font   **1**

font.   A *font* in TEX is a collection of up to 256 output characters, usually having the same typeface design, style (roman, italic, bold, condensed, etc.), and point size.[1] The Computer Modern fonts that generally come with TEX have only 128 characters. The colophon on the last page of this book describes the typefaces that we used to set this book.

For instance, here is the alphabet in the Palatino Roman 10 point font:

And here it is in the Computer Modern Bold Extended 12 point font:

**ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz**

The characters in a font are numbered. The numbering usually agrees with the ASCII numbering for those characters that exist in the ASCII character set. The code table for each font indicates what the character with code n looks like in that font. Some fonts, such as the ones used for mathematical symbols, have no letters at all in them. You can produce a box containing the character numbered n, typeset in the current font, by writing '\char n' (p. '\char').

In order to use a font in your document, you must first name it with a control sequence and load it. Thereafter you can select it by typing that control sequence whenever you want to use it. Plain TEX provides a number of fonts that are already named and loaded.

You name and load a font as a single operation, using a command such as '\font\twelvebf=cmbx12'. Here '\twelvebf' is the control sequence that you use to name the font and 'cmbx12' identifies the font metrics file cmbx12.tfm in your computer's file system. You then can start to use the font by typing '\twelvebf'. After that, the font will be in effect until either (a) you select another font or (b) you terminate the group, if any, in which you started the font. For example, the input:

    {\twelvebf white rabbits like carrots}

will cause the cmbx12 font to be in effect just for the text 'white rabbits like carrots'.

You can use TEX with fonts other than Computer Modern (look at the example on page 'palatino' and at the page headers). The files for such fonts need to be installed in your computer's file system in a place where TEX can find them. TEX and its companion programs generally need two files for each font: one to give its metrics (cmbx12.tfm, for example) and another to give the shape of the characters (cmbx12.pk, for example). TEX itself uses only the metrics file. Another program,

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[1] Plain TEX uses a special font for constructing math symbols in which the characters have different sizes. Other special fonts are often useful for applications such as typesetting logos.

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the device driver, converts the `.dvi` file produced by T_EX to a form that
your printer or other output device can handle. The driver uses the shape
file (if it exists).

The font metrics file contains the information that T_EX needs in order
to allocate space for each typeset character. Thus it includes the size
of each character, the ligatures and kerns that pertain to sequences of
adjacent characters, and so on. What the metrics file *doesn't* include is
any information about the shapes of the characters in the font.

The shape (pixel) file may be in any of several formats. The extension
part of the name (the part after the dot) tells the driver which format the
shape file is in. For example, `cmbx12.pk` might be the shape file for font
`cmbx12` in packed format, while `cmbx12.gf` might be the shape file for font
`cmbx12` in generic font format. A shape file may not be needed for a font
that's resident in your output device.