

# 1 The Finnish language

The file `finnish.dtx`<sup>1</sup> defines all the language definition macros for the Finnish language.

For this language the character " is made active. In table 1 an overview is given of its purpose.

"	disable ligature at this position.
"-	an explicit hyphen sign, allowing hyphenation in the rest of the word.
"=	an explicit hyphen sign for expressions such as "pakastekaapit ja -arkut".
""	like "-", but producing no hyphen sign (for words that should break at some sign such as "entrada/salida."
"‘	lowered double left quotes (looks like „)
"’	normal double right quotes
"<<	for French left double quotes (similar to <<).
">>	for French right double quotes (similar to >>).
\-	like the old \-, but allowing hyphenation in the rest of the word.

Table 1: The extra definitions made by `finnish.ldf`

The macro `\LdfInit` takes care of preventing that this file is loaded more than once, checking the category code of the `@` sign, etc.

```
1 <*code>
2 \LdfInit{finnish}\captionsofinnish
```

When this file is read as an option, i.e. by the `\usepackage` command, `finnish` will be an ‘unknown’ language in which case we have to make it known. So we check for the existence of `\l@finnish` to see whether we have to do something here.

```
3 \ifx\l@finnish\@undefined
4   \@nopatterns{Finnish}
5   \addialect\l@finnish\fi
```

The next step consists of defining commands to switch to the Finnish language. The reason for this is that a user might want to switch back and forth between languages.

`\captionsofinnish` The macro `\captionsofinnish` defines all strings used in the four standard documentclasses provided with L<sup>A</sup>T<sub>E</sub>X.

```
6 \addto\captionsofinnish{%
7   \def\prefacename{Esipuhe}%
8   \def\refname{Viitteet}%
```

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<sup>1</sup>The file described in this section has version number v1.3s and was last revised on 2021/02/06. A contribution was made by Mikko KANERVA (`KANERVA@CERNVM`) and Keranen Reino (`KERANEN@CERNVM`).

```

9 \def\abstractname{Tiivistelm\ "a}
10 \def\bibname{Kirjallisuutta}%
11 \def\chaptername{Luku}%
12 \def\appendixname{Liite}%
13 \def\contentsname{Sis\ "allys}% /* Could be "Sis\alt\ "o" as well */
14 \def\listfigurename{Kuvat}%
15 \def\listtablename{Taulukot}%
16 \def\indexname{Hakemisto}%
17 \def\figurename{Kuva}%
18 \def\tablename{Taulukko}%
19 \def\partname{Osa}%
20 \def\enclname{Liitteet}%
21 \def\ccname{Jakelu}%
22 \def\headtoname{Vastanottaja}%
23 \def\pagename{Sivu}%
24 \def\seenname{katso}%
25 \def\alsoname{katso my\ "os}%
26 \def\proofname{Todistus}%
27 \def\glossaryname{Sanasto}%
28 }%

```

`\datefinnish` The macro `\datefinnish` redefines the command `\today` to produce Finnish dates.

```

29 \def\datefinnish{%
30 \def\today{\number\day.\~\ifcase\month\or
31 tammikuuta\or helmikuuta\or maaliskuuta\or huhtikuuta\or
32 toukokuuta\or kes\ "akuuta\or hein\ "akuuta\or elokuuta\or
33 syyskuuta\or lokakuuta\or marraskuuta\or joulukuuta\fi
34 \space\number\year}}

```

`\extrasfinnish` Finnish has many long words (some of them compound, some not). For this reason hyphenation is very often the only solution in line breaking. For this reason `\noextrasfinnish` the values of `\hyphenpenalty`, `\exhyphenpenalty` and `\doublehyphendemerits` should be decreased. (In one of the manuals of style Matti Rintala noticed a paragraph with ten lines, eight of which ended in a hyphen!)

Matti Rintala noticed that with these changes  $\TeX$  handles Finnish very well, although sometimes the values of `\tolerance` and `\emergencystretch` must be increased. However, I don't think changing these values in `finnish.ldf` is appropriate, as the looseness of the font (and the line width) affect the correct choice of these parameters.

```

35 \addto\extrasfinnish{%
36 \babel@savevariable\hyphenpenalty\hyphenpenalty=30%
37 \babel@savevariable\exhyphenpenalty\exhyphenpenalty=30%
38 \babel@savevariable\doublehyphendemerits\doublehyphendemerits=5000%
39 \babel@savevariable\finalhyphendemerits\finalhyphendemerits=5000%
40 }
41 \addto\noextrasfinnish{}

```

Another thing `\extrasfinnish` needs to do is to ensure that `\frenchspacing`

is in effect. If this is not the case the execution of `\noextrasfinnish` will switch it of again.

```
42 \addto\extrasfinnish{\bbl@frenchspacing}
43 \addto\noextrasfinnish{\bbl@nonfrenchspacing}
```

For Finnish the " character is made active. This is done once, later on its definition may vary. Other languages in the same document may also use the " character for shorthands; we specify that the finnish group of shorthands should be used.

```
44 \initiate@active@char{"}
45 \addto\extrasfinnish{\languageshorthands{finnish}}
```

Don't forget to turn the shorthands off again.

```
46 \addto\extrasfinnish{\bbl@activate{"}}
47 \addto\noextrasfinnish{\bbl@deactivate{"}}
```

The 'umlaut' character should be positioned lower on *all* vowels in Finnish texts.

```
48 \addto\extrasfinnish{\umlautlow\umlautelow}
49 \addto\noextrasfinnish{\umlauthigh}
```

First we define access to the low opening double quote and guillemets for quotations,

```
50 \declare@shorthand{finnish}{"'}{%
51   \textormath{\quotedblbase}{\mbox{\quotedblbase}}}
52 \declare@shorthand{finnish}{"'}{%
53   \textormath{\textquotedblright}{\mbox{\textquotedblright}}}
54 \declare@shorthand{finnish}{"<"}{%
55   \textormath{\guillemotleft}{\mbox{\guillemotleft}}}
56 \declare@shorthand{finnish}{">"}{%
57   \textormath{\guillemotright}{\mbox{\guillemotright}}}
```

then we define two shorthands to be able to specify hyphenation breakpoints that behave a little different from `\-`.

```
58 \declare@shorthand{finnish}{"-}{\nobreak-\bbl@allowhyphens}
59 \declare@shorthand{finnish}{"~}{\hskip\z@skip}
60 \declare@shorthand{finnish}{"=}{\hbox{-}\bbl@allowhyphens}
```

And we want to have a shorthand for disabling a ligature. To avoid problems in bookmarks this shorthand should be hyperref aware.

```
61 \providecommand\texorpdfstring[2]{#1}
62 \declare@shorthand{finnish}{"|}{%
63   \texorpdfstring{\textormath{\discretionary{-}{\kern.03em}}{}}{}}
```

- \- All that is left now is the redefinition of `\-`. The new version of `\-` should indicate an extra hyphenation position, while allowing other hyphenation positions to be generated automatically. The standard behaviour of `TEX` in this respect is very unfortunate for languages such as Dutch, Finnish and German, where long compound words are quite normal and all one needs is a means to indicate an extra hyphenation position on top of the ones that `TEX` can generate from the hyphenation patterns.

```
64 \addto\extrasfinnish{\babel@save\-}  
65 \addto\extrasfinnish{\def\--{\bbl@allowhyphens  
66 \discretionary{-}{-}{\bbl@allowhyphens}}
```

`\finishhyphenmins` The finnish hyphenation patterns can be used with `\lefthyphenmin` set to 2 and `\righthyphenmin` set to 2.

```
67 \providehyphenmins{\CurrentOption}{\tw@\tw@}
```

The macro `\ldf@finish` takes care of looking for a configuration file, setting the main language to be switched on at `\begin{document}` and resetting the category code of `@` to its original value.

```
68 \ldf@finish{finnish}  
69 \code}
```