The `Manfnt` package
A quick way to access the symbols in manfnt[*]

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1 Introduction

The TeX and metafont manuals use some special symbols not found in the normal CM-fonts. Most of these symbols will be of little use for the average author, but some, like the "Dangerous Bend" sign may be approriate for some textbooks.

Since there is no easy way to access these symbols I wrote a small package which I distributed with my `refman` package. I didn't expect much response and was quite surprised to get a mail from Denis Kosygin who suggested some improvements. He also suggested releasing it a stand-alone package, thus forcing me to write some documentation`:-)`

A word of caution

Please use the symbols from this package sparingly. Their unusual shapes attract attention, which means also that they distract the reader from the main text. For any advice how to write well there is a brilliant example, where it was not followed. Still, in general, restraining means of expression improves the overall aesthetic quality.

This point of view is reflected in the design of `manfnt`. In particular, that was the reason, why there are no switches to manfnt similar to `\textrm` or `\rmfamily`.

2 The symbols

`\manfntsymbol` To access a symbol in manfnt by its code say `\manfntsymbol{⟨code⟩}`. Symbol codes are shown in a table at the end of this manual. Recall that in TeX octal codes begin with `'` and hexadecimal codes with `"`.

Some symbols with "interesting" shapes are named to alleviate the burden of looking up their codes. Their names are listed at the end of this manual.

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[*]This manual documents version 0.2 released on 1999/07/01.
[†]With additions by Denis Kosygin.

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The dangerous bends

As shown below, if `\dbend` is used directly in a text, LaTeX will place the center of the sign plate on the baseline. As the result, the sign pole may overlap with the contents of the next line[1].

Here is an example of an unfortunate use of ⟨≷⟩. The text on the next line is partially obscured by the sign pole.

```
Here is an example of an unfortunate
use of \dbend.  The text on the next
line is partially obscured by
the sign pole.
```

A better approach is illustrated in the beginning of this paragraph, where the dangerous bend sign is placed on the text margins. This was achieved with the help of the command `\danger`[2], defined in `manfnt.dtx`:

```
\newcommand{\danger}{\marginpar[\hfill\dbend]{\dbend\hfill}}
```

The first sentence of the current paragraph was entered into the source as

```
As shown below, if \danger\cmd{\dbend} is used directly in a text,
\LaTeX{} will place the center of the sign plate on the baseline.
```

`\textdbend`
`\textlhdbend`
`\textreversedvideodbend`
For rare occasions, when you do need to include ⟨≷⟩ into a line of text, `manfnt` provides command `\textdbend`, which raises the "ground level" of the sign to the base line making it suitable for inclusion. For example, the dangerous bend sign in the previous sentence was produced by `\textdbend`. Commands `\textlhdbend` and `\textreversedvideodbend` act similarly.

3 Code

3.1 Identification part

`\fileversion`
`\filedate`
For technical reasons the definitions of `\fileversion` and `\filedate` are left blank in the documentation. In the actual `manfnt.sty` they are filled with current values (0.2 and 1999/07/01 respectively). They are also shown on the title page of this manual.

```
1 \def\fileversion{}
2 \def\filedate{}

3 \NeedsTeXFormat{LaTeX2e}
4 \ProvidesPackage{manfnt}[\filedate \fileversion LaTeX2e manfnt package]
```

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[1] The reason for such design can be seen in the TeXbook by D. Knuth [1]. There in "dangerous bend" paragraphs the "ground level" of the sign is the base of the next line. Special arrangments (which are beyond the scope of this manual) are needed to produce similar effect in a LaTeX document.

[2] In general you should design your own commands for using this symbol, which reflect the meaning you assign to it. Book [2] on LaTeX by L. Lamport explains how to place text on margins.

3.2 Options

Currently no options are supported by this package.

3.3 Main code

3.3.1 Declaration of fonts

```
5 \DeclareFontFamily{U}{manual}{}
6 \DeclareFontShape{U}{manual}{m}{n}{ <->  manfnt }{}
```

\manfntsymbol Generally speaking \manfntsymbol must select font shape and series too, in order to work correctly, since only normal shape and medium series are provided. Instead we rely implicitly on default behaviour of LaTeX font substitution mechanism.

```
7 \newcommand{\manfntsymbol}[1]{%
8    {\fontencoding{U}\fontfamily{manual}\selectfont\symbol{#1}}}
```

3.3.2 Symbol names

The names with few exceptions are derived from the corresponding definitions in `manfnt.mf`.

```
 9 \newcommand{\manhpennib}{\manfntsymbol{21}}
10 \newcommand{\mantiltpennib}{\manfntsymbol{22}}
11 \newcommand{\manvpennib}{\manfntsymbol{23}}
12 \newcommand{\mankidney}{\manfntsymbol{17}}
13 \newcommand{\manboldkidney}{\manfntsymbol{18}}
14 \newcommand{\manpenkidney}{\manfntsymbol{19}}
15 \newcommand{\manlhpenkidney}{\manfntsymbol{20}}
16 \newcommand{\manquartercircle}{\manfntsymbol{32}}
17 \newcommand{\manfilledquartercircle}{\manfntsymbol{33}}
18 \newcommand{\manrotatedquartercircle}{\manfntsymbol{34}}
19 \newcommand{\mancone}{\manfntsymbol{35}}
20 \newcommand{\manconcentriccircles}{\manfntsymbol{36}}
21 \newcommand{\manconcentricdiamond}{\manfntsymbol{37}}
22 \newcommand{\mantriangleright}{\manfntsymbol{120}}% Triangle for exercises
23 \newcommand{\mantriangleup}{% Upper triangle for Addison-Wesley logo
24    \manfntsymbol{54}}
25 \newcommand{\mantriangledown}{% Lower triangle for Addison-Wesley logo
26    \manfntsymbol{55}}
27 \newcommand{\mancube}{\manfntsymbol{28}}
28 \newcommand{\manimpossiblecube}{\manfntsymbol{29}}
29 \newcommand{\manquadrifolium}{\manfntsymbol{38}}% \fouru
30 \newcommand{\manrotatedquadrifolium}{\manfntsymbol{39}}% \fourc
31 \newcommand{\manstar}{\manfntsymbol{30}}% Bicentennial star
32 \newcommand{\manerrarrow}{\manfntsymbol{121}}% Arrow for errata lists
33 \newcommand{\dbend}{\manfntsymbol{127}}% Z-shaped
34 \newcommand{\lhdbend}{\manfntsymbol{126}}% Lefthanded (S-shaped)
35 \newcommand{\reversedvideodbend}{\manfntsymbol{0}}% Reversed video
```

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3.3.3 Other commands

\textdbend \
\textlhdbend \
\textreversedvideodbend

User level commands `\textdbend`, `\textlhdbend` and `\textreversedvideodbend` just provide the appropriate argument to `\text@dbend` which does the actual work.

```
36 \newcommand{\textdbend}{\text@dbend{\dbend}}
37 \newcommand{\textlhdbend}{\text@dbend{\lhdbend}}
38 \newcommand{\textreversedvideodbend}{\text@dbend{\reversedvideodbend}}
```

\test@dbend

The source in `manfnt.mf` specifies ⚠ in cmr10 settings as a box 500/36pt wide, 270/36pt high and 0pt deep. The actual image sticks out to $20/36\text{pt} + \epsilon$ above and to 11pt below the box. At 10pt size `\dbend` produces a box with height 7.5pt and zero depth. The sign pole extends to 11pt below the base line[3]. All this means that we need to raise the sign by 22/15 of its height.

```
39 \newlength{\dbend@height}
40 \newcommand{\text@dbend}[1]{%
41   \settoheight{\dbend@height}{#1}%
42   \divide\dbend@height by 15%
43   \multiply\dbend@height by 22%
44   \raisebox{\dbend@height}{#1}}
```

This definition is clumsy but has an advantage of working. Question by Denis Kosygin:

> Can anyone explain why does
>
> `\newcommand{\text@dbend}[1]{\raisebox{22\height/15}{#1}}`
>
> break? Sometimes it does what I mean, and sometimes it typesets the argument raised to to 22`\height` followed by /15 on the baseline.

We end the file with an explicit `\endinput` which prevents the docstrip program from putting character table into the generated files.

```
45 \endinput
```

References

[1] D. E. Knuth. *The TEXbook*. Addison-Wesley, Reading, Massachusetts, 1994.

[2] L. Lamport. *LATEX: a document preparation system*, – 2nd ed. Addison-Wesley, Reading, Massachusetts, 1994.

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[3]The "dangerous bend" paragraphs in the TEXbook [1] are typeset in 9pt size fonts with `\baselineskip` set to 11pt.

Symbols in manfnt

x	'0	'1	'2	'3	'4	'5	'6	'7	
'00x	⧈	✳	✳	✳	✳	✳	A	A	"0x
'01x	A	A	A	A	A	A	A	A	"0y
'02x	A	⌢	⌢	⌢	⌢	▬	╱	❘	"1x
'03x		S	O	I	▱	▱	☆	⌣	"1y
'04x	⌐	▸	⌒	◇	◎	◈	❀	❀	"2x
'05x	**M È T A F O N**						M		"2y
'06x	E	T	A	F	O	N	▲	▼	"3x
'07x	*M*	*E*	*T*	*A*	*F*	*O*	*N*	ð	"3y
'10x		A	M	E	T	E	F	A	"4x
'11x	F	O	N	⋈	⊒	M	N	O	"4y
'12x	.	.	*	.	T	⊤	⌒	⊏	"5x
'13x	⬭	◯	◯	⌣	*M*	*E*	*T*	*A*	"5y
'14x	⬭	◯	◡	⌣	⌣	*F*	*O*	*N*	"6x
'15x	M	E	T	A	F	O	N	M	"6y
'16x	E	T	A	F	O	N	⬭	⊿	"7x
'17x	▸	⌁→					Ⓢ	Ⓝ	"7y
	"8	"9	"A	"B	"C	"D	"E	"F	y

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Symbol names in `manfnt`

Pen nibs

➖ `\manhpennib`   ▟ `\mantiltpennib`
❘ `\manvpennib`

Triangles

▲ `\mantriangleup`   ▶ `\mantriangleright`
▼ `\mantriangledown`

Kidney beans

⌒ `\mankidney`   ⌒ `\manpenkidney`
⌒ `\manboldkidney`   ⌒ `\manlhpenkidney`

Circle variations

⌒ `\manquartercircle`   ◣ `\manfilledquartercircle`
⌒ `\manrotatedquartercircle`   ▽ `\mancone`
◎ `\manconcentriccircles`   ◈ `\manconcentricdiamond`

Cubes

▱ `\mancube`   ▱ `\manimpossiblecube`

Quadrifoliums

✿ `\manquadrifolium`   ✿ `\manrotatedquadrifolium`

Miscellaneous symbols

☆ `\manstar`   ⤳ `\manerrarrow`

Dangerous bend signs

⚠ `\dbend`   ⚠ `\reversedvideodbend`
⚠ `\lhdbend`

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