0pt plus 2em \fi
19   \spaceskip=\fontdimen2\fonttestfont % space between words (\raggedright)
20   \xspaceskip=\fontdimen2\fonttestfont \advance\xspaceskip
21   by\fontdimen7\fonttestfont}
22

\fontsetbaselineskip
23 \newcommand*\fontsetbaselineskip{\setbox0=\hbox{\fontn=0
24   \loop\char\fontn \ifnum \fontn<255 \advance\fontn 1 \repeat}
25   \baselineskip=6pt \advance\baselineskip\ht0 \advance\baselineskip\dp0 }
26

\fonttoct \fonttoct{<onum>} typesets the octal constant <onum>.
27 \newcommand*\fonttoct[1]{\hbox{\rmfamily\'{}\kern-.2em\itshape
28   #1/\kern.05em}} % octal constant

\fonthex \fonthex{<hnum>} typesets the hexadecimal constant <hnum>.
29 \newcommand*\fonthex[1]{\hbox{\rmfamily\H{}\ttfamily#1}} % hexadecimal constant

\fontsetdigs \fontsetdigs
30 \def\fontsetdigs#1"#2{\gdef\h{#2}% \h=hex prefix; \0\1=corresponding octal
31   \fontm=\fontn \divide\fontm by 64 \xdef\0{\the\fontm}%
32   \multiply\fontm by-64 \advance\fontm by\fontn \divide\fontm by 8 \xdef\1{\the\fontm}}
```

```

\fttestrow \fttestrow checks if there are any characters in the next block of 16 slots.
33 \newcommand*{\fttestrow}{\setbox0=\hbox{\penalty 1\def\\{\char"h}%
34 \\0\\1\\2\\3\\4\\5\\6\\7\\8\\9\\A\\B\\C\\D\\E\\F%
35 \global\ftp=\lastpenalty}} % \ftp=1 if none of the characters exist
36

\ifhexoct Flag for (not) setting hex and octal numbers.
\hexoct 37 \newif\ifhexoct
\nohexoct 38 \newcommand*{\hexoct}{\hexocttrue}
39 \newcommand*{\nohexoct}{\hexoctfalse}
40 \hexoct
41

\ftodddlineum \ftodddline
42 \newcommand*{\ftodddline}{\cr
43 \noalign{\nointerlineskip}
44 \multispan{19}\hrulefill&
45 \setbox0=\hbox{\lower 2.3pt\hbox{\ftthex{h x}}}\smash{\box0}
46 \cr
47 \noalign{\nointerlineskip}}
48

\iff@tskipping
\ftskippingtrue 49 \newif\iff@tskipping
\ftskippingfalse 50

\fonrange \fonrange{<low>}{<high>} sets the character range to be output.
51 \newcommand*{\fonrange}[2]{%
52 \ifnum#1<#2\relax

Set \ftlow to the nearest multiple of 16 that is at or below <low>, but first make
sure that it will be at least 0.

53 \ifnum#1<\z@
54 \ftm=\z@
55 \else
56 \ftm=#1
57 \divide \ftm \sixt@n
58 \multiply \ftm \sixt@n
59 \fi
60 \edef\ftlow{\the\ftm}

Set \fthigh to the nearest multiple of 16 at or above <high>, finally making sure
that its maximum is 256.

61 \ftm=#2
62 \divide \ftm \sixt@n
63 \advance \ftm \@ne
64 \multiply \ftm \sixt@n
65 \ifnum \ftm > \ccclvi \ftm=\ccclvi \fi
66 \edef\fthigh{\the\ftm}
67 \else

```

```

68 \PackageError{fonttable}{%
69     Improper values for fontrange. Default values substituted}{\@ehc}
70 \def\f@tlow{0} \def\f@thigh{256}
71 \fi}
72 \fontrange{0}{256}
73

```

`\f@tloopforsixteen` `\f@tloopforsixteen` sets up a block of sixteen character slots.

```

74 \newcommand*{\f@tloopforsixteen}{%
75     \ifnum\f@tn<\f@tlow \global\f@tn=\f@tlow\fi
76     \loop\f@tskippingfalse
77     \ifnum\f@tn<\f@thigh \f@tm=\f@tn \divide\f@tm \sixt@@n \chardef\next=\f@tm
78     \expandafter\f@tsetdigs\meaning\next \f@ttestrow
79     \ifnum\f@tp=\@ne \f@tskippingtrue \fi\fi
80     \iff@tskipping \global\advance\f@tn \sixt@@n \repeat}
81

```

`\f@tevenline` `\f@tevenline` gets next non-empty set of a block of 16 characters. It either calls `\f@tmorechart` to print them, or `\f@tendchart` to finish off the table if all 256 potential characters have been processed.

`\f@tevenlinenonum` does something similar when no external numbers are printed.

```

82 \newcommand*{\f@tevenline}{%
83     \f@tloopforsixteen
84     \ifnum\f@tn=\f@thigh \let\next=\f@tendchart\else\let\next=\f@tmorechart\fi
85     \next}
86 \newcommand*{\f@tevenlinenonum}{%
87     \f@tloopforsixteen
88     \ifnum\f@tn=\f@thigh
89         \\hline
90     \else
91         \\hline
92         \f@tmorechartnonum
93     \fi}
94

```

`\f@tmorechart` `\f@tmorechart` sets two lines of the table, and `\f@tmorechartnonum` does the same when there are no external numbers.

```

95 \newcommand*{\f@tmorechart}{\cr\noalign{\hrule\penalty5000}
96 \f@tchartline \f@todddline \f@tm=\@1 \advance\f@tm 1 \xdef\1{\the\f@tm}
97 \f@tchartline \f@tevenline}
98 \newcommand*{\f@tmorechartnonum}{%
99     \f@tsimpleline \\ \hline
100     \f@tsimpleline \f@tevenlinenonum}
101

```

`\f@tchartline` `\f@tchartline` does a line of the table, including external numbers, and `\f@tsimpleline` `\f@tsimpleline` does an unnumbered line.

```

102 \newcommand*{\f@tchartline}{%

```

```

103 &\f@toct{\0\1x}&&\f@tpsg{}&&\f@tpsg{}&&\f@tpsg{}&&\f@tpsg{}&&\f@tpsg{}&&\f@tpsg{}&&\f@tp
104 \newcommand*{\f@tsimpleline}{%
105 \f@tpsg{\f@tchartstrut& \f@tpsg{} & \f@tpsg{} & \f@tpsg{} & \f@tpsg{} & \f@tpsg{} & \f
106

\f@tchartstrut \f@tchartstrut is a strut used in each table line. \f@tablewidth is width of an
\f@tablewidth externally numbered table. \f@ntcolwidth is the minimum width of a column in
\f@ntcolwidth an unnumbered table.

107 \newcommand*{\f@tchartstrut}{\lower4.5pt\vbox to14pt{}}
108 \newdimen\f@tablewidth
109 \f@tablewidth=\hsize
110 \newdimen\f@ntcolwidth
111 \setlength{\f@ntcolwidth}{0.08\f@tablewidth}

\f@tcol \f@tstartchartnonum is a table line of spaces, with no verticals.
\f@tstartchartnonum 112 \newcommand*{\f@tcol}{%
113 \multicolumn{1}{c}{\hspace*{\f@ntcolwidth}}}
114 \newcommand*{\f@tstartchartnonum}{%
115 \f@tcol &\f@tcol &\f@tcol &\f@tcol &\f@tcol &\f@tcol &\f@tcol &\f@tcol}
116

\f@table \f@table sets a complete character table. The actual code is in either \f@tftablenum
\f@tftablenum or \f@tftablenonum for externally numbered or plain tables, respectively.
\f@tftablenonum 117 \newcommand*{\f@tftablenum}{\global\f@tn=\z@
118 \halign to\f@tablewidth\bgroup
119 \f@tchartstrut##\tabskip0pt plus10pt&
120 &\hfil##\hfil&\vrule##\cr
121 \lower6.5pt\null
122 &&&\f@toct0&&\f@toct1&&\f@toct2&&\f@toct3&&\f@toct4&&\f@toct5&&\f@toct6&&\f@toct7&%
123 \f@tevenline}
124 \newcommand*{\f@tftablenonum}{%
125 \global\f@tn=\z@
126 \begin{tabular}{|c|c|c|c|c|c|c|c|}
127 \f@tstartchartnonum
128 \f@tevenlinenonum
129 \end{tabular}}
130 \newcommand*{\f@table}{\ifhexoct\f@tftablenum\else\f@tftablenonum\fi}
131

\f@tendchart \f@tendchart sets the last line of an externally numbered table with the relevant
hex digits.

132 \newcommand*{\f@tendchart}{\cr\noalign{\hrule}
133 \raise11.5pt\null&&&\f@thex 8&&\f@thex 9&&\f@thex A&&\f@thex B&
134 &\f@thex C&&\f@thex D&&\f@thex E&&\f@thex F&\cr
135 \egroup$$\par}
136

\decimals Following \decimals, which is the default, decimal numbers are printed in the
\nodecimals table. Following \nodecimals they are not printed.
\f@tpsg

```

`\f@tpsg` typesets a single glyph, possibly with its decimal slot number.

NOTE (2009/04/30): Initially `\f@tpsg` was called `\:`, which LaTeX defines to be a medium space. No doubt this was OK with the interactive version but can cause havoc when used in a package!

```

137 \newcommand*\nodedecimals{%
138 %%% the original
139 \newcommand*\f@tpsg{\setbox0=\hbox{\char\f@tn}%
140 \ifdim\ht0>7.5pt\f@treposition
141 \else\ifdim\dp0>2.5pt\f@treposition\fi\fi
142 \box0\global\advance\f@tn 1 }}
143 \newcommand*\decimals{%
144 %%% mine
145 \newcommand*\f@tpsg{\setbox0=\hbox{\char\f@tn,\rlap{\tiny \the\f@tn}}%
146 \ifdim\ht0>7.5pt\f@treposition
147 \else\ifdim\dp0>2.5pt\f@treposition\fi\fi
148 \box0\global\advance\f@tn 1 }}
149 \decimals
150

```

`\f@treposition` `\f@treposition`

```

151 \newcommand*\f@treposition{\setbox0=\vbox{\kern2pt\box0}\f@tdim=\dp0
152 \advance\f@tdim 2pt \dp0=\f@tdim}
153

```

`\fonttext` `\fonttext{<font>}` typesets `\knutext` using `<font>` (e.g. `auncl10`).

```

154 \def\fonttext#1{%
155 \def\f@tfontname{#1}%
156 \bgroup
157 \f@tstartfont
158 \knutext
159 \egroup}
160

```

`\regulartext` `\regulartext{<fontspec>}` typesets `\knutext` using `<fontspec>` (e.g., `\aunclfamily`).

```

161 \def\regulartext#1{%
162 \bgroup
163 #1
164 \knutext
165 \egroup}
166

```

`\knutext` Deathless prose from Knuth for testing a font. It includes `\moreknutext`, `\capknutext`, and `\knunames`.

```

167 \def\knutext{%
168 On November 14, 1885, Senator \& Mrs.~Leland Stanford called together
169 at their San Francisco mansion the 24~prominent men who had been
170 chosen as the first trustees of The Leland Stanford Junior University.
171 They handed to the board the Founding Grant of the University, which
172 they had executed three days before. This document---with various

```

```

173 amendments, legislative acts, and court decrees---remains as the
174 University's charter. In bold, sweeping language it stipulates that
175 the objectives of the University are "to qualify students for
176 personal success and direct usefulness in life; and to promote the
177 publick welfare by exercising an influence in behalf of humanity and
178 civilization, teaching the blessings of liberty regulated by law, and
179 inculcating love and reverence for the great principles of government
180 as derived from the inalienable rights of man to life, liberty, and
181 the pursuit of happiness.'"
182
183 \morektext
184
185 \capktext
186
187 \knunames
188 \par}}
189

\@morektext Some more text with a variety of ligatures and accents.
190 \def\@morektext{?'But aren't Kafka's Schlo{\ss} and {\AE}sop's
191 {\OE}uvres often na{"\i}ve vis-\a-vis the d{\ae}monic ph{\oe}nix's
192 official r\`ole in fluffy souffl'es? }
193

\@capktext Text using only capital letters and some punctutation.
\capktext 194 \newcommand{\@capktext}{%
195 (!'THE DAZED BROWN FOX QUICKLY GAVE 12345--67890 JUMPS!)}
196 \let\capktext\@capktext
197

\@knunames Lots of accents masquerading in personal names.
198 \def\@knunames{ {\AA}ngel\aa\ Beatrice Claire
199 Diana \'Erica Fran\c{c}oise Ginette H\'el\'ene Iris
200 Jackie K\=aren {\L}au\ra Mar{\'\i}a N\H{a}ta{\l}{\u\i}e {\O}ctave
201 Pauline Qu\^eneau Roxanne Sabine T\~a{\'\j}a Ur\v{s}ula
202 Vivian Wendy Xanthippe Yv{\o}nne Z"azilie\par}
203

\guillemotleft Just in case the french quotes are not defined, as they are called for in the subse-
\guillemotright quent \germantext.
\flqq 204 \DeclareTextSymbol{\guillemotleft}{OT1}{'\'}
\frqq 205 \DeclareTextSymbol{\guillemotright}{OT1}{'\'}
206 \providecommand{\flqq}{\guillemotleft}
207 \providecommand{\frqq}{\guillemotright}
208

\germantext Text from the Blindtext package.
209 \newcommand*\@germantext{%
210 Dies hier ist ein Blindtext zum Testen von Textausgaben. Wer

```



211 diesen Text liest, ist selbst schuld. Der Text gibt lediglich den  
 212 Grauwert der Schrift an. Ist das wirklich so? Ist es  
 213 gleich-g\ul\tig ob ich schreibe: \frqq Dies ist ein  
 214 Blindtext\flqq\ oder \frqq Huardest gefburn\flqq? Kjift --  
 215 mitnichten! Ein Blindtext bietet mir wichtige Informationen. An  
 216 ihm messe ich die Lesbarkeit einer Schrift, ihre Anmutung, wie  
 217 harmonisch die Figuren zueinander stehen und pr\"u-fe, wie breit  
 218 oder schmal sie l\"auft. Ein Blindtext sollte m\"oglichst viele  
 219 verschiedene Buchstaben enthalten und in der Originalsprache  
 220 gesetzt sein. Er mu\ss\ keinen Sinn ergeben, sollte aber lesbar  
 221 sein. Fremdsprachige Texte wie \frqq Lorem ipsum\flqq\ dienen  
 222 nicht dem eigentlichen Zweck, da sie eine  
 223 falsche Anmutung vermitteln.\par}  
 224

\latintext The traditional printers' text.

225 \newcommand\*{\latintext}{%  
 226 Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam  
 227 lobortis facilisis sem. Nullam nec mi et neque pharetra  
 228 sollicitudin. Praesent imperdiet mi nec ante. Donec ullamcorper,  
 229 felis non sodales commodo, lectus velit ultrices augue, a  
 230 dignissim nibh lectus placerat pede. Vivamus nunc nunc, molestie  
 231 ut, ultricies vel, semper in, velit. Ut porttitor. Praesent in  
 232 sapien. Lorem ipsum dolor sit amet, consectetur adipiscing elit.  
 233 Duis fringilla tristique neque. Sed interdum libero ut metus.  
 234 Pellentesque placerat. Nam rutrum augue a leo. Morbi sed elit sit  
 235 amet ante lobortis sollicitudin. Praesent blandit blandit mauris.  
 236 Praesent lectus tellus, aliquet aliquam, luctus a, egestas a,  
 237 turpis. Mauris lacinia lorem sit amet ipsum. Nunc quis urna dictum  
 238 turpis accumsan semper.\par}  
 239

\simpletext \simpletext kills off \morekntext and \knunames. \fulltext restores \morekntext  
 \fulltext and \knunames. Make \fulltext the default.

\morekntext 240 \newcommand\*{\simpletext}{\let\morekntext\relax \let\knunames\relax}  
 \knunames 241 \newcommand\*{\fulltext}{\let\morekntext\@morekntext \let\knunames\@knunames}  
 242 \fulltext  
 243

fonttexts \fonttexts{<font>}{<text>} typesets <text> using <font> (e.g. auncl10).

244 \def\fonttexts#1#2{%  
 245 \def\fontname{#1}%  
 246 \bgroup  
 247 \fontstartfont  
 248 #2  
 249 \egroup}  
 250

\regulartexts \regulartext{<fontspec>}{<text>} typesets <text> using <fontspec> (e.g., \aunclfamily).

```

251 \def\regulartexts#1#2{%
252   \bgroup
253   #1 #2
254   \egroup}
255
\aztext  The various characters used for Latin texts.
\AZtext 256 \newcommand*{\aztext}{a b c d e f g h i j k l m n o p q r s t u v w x y z}
\digitstext 257 \newcommand*{\AZtext}{A B C D E F G H I J K L M N O P Q R S T U V W X Y Z}
\puncttext 258 \newcommand*{\digitstext}{0 1 2 3 4 5 6 7 8 9}
259 \newcommand*{\puncttext}{' ! @ \ $ \% & * ( ) \_ - + = [ ] < > \{ \} : ; ' , . ? /}
260
The end of the package.
261 \pack

```

## Bibliography

- [Lik05] Knut Lickert. *Blindtext.sty: Creating text for testing / Texterzeugung zum testen*. October 2005. (Available from CTAN in `macros/latex/contrib/blindtext`)
- [MG04] Frank Mittelbach and Michel Goossens. *The LaTeX Companion*. Second edition. Addison-Wesley Publishing Company, 2004.