

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^AT_EX DOCUMENT STRIP utility which enables the automatic extraction of the L^AT_EX 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.

`\fonttable` The command
`\fonttable{\langle testfont\rangle}`
typesets a table showing all the glyphs in the `\langle testfont\rangle`, where `\langle testfont\rangle` is the name of a font file¹ like `cmr10` (for Computer Modern Roman) or `pzdr` (for Zapf

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¹More precisely, the name of a `.tfm` file.

Dingbats).

`\xfonttable`

The command
`\xfonttable{<encoding>}{<family>}H{<series>}<shape>`
 typesets a table showing all the glyphs in the font with encoding $\langle \text{encoding} \rangle$ (e.g., T1 or OMS), family $\langle \text{family} \rangle$ (e.g., `ppl` for Palatino or `cmbrs` for CM Bright Math (OMS)), font series $\langle \text{series} \rangle$ (e.g., `sb` for semibold of `m` for medium), and font shape $\langle \text{shape} \rangle$ (e.g., `n` for normal or `sc` for small caps). For example:

`\xfonttable{U}{pzd}{m}{n}`

for Zapf Dingbats.

`\pikfont`

The command²

`\pikfont{<encoding>}{<family>}H{<series>}<shape>`

selects the font with encoding $\langle \text{encoding} \rangle$ (e.g., T1 or OMS), family $\langle \text{family} \rangle$ (e.g., `ppl` for Palatino or `cmbrs` for CM Bright Math (OMS)), font series $\langle \text{series} \rangle$ (e.g., `sb` for semibold of `m` for medium), and font shape $\langle \text{shape} \rangle$ (e.g., `n` for normal or `sc` for small caps). For example:

`\pikfont{T1}{ppl}{m}{sc}`

for Palatino small caps. The size of the font corresponds to the current setting (e.g., `\footnotesize`, `\normalsize`, `\Large`). It can also be changed after being selected by the incantation

`\fontsize{<size>}{<baselineskip>}\selectfont`

where $\langle \text{size} \rangle$ is the normal height and $\langle \text{baselineskip} \rangle$ is the distance between text lines; the measurement system is `pts` but just use numbers with no units specified. For example:

`\fontsize{12}{15}\selectfont`

for a 12pt font with 15pts between baselines.

If you are unsure about the meaning of the various arguments of `\xfonttable` and `\pikfont` see *The Companion* [MG04, Chapter 7] or the *LaTeX2e font selection* manual (`fntguide.tex`; try `texdoc fntguide`).

`\fontrange`

The package attempts to populate the table with a maximum of 256 glyphs, numbered from 0 to 255. The `\fontrange{<low>}{<high>}` declaration changes this by reducing the range so that it extends from $\langle \text{low} \rangle$ to $\langle \text{high} \rangle$, where $\langle \text{low} \rangle$ should be at least 0 and $\langle \text{high} \rangle$ at most 256, and $\langle \text{low} \rangle$ less than $\langle \text{high} \rangle$.

The table is composed of blocks of sixteen characters. If necessary the value of $\langle \text{low} \rangle$ is adjusted lower and $\langle \text{high} \rangle$ 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}`.

`\decimals`
`\nodecimals`

Normally each cell in the table includes the decimal number of the position in the (256) character set. `\nodecimals` turns off this numbering and `\decimals` turns it on. The default is `\decimals`.

`\hexoct`
`\nohexoct`

Normally the columns and rows in the table are numbered using hexadecimal and octal numbers. These can be turned off by `\nohexoct` and turned on again with `\hexoct`, which is the default.

²The name was chosen in an attempt to avoid clashes with other macros that might perform similar functions.

\ftablewidth	The font table's width is the length <code>\ftablewidth</code> , which by default is set to the normal <code>textwidth</code> (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.
\fntcolwidth	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>
\fonttext	The command <code>\fonttext{<testfont>}</code> typesets an example text using the <code><testfont></code> (e.g. <code>cmr10</code>).
\simpletext	The example text can be just a paragraph and a line of capitals, or include 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.
\regulartext	The command <code>\regulartext{<fontspec>}</code> typesets the example text using <code><fontspec></code> , for example <code>\rmfamily\itshape</code> or <code>\pikfont{T1}{pnc}{m}{it}</code> .
\fonttexts	The macro <code>\fonttexts{<testfont>}{<text>}</code> typesets <code><text></code> using the <code><testfont></code> (e.g. <code>cmt10</code>). Similarly the macro <code>\regulartexts{<fontspec>}{<text>}</code> typesets <code><text></code> using <code><fontspec></code> (e.g., <code>\rmfamily\itshape</code> or <code>\pikfont{T1}{ppl}{m}{it}</code>).
\germantext	<code>\germantext</code> expands to German language paragraph, borrowed from the <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> .
\aztext	<code>\aztext</code> expands to the lowercase Latin alphabet a to z, and <code>\AZtext</code> is the corresponding command for the uppercase A to Z. The macros <code>\digitstext</code> and <code>\puncttext</code> expand respectively to the digits 0 to 9, and to the typical punctuation marks. In all cases there is a space between each character.
\AZtext	
\digitstext	
\puncttext	

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	<code><*pack></code>
2	<code>\NeedsTeXFormat{LaTeX2e}</code>
3	<code>\ProvidesPackage{fonttable}[2009/05/06 v1.4 displays a font]</code>
4	
\sevenrm	A small fixed size roman font. <code>5 \providecommand*\sevenrm{\fontsize{7}{9pt}\rmfamily}</code>
\f@tm	Counts and a dimen. <code>6 \newcount\f@tm \newcount\f@tn \newcount\f@tp \newdimen\f@tdim</code>
\f@tn	
\f@tp	
\f@tdim	
\fonttable	<code>\fonttable{}</code> typesets a table of all the glyphs in the <code></code> (e.g., <code>auncl10</code>). <code>8 \newcommand*\fonttable[1]{%</code> <code>9 \def\f@tfontname{\#1}%</code> <code>10 \bgroup</code>

```

11  \f@tstartfont
12  \ftable
13  \egroup}
14

\pikfont \pikfont{\encoding}{\family}{\series}{\shape} selects the font with encoding, family, series and shape.
15 \DeclareRobustCommand{\pikfont}[4]{%
16   \fontencoding{\#1}\fontfamily{\#2}\fontseries{\#3}\fontshape{\#4}\selectfont}
17

\xfonttable \xfonttable{\encoding}{\family}{\series}{\shape} typesets a table of all
the glyphs in the font with encoding, family, series and shape (e.g.,
\xfonttable{T1}{pnc}{m}{it} for New Century Schoolbook italic). The original
code for the macro was supplied by Enrico Gregorio.
18 \newcommand*{\xfonttable}[4]{\bgroup
19   \pikfont{\#1}{\#2}{\#3}{\#4}%
20   \edef\f@tfontname{\fontname\font}\normalfont
21   \f@tstartfont
22   \ftable
23   \egroup}
24

\f@tstartfont Sets up for a font table.
25 \newcommand*{\f@tstartfont}{\font\f@ttestfont=\f@tfontname
26 \f@ttestfont \f@tsetbaselineskip
27 \ifdim\fondimen6\f@ttestfont<10pt \rightskip=0pt plus 20pt
28 \else\rightskip=0pt plus 2em \fi
29 \spaceskip=\fontdimen2\f@ttestfont % space between words (\raggedright)
30 \xspaceskip=\fontdimen2\f@ttestfont \advance\xspaceskip
31 by\fontdimen7\f@ttestfont}
32

\f@tsetbaselineskip
33 \newcommand*{\f@tsetbaselineskip}{\setbox0=\hbox{\f@tn=0
34 \loop\char\f@tn \ifnum\f@tn<255 \advance\f@tn 1 \repeat}
35 \baselineskip=6pt \advance\baselineskip\ht0 \advance\baselineskip\dp0 }
36

\f@toct \f@toct{\onum} typesets the octal constant onum.
37 \newcommand*{\f@toct}[1]{\hbox{\rmfamily\kern-.2em\itshape
38 #1\kern.05em}} % octal constant

\f@thex \f@thex{\hnum} typesets the hexadecimal constant hnum.
39 \newcommand*{\f@thex}[1]{\hbox{\rmfamily\H{}\ttfamily#1}} % hexadecimal constant

\f@tsetdigs \f@tsetdigs
40 \def\f@tsetdigs#1"##2{\gdef\h{#2}%
41 \h=hex prefix; \0\1=corresponding octal
42 \f@tm=\f@tn \divide\f@tm by 64 \xdef\0{\the\f@tm}%
43 \multiply\f@tm by-64 \advance\f@tm by\f@tn \divide\f@tm by 8 \xdef\1{\the\f@tm}}

```

```

\f@ttestrow \f@ttestrow checks if there are any characters in the next block of 16 slots.
43 \newcommand*{\f@ttestrow}{\setbox0=\hbox{\penalty 1\def\\{\char"\h}%
44 \\0\\1\\2\\3\\4\\5\\6\\7\\8\\9\\A\\B\\C\\D\\E\\F%
45 \global\f@tp=\lastpenalty}}% \f@tp=1 if none of the characters exist
46

\ifhexoct Flag for (not) setting hex and octal numbers.
\hexoct 47 \newif\ifhexoct
\nohexoct 48 \newcommand*{\hexoct}{\hexocttrue}
49 \newcommand*{\nohexoct}{\hexoctfalse}
50 \hexoct
51

\f@toddlinenum \f@toddline
52 \newcommand*{\f@toddline}{\cr
53 \noalign{\nointerlineskip}
54 \multispan{19}\hrulefill&
55 \setbox0=\hbox{\lower 2.3pt\hbox{\f@thex{\h x}}}\smash{\box0}
56 \cr
57 \noalign{\nointerlineskip}}
58

\iff@t skipping
\f@t skippingtrue 59 \newif\iff@t skipping
\f@t skippingfalse 60

\fontrange \fontrange{\langle low \rangle}{\langle high \rangle} sets the character range to be output.
61 \newcommand*{\fontrange}[2]{%
62 \ifnum#1<#2\relax
Set \f@tlow to the nearest multiple of 16 that is at or below \langle low \rangle, but first make
sure that it will be at least 0.
63 \ifnum#1<\z@%
64 \f@tm=\z@
65 \else
66 \f@tm=#1
67 \divide \f@tm \sixt@@n
68 \multiply \f@tm \sixt@@n
69 \fi
70 \edef\f@tlow{\the\f@tm}

Set \f@thigh to the nearest multiple of 16 at or above \langle high \rangle, finally making sure
that its maximum is 256.
71 \f@tm=#2
72 \divide \f@tm \sixt@@n
73 \advance \f@tm \@ne
74 \multiply \f@tm \sixt@@n
75 \ifnum \f@tm > \@cclvi \f@tm=\@cclvi \fi
76 \edef\f@thigh{\the\f@tm}
77 \else

```

```

78  \PackageError{fonttable}{%
79      Improper values for fontrange. Default values substituted}{\@ehc}
80  \def\f@tlow{0} \def\f@thigh{256}
81  \fi}
82 \fontrange{0}{256}
83

\f@tloopforsixteen \f@tloopforsixteen sets up a block of sixteen character slots.
84 \newcommand*\f@tloopforsixteen{%
85   \ifnum\f@tn<\f@tlow \global\f@tn=\f@tlow\fi
86   \loop\f@tsskipingfalse
87   \ifnum\f@tn<\f@thigh \f@tm=\f@tn \divide\f@tm \sixt@@n \chardef\next=\f@tm
88   \expandafter\f@tsetdigs\meaning\next \f@ttestrow
89   \ifnum\f@tp=\@ne \f@tsskipingtrue \fi\fi
90   \iff@tsskiping \global\advance\f@tn \sixt@@n \repeat}
91

\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.
92 \newcommand*\f@tevenline{%
93   \f@tloopforsixteen
94   \ifnum\f@tn=\f@thigh \let\next=\f@tendchart\else\let\next=\f@tmorechart\fi
95   \next}
96 \newcommand*\f@tevenlinenonum{%
97   \f@tloopforsixteen
98   \ifnum\f@tn=\f@thigh
99     \\hline
100   \else
101     \\hline
102   \f@tmorechartnonum
103   \fi}
104

\f@tmorechart \f@tmorechart sets two lines of the table, and \f@tmorechartnonum does the
\f@tmorechartnonum same when there are no external numbers.
105 \newcommand*\f@tmorechart{\cr\noalign{\hrule\penalty5000}
106 \f@tchartline \f@toddline \f@tm=1 \advance\f@tm 1 \xdef\@i{\the\f@tm}
107 \f@tchartline \f@tevenline}
108 \newcommand*\f@tmorechartnonum{%
109   \f@tsimpleline \\ hline
110   \f@tsimpleline \f@tevenlinenonum}
111

\f@tchartline \f@tchartline does a line of the table, including external numbers, and
\f@tsimpleline \f@tsimpleline does an unnumbered line.
112 \newcommand*\f@tchartline{%

```


\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!

```

147 \newcommand*{\nodecimals}{%
148 %% the original
149   \newcommand*{\f@tpsg}{\setbox0=\hbox{\char\f@tn}%
150     \ifdim\ht0>7.5pt\f@treposition
151     \else\ifdim\dp0>2.5pt\f@treposition\fi\fi
152     \box0\global\advance\f@tn 1 !!}
153 \newcommand{\decimals}{%
154 %% mine
155   \newcommand*{\f@tpsg}{\setbox0=\hbox{\char\f@tn},\rlap{\tiny \the\f@tn}}%
156     \ifdim\ht0>7.5pt\f@treposition
157     \else\ifdim\dp0>2.5pt\f@treposition\fi\fi
158     \box0\global\advance\f@tn 1 !!}
159 \decimals
160

\f@treposition \f@treposition
161 \newcommand*{\f@treposition}{\setbox0=\vbox{\kern2pt\box0}\f@tdim=\dp0
162   \advance\f@tdim 2pt \dp0=\f@tdim}
163

\fonttext \fonttext{\langle font\rangle} typesets \knu{t} using \langle font\rangle (e.g. \aunc{l10}).
164 \def\fonttext#1{%
165   \def\f@tfontname{#1}%
166   \bgroup
167   \f@tstartfont
168   \knu{t}
169   \egroup}
170

\regulartext \regulartext{\langle fontsing\rangle} typesets \knu{t} using \langle fontsing\rangle (e.g., \aunc{lfamily}).
171 \def\regulartext#1{%
172   \bgroup
173   #1
174   \knu{t}
175   \egroup}
176

\knu{t} Deathless prose from Knuth for testing a font. It includes \moreknu{t},
\capknu{t}, and \knu{names}.
177 \def\knu{t}{%
178 On November 14, 1885, Senator & Mrs. Leland Stanford called together
179 at their San Francisco mansion the 24~prominent men who had been
180 chosen as the first trustees of The Leland Stanford Junior University.
181 They handed to the board the Founding Grant of the University, which
182 they had executed three days before. This document---with various

```

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

192
 193 \moreknutext
 194
 195 \capknutext
 196
 197 \knuenames
 198 \par}
 199

\@moreknutext Some more text with a variety of ligatures and accents.
 200 \def\@moreknutext{?'But aren't Kafka's Schlo{\ss} and {\AE}sop's
 201 {\OE}uvres often na\"{i}ve vis-'a-vis the d{\ae}monic ph{\oe}nix's
 202 official r\'{e}ole in fluffy souffl\'{e}s? }
 203

\@capknutext Text using only capital letters and some punctuation.
 \capknutext 204 \newcommand{\@capknutext}{%
 205 (!'THE DAZED BROWN FOX QUICKLY GAVE 12345--67890 JUMPS!)}
 206 \let\capknutext\@capknutext
 207

\@knuenames Lots of accents masquerading in personal names.
 208 \def\@knuenames{ {\AA}ngel\aa\ Beatrice Claire
 209 Diana \'{E}rica Fran\c{c}oise Ginette H\^{e}le\^{e}ne Iris
 210 Jackie K\=aren \L{}au.ra Mar{\^i}a N\H{a}ta\l{}\u{a}e \O{ctave
 211 Pauline Qu\^eneau Roxanne Sabine T\~a{\^j}a Ur\vs{ula
 212 Vivian Wendy Xanthippe Yv{\o}nne Z\"azilie\par}
 213

\guillemotleft Just in case the french quotes are not defined, as they are called for in the subsequent \germantext.
 \guillemotright
 \flqq 214 \DeclareTextSymbol{\guillemotleft}{OT1}{`'}
 \frqq 215 \DeclareTextSymbol{\guillemotright}{OT1}{`} 216 \providecommand{\flqq}{\guillemotleft}
 217 \providecommand{\frqq}{\guillemotright}
 218

\germantext Text from the Blindtext package.
 219 \newcommand*\germantext{
 220 Dies hier ist ein Blindtext zum Testen von Textausgaben. Wer

```

221 diesen Text liest, ist selbst schuld. Der Text gibt lediglich den
222 Grauwert der Schrift an. Ist das wirklich so? Ist es
223 gleich\-"ul\-"tig ob ich schreibe: \frqq Dies ist ein
224 Blindtext\flqq\ oder \frqq Huardest gefburn\flqq? Kjift --
225 mitnichten! Ein Blindtext bietet mir wichtige Informationen. An
226 ihm messe ich die Lesbarkeit einer Schrift, ihre Anmutung, wie
227 harmonisch die Figuren zueinander stehen und pr\"u\fe, wie breit
228 oder schmal sie l\"auft. Ein Blindtext sollte m\"og\lichst viele
229 verschiedene Buchstaben enthalten und in der Originalsprache
230 gesetzt sein. Er mu\ss\ keinen Sinn ergeben, sollte aber lesbar
231 sein. Fremdsprachige Texte wie \frqq Lorem ipsum\flqq\ dienen
232 nicht dem eigentlichen Zweck, da sie eine
233 falsche Anmutung vermitteln.\par}
234

\latintext The traditional printers' text.
235 \newcommand*\latintext}{%
236 Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Etiam
237 lobortis facilisis sem. Nullam nec mi et neque pharetra
238 sollicitudin. Praesent imperdiet mi nec ante. Donec ullamcorper,
239 felis non sodales commodo, lectus velit ultrices augue, a
240 dignissim nibh lectus placerat pede. Vivamus nunc nunc, molestie
241 ut, ultricies vel, semper in, velit. Ut porttitor. Praesent in
242 sapien. Lorem ipsum dolor sit amet, consectetuer adipiscing elit.
243 Duis fringilla tristique neque. Sed interdum libero ut metus.
244 Pellentesque placerat. Nam rutrum augue a leo. Morbi sed elit sit
245 amet ante lobortis sollicitudin. Praesent blandit blandit mauris.
246 Praesent lectus tellus, aliquet aliquam, luctus a, egestas a,
247 turpis. Mauris lacinia lorem sit amet ipsum. Nunc quis urna dictum
248 turpis accumsan semper.\par}
249

\simpletext \simpletext kills off \moreknutext and \kunames. \fulltext restores \moreknutext
\fulltext and \kunames. Make \fulltext the default.
\moreknutext 250 \newcommand*\simpletext}{\let\moreknutext\relax \let\kunames\relax}
\kunames 251 \newcommand*\fulltext}{\let\moreknutext@\moreknutext \let\kunames@\kunames}
252 \fulltext
253

\fonttexts \fonttexts{\langle font \rangle}{\langle text \rangle} typesets \langle text \rangle using \langle font \rangle (e.g. \auncl10).
254 \def\fonttexts#1#2{%
255   \def\f@tfontname{\#1}%
256   \bgroup
257   \f@tstartfont
258   #2
259   \egroup}
260

\regulartexts \regulartexts{\langle fontspec \rangle}{\langle text \rangle} typesets \langle text \rangle using \langle fontspec \rangle (e.g., \aunclfam).

```

```

261 \def\regulartexts#1#2{%
262   \bgroup
263   #1 #2
264   \egroup}
265

\aztext The various characters used for Latin texts.
\AZtext 266 \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 267 \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 268 \newcommand*{\digitstext}{\{0 1 2 3 4 5 6 7 8 9\}}
269 \newcommand*{\puncttext}{\{' ! @ \$ & * ( ) \_ - + = [ ] < > \{ \} : ; , . ? /\}}
270

The end of the package.

271 </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.

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

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