# The iflang package

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# 2016/05/16 v1.6

#### Abstract

This package provides expandible checks for the current language based on macro  $\$  anguagename or hyphenation patterns.

# Contents

1	Documentation	2
2	Implementation  2.1 Reload check and package identification  2.2 Tools  2.2.1 Provide some basic macros of IATEX  2.2.2 Expandible existence check for macros  2.2.3 Macros for messages  2.2.4 Support for etex.src  2.3 \IfLanguagePatterns  2.4 \IfLanguageName  2.5 Check plausibility of \languagename	5 4 4 4 E E E E E E E E E E E E E E E E
3	3.3 Test with plain T <sub>E</sub> X and $\varepsilon$ -T <sub>E</sub> X	8 10 11 12
4	4.1 Download4.2 Bundle installation4.3 Package installation4.4 Refresh file name databases	13 13 13 14
5	Catalogue	14
6	Acknowledgement	15
7	[2007/04/10 v1.0]	15 15 15 15 15 15

 $<sup>{\</sup>rm *Please\ report\ any\ issues\ at\ https://github.com/ho-tex/oberdiek/issues}$ 

8 Index 15

# 1 Documentation

Package babel defines \iflanguagename. As first argument it takes a language name and executes the second or third argument depending on the current language. This language test is based on hypenation patterns. However, it is possible that different languages or dialects share the same patterns. In such cases \iflanguagename fails.

However, package babel and some other packages such as german or ngerman store the language name in the macro \languagename if \selectlanguage is called.

## \IfLanguageName $\{\langle lang \rangle\}\ \{\langle then \rangle\}\ \{\langle else \rangle\}$

Makro \IfLanguageName compares language  $\langle lang \rangle$  with the current setting of macro \languagename. If both contains the same name then the  $\langle then \rangle$  part is called, otherwise the  $\langle else \rangle$  part.

Note: Macro  $\IfLanguageName$  relies on the fact, that  $\label{languagename}$  is set correctly:

#### Package babel:

Full support of \languagename in its language switching commands.

## Format based on babel (language.dat):

If package babel is not used (or not yet loaded), then babel's hyphen.cfg has set \languagename to the last language in language.dat, but \language (current patterns) is zero and points to the first language. Thus the value of \languagename is basically garbage. Package iflang warns if \languagename and \language do not fit. This can be fixed by loading package babel previously.

## Format based on $\varepsilon$ -TEX's etex.src (language.def):

Unhappily it does not support \languagename. Thus this package hooks into \uselanguage to get \languagename defined and updated there. At package loading time the changed \uselanguage has not been called yet. Thus package iflang tries USenglish. This is the definite default language of etex.src. If the current patterns suit this default language, an undefined \languagename is set to this language. Otherwise a \languagename remains undefined and a warning is given.

# \IfLanguagePatterns $\{\langle lang \rangle\}\ \{\langle then \rangle\}\ \{\langle else \rangle\}$

This macro behaves similar to \IfLanguageName. But the language test is based on the current pattern in force (\language). Also this macro is expandable, in case of errors the  $\langle else \rangle$  part is called.

The following naming convention for the pattern are supported:

 ${\bf babel/language.dat} \; : \; \backslash {\tt l@} \langle \mathit{language} \rangle$ 

etex.src/language.def :  $\langle language \rangle$ 

Package iflang looks for \uselanguage (defined in etex.src) to find out the naming convention in use.

# 2 Implementation

```
1 (*package)
```

# 2.1 Reload check and package identification

Reload check, especially if the package is not used with LATEX.

```
2 \begingroup\catcode61\catcode48\catcode32=10\relax%
    \catcode13=5 % ^^M
    \endlinechar=13 %
 5 \catcode35=6 % #
 6 \catcode39=12 % '
 7 \catcode44=12 \%,
 8 \catcode45=12 % -
 9 \catcode46=12 % .
 10 \catcode58=12 %:
 11 \catcode64=11 % @
 12 \catcode123=1 % {
 13 \catcode125=2 % }
    \expandafter\let\expandafter\x\csname ver@iflang.sty\endcsname
 14
    \ifx\x\relax % plain-TeX, first loading
 15
 16
    \else
 17
      \def\empty{}%
 18
      \ifx\x\empty % LaTeX, first loading,
 19
       % variable is initialized, but \ProvidesPackage not yet seen
 20
       \expandafter\ifx\csname PackageInfo\endcsname\relax
 21
        \def\x#1#2{\%}
 22
          \immediate\write-1{Package #1 Info: #2.}%
 23
        }%
 24
       \else
 25
         \def\x#1#2{\PackageInfo{#1}{#2, stopped}}%
 26
 27
       \x{iflang}{The package is already loaded}%
 28
 29
       \aftergroup\endinput
 30
      \fi
31
    \fi
 32 \endgroup%
Package identification:
 33 \begingroup\catcode61\catcode48\catcode32=10\relax%
    \catcode13=5 % ^^M
    \endlinechar=13 %
 35
    \catcode35=6 % #
 36
 37
    \catcode39=12 % '
 38
    \catcode40=12 % (
 39
    \catcode41=12 % )
 40
    \catcode44=12 \%,
 41
    \catcode45=12 % -
    \catcode46=12 % .
 42
 43
    \catcode47=12 % /
    \catcode58=12 %:
 44
    \catcode64=11 % @
 45
 46 \catcode91=12 % [
 47 \catcode93=12 % ]
 48 \catcode123=1 % {
 49 \catcode125=2 % }
 50
    \expandafter\ifx\csname ProvidesPackage\endcsname\relax
 51
      \def \x#1#2#3[#4]{\endgroup}
 52
       \immediate\write-1{Package: #3 #4}%
       \xdef#1{#4}%
 53
     }%
 54
    \else
 55
     \def\x#1#2[#3]{\endgroup}
 56
```

```
#2[{#3}]%
     57
                                       \ifx#1\@undefined
     58
                                              \xdef#1{#3}%
     59
     60
                                       \inf #1 \operatorname{lax}
     61
     62
                                              \xdef#1{#3}%
     63
                                       \fi
                              }%
     64
                       \fi
     65
     66 \expandafter\x\csname ver@iflang.sty\endcsname
     67 \ProvidesPackage{iflang}%
                       [2016/05/16 v1.6 Checks for the current language (HO)]%
     68
     69 \begingroup\catcode61\catcode48\catcode32=10\relax%
                       \catcode13=5 % ^^M
     71 \endlinechar=13 %
     72 \catcode123=1 % {
     73 \catcode125=2 % }
                       \catcode64=11 % @
     74
                        \def\x{\endgroup
     75
                               \expandafter\edef\csname IfLang@AtEnd\endcsname{%
     76
                                        \endlinechar=\the\endlinechar\relax
     77
     78
                                        \catcode13=\the\catcode13\relax
     79
                                        \catcode32=\the\catcode32\relax
     80
                                       \color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=
     81
                                       \catcode61=\the\catcode61\relax
                                       \colored{catcode64} \to \colored{catcode64}
     82
                                       \color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=
     83
                                       \verb|\catcode| 125 = \verb|\the| catcode| 125 \verb|\relax|
     84
                              ት%
     85
     86 }%
     87 \x\catcode61\catcode48\catcode32=10\relax%
     88 \catcode13=5 % ^^M
     89 \endlinechar=13 %
     90 \catcode35=6 % #
     91 \catcode64=11 % @
     92 \catcode123=1 % {
     93 \catcode125=2 % }
     94 \def\TMP@EnsureCode#1#2{%
                       \edef\IfLang@AtEnd{%
     95
                              \IfLang@AtEnd
     96
    97
                               \color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\t
    98
                       \color= 42\relax
   99
100 }
101 \TMP@EnsureCode{39}{12}%'
102 \TMP@EnsureCode{40}{12}% (
103 \TMP@EnsureCode{41}{12}%)
104 \TMP@EnsureCode{44}{12}%,
105 \TMP@EnsureCode{46}{12}\% .
106 \TMP@EnsureCode{47}{12}% /
107 \TMP@EnsureCode{58}{12}%:
108 \TMP@EnsureCode{91}{12}% [
109 \TMP@EnsureCode{93}{12}%]
110 \edef\IfLang@AtEnd{\IfLang@AtEnd\noexpand\endinput}
```

#### **2.2** Tools

# 2.2.1 Provide some basic macros of LATEX

\@firstoftwo

 $112 \log \left( \frac{41}{\%} \right)$ 

#### \@secondoftwo

#### 2.2.2 Expandible existence check for macros

#### \IfLang@IfDefined

```
117 \begingroup\expandafter\expandafter\expandafter\endgroup
118 \expandafter\ifx\csname ifcsname\endcsname\relax
119 \expandafter\@firstoftwo
120 \else
121 \expandafter\@secondoftwo
122 \fi
123 {%
124 \def\IfLang@IfDefined#1{%
      \verb|\expandafter| if x \csname #1 \end csname \relax|
125
        \expandafter\@secondoftwo
126
127
      \else
        \expandafter\@firstoftwo
128
129
      \fi
130
    }%
131 }{%
     \def\IfLang@IfDefined#1{%
132
      \ifnum\ifcsname#1\endcsname
133
            \expandafter\ifx\csname#1\endcsname\relax
134
             1%
135
            \else
136
             0%
137
            \fi
138
139
           \else
            1%
140
           \fi
141
142
           =0 %
143
        \expandafter\@firstoftwo
144
145
        \expandafter\@secondoftwo
146
147
    }%
148 }
```

## 2.2.3 Macros for messages

```
149 \begingroup\expandafter\expandafter\endgroup
150 \expandafter\ifx\csname RequirePackage\endcsname\relax
151 \input infwarerr.sty\relax
152 \input pdftexcmds.sty\relax
153 \else
154 \RequirePackage{infwarerr}[2007/09/09]%
155 \RequirePackage{pdftexcmds}[2016/05/16]%
156 \fi
```

## 2.2.4 Support for etex.src

#### \IfLang@prefix

```
157 \begingroup\expandafter\expandafter\expandafter\endgroup
158 \expandafter\ifx\csname uselanguage\endcsname\relax
159 \@PackageInfoNoLine{iflang}{%
160 Naming convention for patterns: babel%
161 }%
162 \def\IfLang@prefix{1@}%
```

```
163 \else
    \@PackageInfoNoLine{iflang}{%
164
     Naming convention for patterns: etex.src%
165
166
    \def\IfLang@prefix{lang@}%
167
    \let\IfLang@OrgUseLanguage\uselanguage
168
    \def\uselanguage#1{%
169
170
     \edef\languagename{#1}%
     171
    }%
172
```

The first \uselanguage that is executed as last line in language.def cannot patched this way. However, language.def is very strict. It forces the first added and used language to be USenglish. Thus, if \languagename is not defined, we can quite safely assume USenglish. As additional safety precaution the actual used patterns are checked.

```
173
    \begingroup\expandafter\expandafter\expandafter\endgroup
174
    \expandafter\ifx\csname languagename\endcsname\relax
      \begingroup\expandafter\expandafter\expandafter\endgroup
175
      \expandafter\ifx\csname lang@USenglish\endcsname\relax
176
       \@PackageWarningNoLine{iflang}{%
177
         \string\lang@USenglish\space is missing%
178
       }%
179
      \else
180
181
        \ifnum\lang@USenglish=\language
182
         \def\languagename{USenglish}%
183
184
         \@PackageWarningNoLine{iflang}{%
185
          \string\languagename\space is not set,\MessageBreak
186
          current language is unknown%
         7%
187
       \fi
188
      \fi
189
    \fi
190
191 \fi
192 \begingroup\expandafter\expandafter\expandafter\endgroup
193 \expandafter\ifx\csname languagename\endcsname\relax
    \@PackageInfoNoLine{iflang}{%
195
      \string\languagename\space is not set%
196
    ጉ%
197 \fi
```

#### 2.3 \IfLanguagePatterns

#### \IfLanguagePatterns

```
198 \def\IfLanguagePatterns#1{%
     \ifnum\IfLang@IfDefined{\IfLang@prefix#1}{%
199
           \ifnum\csname\IfLang@prefix#1\endcsname=\language
200
201
            0%
           \else
202
            1%
203
           \fi
204
         }{1}=0 %
205
206
      \expandafter\@firstoftwo
207
208
      \expandafter\@secondoftwo
209
    \fi
210 }
```

## 2.4 \IfLanguageName

```
211 \begingroup\expandafter\expandafter\endgroup
212 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
213 \expandafter\@firstoftwo
214 \else
215 \expandafter\@secondoftwo
216 \fi
217 {%
```

We do not have \pdf@strcmp (and \pdfstrcmp). Thus we must define our own expandable string comparison. The following implementation is based on a TeX pearl from David Kastrup, presented at the conference BachoTeX 2005: http://www-stary.gust.org.pl/pearls/2005/david-kastrup/bachotex2005-david-kastrup-pearl1.pdf

The original code allows macros inside the second string. Because also \languagename might consists of further macros, we need a variant that allows macros in the first string, too.

```
\def\IfLang@StrNil{\relax}%
                 218
                      \def\IfLang@StrEqual#1{%
                 219
                 220
                       \number\IfLang@StrEqualStart{}{}#1\IfLang@StrNil
                 221
                      \def\IfLang@StrEqualStart#1#2#3{%
                 222
                       \fint #3\IfLang@StrNil
                 223
                 224
                        \IfLang@StrEqualStop
                 225
                       \fi
                 226
                       \int \int d^{3}relax
                        \IfLang@StrExpand{#1}{#2}#3%
                 227
                 228
                       \IfLang@StrEqualStart{\leftif#3#1\right}{#2\fi}%
                 229
                 230
                      \def\IfLang@StrEqualStop\fi#1\IfLang@StrEqualStart#2#3#4{%
                 231
                 232
                       #2#4\relax'#313 %
                 233
                 234
                      \def\IfLang@StrExpand#1#2#3\fi\IfLang@StrEqualStart#4#5{%
                 235
                 236
                       \IfLang@@StrExpand{#1}{#2}#3%
                 237
                 238
                      \def\IfLang@@StrExpand#1#2#3\IfLang@StrNil{%
                 239
                       \end{argman} $$ \operatorname{Cond}_{3\IfLang@StrNil}{\#1}{\#2}\% $$
                 240
                 241
                      \def\IfLang@@@StrExpand#1\IfLang@StrNil#2#3{%
                 242
                       243
                     }%
                 244
\IfLanguageName
                      \def\IfLanguageName#1{%
                 245
                       \ifnum\IfLang@IfDefined{languagename}{%
                 246
                 247
                             \if\expandafter\IfLang@StrEqual\expandafter%
                 248
                                       {\languagename}{#1}%
                 249
                              0%
                 250
                             \else
                              1%
                 251
                             ١fi
                 252
                           }{1}=0 %
                 253
                        \expandafter\@firstoftwo
                 254
                 255
                        \expandafter\@secondoftwo
                 256
                       \fi
                 257
                     }%
                 258
                 259 }{%
```

\IfLanguageName

```
\def\IfLanguageName#1{%
260
      \ifnum\IfLang@IfDefined{languagename}{%
261
            \pdf@strcmp{#1}{\languagename}%
262
          }{1}=0 %
263
264
       \expandafter\@firstoftwo
265
      \else
266
       \expandafter\@secondoftwo
267
      \fi
    }%
268
269 }
```

## 2.5 Check plausibility of \languagename

```
270 \verb|\begingroup\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafter\expandafte
271 \expandafter\ifx\csname languagename\endcsname\relax
272 \else
                               \label{languagename} $$ \IfLanguagename { } {\languagename } {\label{languagename} } $$
273
                                         \@PackageWarningNoLine{iflang}{%
274
                                                Mismatch between \string\language\space
275
276
                                                (patterns)\MessageBreak
                                                and setting of \string\languagename
277
278
279 }%
280 \fi
281 \IfLang@AtEnd%
282 (/package)
```

## 3 Test

## 3.1 Catcode checks for loading

```
283 (*test1)
284 \catcode'\{=1 %
285 \catcode'\}=2 %
286 \catcode'\#=6 %
287 \catcode'\@=11 %
288 \expandafter\ifx\csname count@\endcsname\relax
289 \countdef\count@=255 \%
290 \fi
291 \expandafter\ifx\csname @gobble\endcsname\relax
    \long\def\@gobble#1{}%
292
293 \fi
294 \expandafter\ifx\csname @firstofone\endcsname\relax
    \long\def\@firstofone#1{#1}%
296 \fi
297 \expandafter\ifx\csname loop\endcsname\relax
298
    \expandafter\@firstofone
299 \else
   \expandafter\@gobble
300
301 \fi
302 {%
    303
      \def\body{#1}%
304
      \iterate
305
    }%
306
    \def\iterate{%
307
308
      \body
       \let\next\iterate
309
      \else
310
       \let\next\relax
311
      \fi
312
```

```
313
                 \next
314
            }%
            \left| \right| 
315
316 }%
317 \def\RestoreCatcodes{}
318 \count@=0 %
319 \loop
            \verb|\edgn| RestoreCatcodes{||} %
320
                 \RestoreCatcodes
321
                 \catcode\the\count@=\the\catcode\count@\relax
322
323 }%
324 \ifnum\count@<255 %
            \advance\count@ 1 %
326 \repeat
327
328 \def\RangeCatcodeInvalid#1#2{%
329
            \count@=#1\relax
330
            \loop
                \catcode\count@=15 %
331
             332
                \advance\count@ 1 %
333
             \repeat
334
335 }
336 \def\RangeCatcodeCheck#1#2#3{%
             \count@=#1\relax
337
338
             \loop
                 \ifnum#3=\catcode\count@
339
340
                 \else
                     \verb|\errmessage| \{ \%
341
                         Character \the\count@\space
342
                         with wrong catcode \the\catcode\count@\space
343
                        instead of \number#3%
344
345
                    }%
346
                 \fi
             \index(0) = \frac{2\pi}{2}
347
348
                \advance\count@ 1 %
349
            \repeat
350 }
351 \def\space{ }
353 \def\LoadCommand{\displaystyle \liminfang.sty\relax}\%
354 \fi
355 \def\Test{%
356
            \RangeCatcodeInvalid{0}{47}%
357
            \RangeCatcodeInvalid{58}{64}%
358
            \RangeCatcodeInvalid{91}{96}%
            \RangeCatcodeInvalid{123}{255}%
360
            \catcode'\@=12 %
361
            \color=0 \%
362
            \catcode'\%=14 %
363 \LoadCommand
364 \quad \texttt{\normalfoot} \\ \texttt{\normalfoot} 
365 \RangeCatcodeCheck{37}{37}{14}%
           \RangeCatcodeCheck{38}{47}{15}%
366
367
          \RangeCatcodeCheck{48}{57}{12}%
368
            \RangeCatcodeCheck{58}{63}{15}%
           \RangeCatcodeCheck{64}{64}{12}%
371 \RangeCatcodeCheck{91}{91}{15}%
372 \RangeCatcodeCheck{92}{92}{0}%
373 \RangeCatcodeCheck{93}{96}{15}%
374 \quad \texttt{RangeCatcodeCheck} \{97\} \{122\} \{11\} \%
```

```
\RangeCatcodeCheck{123}{255}{15}%
375
    \RestoreCatcodes
376
377 }
378 \Test
379 \csname @@end\endcsname
380 \end
381 (/test1)
3.2
      Test with LATEX
_{382} (*test2 j test3)
383 \NeedsTeXFormat{LaTeX2e}
384 \langle \text{test3} \rangle \text{let} pdfstrcmp \text{relax}
385 \nofiles
386 \documentclass{minimal}
387 \usepackage{qstest}
388 \IncludeTests{*}
389 \LogTests{log}{*}{*}
390 \usepackage[english,naustrian,ngerman]{babel}
391 \usepackage{iflang}
392 \begin{document}
393 \begin{qstest}{IfLanguagePatterns}{language, pattern}
394
    \def\test#1#2{%
      \Expect*{\IfLanguagePatterns{#1}{true}{false}}{#2}%
395
396
397
    \test{ngerman}{true}%
    \test{naustrian}{true}%
398
    \test{english}{false}%
399
400
    \test{foobar}{false}%
401 \end{qstest}
402 \begin{qstest}{IfLanguageName}{language, name}
403
    \left| \det \right| = 1#2%
      \Expect*{\IfLanguageName{#1}{true}{false}}{#2}%
404
405
    \test{ngerman}{true}%
406
407
    \test{naustrian}{false}%
    \selectlanguage{naustrian}%
408
409 \test{ngerman}{false}%
410
    \test{naustrian}{true}%
    \test{foobar}{false}%
411
412
    \def\languagename{naustrian}%
413
    \test{naustrian}{true}%
414
415
    \test{ngerman}{false}%
416
417
    \edef\languagename{\string naustrian}%
418
    \test{naustrian}{true}%
419
    \text{test{ngerman}{false}}\%
420
421
    \def\languagename{naustrian}%
    \makeatletter
422
    \@onelevel@sanitize\languagename
423
    \test{naustrian}{true}%
424
    \test{ngerman}{false}%
425
426
427
    \def\languagename{naustrian}%
    \def\xaustrian{naustrian}%
429 \def\xgerman{ngerman}%
430 \test{\xaustrian}{true}%
    \test{\xgerman}{false}%
431
```

432

433

434

\def\languagename{\xaustrian}%

\test{naustrian}{true}%

```
\test{ngerman}{false}%
435
     \test{\xaustrian}{true}%
436
     \test{\xgerman}{false}%
437
     \test{\languagename}{true}%
     \test{\languagename\space}{false}%
439
440
441
     \def\languagename{\empty\xaustrian\empty}%
442
     \test{naustrian}{true}%
     \test{ngerman}{false}%
443
    \test{\empty\xaustrian\empty}{true}%
444
445 \test{\empty\xgerman\empty}{false}%
446 \end{qstest}
447 \begin{qstest}{IfDefined}{defined}
448 \makeatletter
449 \let\foobar\relax
450 \quad \texttt{Expect*{\IfLang@IfDefined{foobar}\{true\}\{false\}}{false}} \%
451 \Expect*{\ifx\foobar\relax true\else false\fi}{true}%
452 \let\foobar\UNDEFINED
453 \Expect*{\IfLang@IfDefined{foobar}{true}{false}}{false}%
454 \Expect*{\ifx\foobar\relax true\else false\fi}{false}%
455 \Expect*{\ifx\foobar\UNDEFINED true\else false\fi}{true}%
456 \end{qstest}
457 \end{document}
458 (/test2 j test3)
       Test with plain T_EX and \varepsilon-T_EX
3.3
459 (*test4)
460 %% Format 'etex' based on 'language.def'
461 \input iflang.sty
462 \catcode64=12
463
464 \det \text{TestGeneric} #1#2#3{\%}
     \begingroup
      \left\{ 1{\#2}{true}{false} \right\}
467
      \left( \frac{\#3}{\%} \right)
468
      ifx\x\y
469
      \else
        \ensuremath{\verb| errmessage{Failed test: $$ tring#1{#2} <> #3}%}
470
471
472
     \endgroup
473 }
474 \def\TestPatterns{\TestGeneric\IfLanguagePatterns}
475 \def\TestName{\TestGeneric\IfLanguageName}
477 \TestPatterns{USenglish}{true}
478 \TestPatterns{ngerman}{false}
480 \ \texttt{\V Senglish} \ \{\texttt{true}\}
481 \TestName{ngerman}{false}
482
483 \uselanguage{ngerman}
485 \TestPatterns{USenglish}{false}
486 \TestPatterns{ngerman}{true}
488 \TestName{USenglish}{false}
489 \TestName{ngerman}{true}
491 \csname @@end\endcsname
492 \end
493 (/test4)
```

# 3.4 Test with plain TeX and without $\varepsilon$ -TeX/pdfTeX

```
494 (*test5)
495 %% Format 'tex' (vanilla plain-TeX)
496 \let\ifcsname\UNDEFINED
497 \let\pdfstrcmp\UNDEFINED
498 \input iflang.sty
499 \catcode64=11
500
501 \def\TestDefined#1{%
502 \IfLang@IfDefined{foobar}{}{}%
503 \ifx\foobar#1%
504
      \errmessage{Failed test: \string\foobar <> \string#1}%
505
506 \fi
507 }
508 \let\foobar\relax
509 \TestDefined\relax
510 \let\foobar\UNDEFINED
511 \TestDefined\relax
512
513 \def\strip@prefix#1>{}
514 \def\@onelevel@sanitize#1{%
    \edef#1{\expandafter\strip@prefix\meaning#1}%
516 }
517 \def\TestCompare#1#2#3{%
518
     \begingroup
519
      \left( x_{x}\right) 
        520
521
         true%
        \else
522
523
         false%
524
       \fi
      }%
525
      \def\expect{#3}%
526
527
      \ifx\x\expect
528
      \else
529
       \def\a{\#1}\%
530
       \@onelevel@sanitize\a
       \left( \#2 \right)
531
532
       \@onelevel@sanitize\b
       \errmessage{Failed test: '\a'='\b' <> \expect}%
533
      \fi
534
535
     \endgroup
536 }
537 \TestCompare{junk}{junk}{true}
538 \TestCompare{}{}{true}
539 \TestCompare{a}{b}{false}
540 \TestCompare{aa}{bb}{false}
541 \left( a_{ax} \right)
542 \left( b\{bx\} \right)
543 \def\c{\a\b}
544 \left( \frac{\c\b}{\c}\right)
545 \def\exch#1#2{#2#1}
546 \def\gobble#1{}
547 \TestCompare{\gobble a}{}{true}
548 \TestCompare{}{\gobble a}{true}
549 \TestCompare{a\exch xyb}{ayxb}{true}
550 \TestCompare{\c}{\c}{true}
551 \TestCompare{\d}{\c\b}{\true}
552
553 \csname @@end\endcsname
554 \end
```

```
555 (/test5)
```

# 4 Installation

#### 4.1 Download

Package. This package is available on CTAN<sup>1</sup>:

CTAN:macros/latex/contrib/oberdiek/iflang.dtx The source file.

CTAN:macros/latex/contrib/oberdiek/iflang.pdf Documentation.

**Bundle.** All the packages of the bundle 'oberdiek' are also available in a TDS compliant ZIP archive. There the packages are already unpacked and the documentation files are generated. The files and directories obey the TDS standard.

CTAN:install/macros/latex/contrib/oberdiek.tds.zip

TDS refers to the standard "A Directory Structure for TEX Files" (CTAN:tds/tds.pdf). Directories with texmf in their name are usually organized this way.

#### 4.2 Bundle installation

**Unpacking.** Unpack the oberdiek.tds.zip in the TDS tree (also known as texmf tree) of your choice. Example (linux):

```
unzip oberdiek.tds.zip -d ~/texmf
```

Script installation. Check the directory TDS:scripts/oberdiek/ for scripts that need further installation steps. Package attachfile2 comes with the Perl script pdfatfi.pl that should be installed in such a way that it can be called as pdfatfi. Example (linux):

```
chmod +x scripts/oberdiek/pdfatfi.pl
cp scripts/oberdiek/pdfatfi.pl /usr/local/bin/
```

#### 4.3 Package installation

Unpacking. The .dtx file is a self-extracting docstrip archive. The files are extracted by running the .dtx through plain TFX:

```
tex\ iflang.dtx
```

**TDS.** Now the different files must be moved into the different directories in your installation TDS tree (also known as texmf tree):

```
\label{eq:control_interval_interval_interval} iflang.sty & \rightarrow \text{tex/generic/oberdiek/iflang.sty} \\ iflang.pdf & \rightarrow \text{doc/latex/oberdiek/iflang.pdf} \\ \text{test/iflang-test1.tex} & \rightarrow \text{doc/latex/oberdiek/test/iflang-test1.tex} \\ \text{test/iflang-test2.tex} & \rightarrow \text{doc/latex/oberdiek/test/iflang-test2.tex} \\ \text{test/iflang-test3.tex} & \rightarrow \text{doc/latex/oberdiek/test/iflang-test3.tex} \\ \text{test/iflang-test4.tex} & \rightarrow \text{doc/latex/oberdiek/test/iflang-test4.tex} \\ \text{test/iflang-test5.tex} & \rightarrow \text{doc/latex/oberdiek/test/iflang-test5.tex} \\ \text{iflang.dtx} & \rightarrow \text{source/latex/oberdiek/iflang.dtx} \\ \end{cases}
```

If you have a docstrip.cfg that configures and enables docstrip's TDS installing feature, then some files can already be in the right place, see the documentation of docstrip.

<sup>&</sup>lt;sup>1</sup>http://ctan.org/pkg/iflang

#### 4.4 Refresh file name databases

If your T<sub>E</sub>X distribution (teT<sub>E</sub>X, mikT<sub>E</sub>X, ...) relies on file name databases, you must refresh these. For example, teT<sub>E</sub>X users run texhash or mktexlsr.

#### 4.5 Some details for the interested

Unpacking with IATEX. The .dtx chooses its action depending on the format:

plain T<sub>E</sub>X: Run docstrip and extract the files.

LATEX: Generate the documentation.

If you insist on using LATEX for docstrip (really, docstrip does not need LATEX), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{iflang.dtx}
```

Do not forget to quote the argument according to the demands of your shell.

Generating the documentation. You can use both the .dtx or the .drv to generate the documentation. The process can be configured by the configuration file ltxdoc.cfg. For instance, put this line into this file, if you want to have A4 as paper format:

```
\PassOptionsToClass{a4paper}{article}
```

An example follows how to generate the documentation with pdfIATEX:

```
pdflatex iflang.dtx
makeindex -s gind.ist iflang.idx
pdflatex iflang.dtx
makeindex -s gind.ist iflang.idx
pdflatex iflang.dtx
```

# 5 Catalogue

The following XML file can be used as source for the TEX Catalogue. The elements caption and description are imported from the original XML file from the Catalogue. The name of the XML file in the Catalogue is iflang.xml.

```
556 (*catalogue)
557 <?xml version='1.0' encoding='us-ascii'?>
558 <!DOCTYPE entry SYSTEM 'catalogue.dtd'>
559 <entry datestamp='$Date$' modifier='$Author$' id='iflang'>
560 <name>iflang</name>
561
    <caption>Expandable checks for the current language.</caption>
    <authorref id='auth:oberdiek'/>
562
     <copyright owner='Heiko Oberdiek' year='2007'/>
    clicense type='lppl1.3'/>
564
565
    <version number='1.6'/>
566
    <description>
      This package provides expandable checks for the current language
567
      based on macro <tt>\languagename</tt> or hyphenation patterns.
568
569
570
      The package is part of the refid='oberdiek'>oberdiekbundle.
571 </description>
572
    <documentation details='Package documentation'</pre>
       href='ctan:/macros/latex/contrib/oberdiek/iflang.pdf'/>
574 <ctan file='true' path='/macros/latex/contrib/oberdiek/iflang.dtx'/>
575 <miktex location='oberdiek'/>
576 <texlive location='oberdiek'/>
577 <install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip'/>
578 </entry>
579 (/catalogue)
```

# 6 Acknowledgement

I wish to thank:

Markus Kohm Useful hints for version 1.2.

# 7 History

# [2007/04/10 v1.0]

• First public version.

# [2007/04/11 v1.1]

 $\bullet~$  Line ends sanitized.

# [2007/04/12 v1.2]

- Initialization of \languagename in case of etex.src.
- Some sanity tests added.
- Documentation improved.

# [2007/04/26 v1.3]

• Use of package infwarerr.

# [2007/09/09 v1.4]

- Bug fix:  $\IfLang@StrEqual \rightarrow \IfLangStrEqual (Gabriele Balducci)$ .
- Catcode section rewritten.

# [2007/11/11 v1.5]

 $\bullet$  Use of package pdftexcmds for LuaTeX support.

# [2016/05/16 v1.6]

• Documentation updates.

## 8 Index

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

${f Symbols}$	$\c$ 0secondoftwo
\# 286	121, 126, 145, 208, 215, 256, 266
\% 362	\@undefined 58
\@ 287, 360	\\ 361
\@PackageInfoNoLine 159, 164, 194	\{ 284
\@PackageWarningNoLine 177, 184, 274	\} 285
\@firstofone 295, 298	
\@firstoftwo <u>111</u> ,	$\mathbf{A}$
119, 128, 143, 206, 213, 254, 264	\a 529, 530, 533, 541, 543
\@gobble 292, 300	\advance 325, 333, 348
$ \coloredge{ \col$	\aftergroup 29

В	\IfLang@StrEqualStop 224, 231
\b 531, 532, 533, 542, 543, 544, 551	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
\begin 392, 393, 402, 447	\IfLang@StrNil
\body	. 218, 220, 223, 239, 240, 242, 243
,	\IfLanguageName . 2, 245, 260, 404, 475
$\mathbf{C}$	\IfLanguagePatterns 2, <u>198</u> , 273, 395, 474
\c 543, 544, 550, 551	\ifnum 133, 181, 199,
\text{catcode} $2, 3, 5, 6, 7, 8, 9, 10, 11, 12,$	200, 246, 261, 324, 332, 339, 347
13, 33, 34, 36, 37, 38, 39, 40, 41,	\ifx 15, 18, 21, 50,
42, 43, 44, 45, 46, 47, 48, 49, 69,	58, 61, 111, 114, 118, 125, 134,
70, 72, 73, 74, 78, 79, 80, 81, 82, 83, 84, 87, 88, 90, 91, 92, 93, 97,	150, 158, 174, 176, 193, 212, 223, 271, 288, 291, 294, 297,
99, 284, 285, 286, 287, 322, 331,	352, 451, 454, 455, 468, 503, 527
339, 343, 360, 361, 362, 462, 499	\immediate 23, 52
\count@ 289, 318,	\IncludeTests 388
322, 324, 325, 329, 331, 332,	\input 151, 152, 353, 461, 498
333, 337, 339, 342, 343, 347, 348	\iterate 305, 307, 309
\countdef	L
\csname . 14, 21, 50, 66, 76, 111, 114,	\lang@USenglish 178, 181
118, 125, 134, 150, 158, 174, 176, 193, 200, 212, 271, 288,	\language 181, 200, 275
291, 294, 297, 352, 379, 491, 553	\languagename
, , , , , , , , , , , , , , , , , , , ,	$\dots$ 170, 182, 185, 195, 248,
D	262, 273, 277, 413, 417, 421,
\d 544, 551	423, 427, 433, 438, 439, 441, 568
\documentclass 386	\LoadCommand
E	\loop 303, 319, 330, 338
\empty	, , ,
\end 380, 401, 446, 456, 457, 492, 554	$\mathbf{M}$
\endcsname 14,	\makeatletter 422, 448
21, 50, 66, 76, 111, 114, 118,	\meaning
	\Moses go Brosk 185 976
125, 133, 134, 150, 158, 174,	MessageBreak 185, 276
176, 193, 200, 212, 271, 288,	\MessageBreak
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288,	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553 \endinput	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553 \endinput	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553 \endinput	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553 \endinput	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553 \endinput	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553 \endinput 29, 110 \endlinechar 4, 35, 71, 77, 89 \errmessage 341, 470, 505, 533 \exch 545, 549 \Expect 395, 404, 450, 451, 453, 454, 455 \expect 526, 527, 533	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553 \endinput 29, 110 \endlinechar 4, 35, 71, 77, 89 \errmessage 341, 470, 505, 533 \exch 545, 549 \Expect 395, 404, 450, 451, 453, 454, 455 \expect 526, 527, 533	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553 \endinput	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553 \endinput	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553 \endinput	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553 \endinput	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553 \endinput	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553 \endinput	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553 \endinput	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553 \endinput	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553 \endinput	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553 \endinput	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553 \endinput	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553 \endinput	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553 \endinput	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553   \[ \text{endinput} \tag{0.00} \tag{297}, 352, 71, 77, 89   \[ \text{errmessage} \tag{0.00} \tag{341}, 470, 505, 533   \[ \text{exch} \tag{0.00} \tag{545}, 549   \] \tag{0.00} \t	N \NeedsTeXFormat
176, 193, 200, 212, 271, 288, 291, 294, 297, 352, 379, 491, 553 \endinput	N \NeedsTeXFormat

\test 394, 397, 398, 399,	${f U}$
400, 403, 406, 407, 409, 410,	\UNDEFINED 452, 455, 496, 497, 510
411, 414, 415, 418, 419, 424,	\uselanguage 168, 169, 483
425, 430, 431, 434, 435, 436,	\usepackage 387, 390, 391
437, 438, 439, 442, 443, 444, 445	
\TestCompare 517, 537, 538,	${f W}$
539, 540, 547, 548, 549, 550, 551	\write 23, 52
\TestDefined 501, 509, 511	x
\TestGeneric 464, 474, 475	\x 14, 15, 18, 22, 26, 28,
\TestName 475, 480, 481, 488, 489	51, 56, 66, 75, 87, 466, 468, 519, 527
\TestPatterns 474, 477, 478, 485, 486	\xaustrian . 428, 430, 433, 436, 441, 444
\the 77, 78, 79,	\xgerman 429, 431, 437, 445
80, 81, 82, 83, 84, 97, 322, 342, 343	, , ,
\TMP@EnsureCode 94, 101, 102,	$\mathbf{Y}$
103, 104, 105, 106, 107, 108, 109	\y 467, 468