`LuaQuotes:`
A package for smart quotation marks

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Contents

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1 Overview

This package provides a function to automatically have 'smart quotes' in LuaLATEX. By 'smart quotes', I refer to the automatic insertion of curved or 'typographer's' quotation marks when the user types straight quotation marks. The below figure illustrates the distinction:

User input	Smart Quotes Off	Smart Quotes On
`"Howdy!"`	”Howdy!”	"Howdy!"

1.1 Purpose

2 Implementation

```
1   \def\luaquotesversionnumber{1.0.0}
2   \ProvidesPackage{luaquotes}
3     [2022/08/01\luaquotesversionnumber smart quotes with lua]
4     % !TeX program = lualatex
5   % !TeX encoding = utf8
6   % This work may be distributed and/or modified under the
7   % conditions of the LaTeX Project Public License, either version 1.3
8   % of this license or (at your option) any later version.
9   % The latest version of this license is in
10  %   http://www.latex-project.org/lppl.txt
11  % and version 1.3 or later is part of all distributions of LaTeX
12  % version 2005/12/01 or later.
13  %
14  % This work has the LPPL maintenance status `maintained'.
15  %
16  % The Current Maintainer of this work is Elijah Z Granet
```

2.1 LuaTeX check

```
17      %%%%%%%%%%%%%%%%%%%%%%%%%%%%
18  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
19  % to show the package only works with Lua
20  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
21  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
22    \RequirePackage{iftex}
23    \ifPDFTeX {
24      \PackageError{luaquotes}
25        {You are using pdfTeX but this package only works
26        \MessageBreak with LuaTeX}{}
27    }
28  \else\ifXeTeX{   \PackageError{luaquotes}
29        {You are using XeTeX but this package only works
30        \MessageBreak with LuaTeX}{}
31  }\fi\fi
```

2.2 Dependencies

```
32  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
33  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

```
34   % Dependency
35   %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
36   %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
37     \RequirePackage{luacode}
38       %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
39   %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
40   % fontspec for the auxiliary
41   % quotes where tligs need
42   % to be disabled
43   %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
44   %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
45     \RequirePackage{fontspec}
46       %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

2.3   Avoiding smart quotes in monospace

```
47   %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
48   %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
49   % removing the effects for monospace
50   %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
51   \begin{luacode}
52   \begin{minted}[
53   frame=lines,
54   framesep=2mm,
55   baselinestretch=1.2,
56   bgcolor=LightGray,
57   fontsize=\footnotesize,
58   linenos,
59   breaklines,
60   firstnumber=last
61   ]
62   {lua}
63   local uchar = unicode.utf8.char
64     fonts.handlers.otf.addfeature{
65       name = "qtbye",
66       type = "substitution",
67       data =
68       {
69     " = 0x0022,
70   " = 0x0022,
71   ' = 0x0027,
72   « = 0x0022,
73   » = 0x0022,
74   ‹ = 0x0027,
```

```
75    › = 0x0027
76  },
```

```
77    \end{luacode}
```

2.4 Quote replacement functions

```
78  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
79  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
80  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
81  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
82  % Code here and throughout similar
83  %functions   partly adapted from TeX.SE user
84  % Mico
85  % https://tex.stackexchange.com/questions/499953/how-to-generate-correct-
    ↪  single-and-double-quotes-in-tex
86  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
87  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
88
```

```
89  function doublequotes ( s )
90      return ( s:gsub ( '"(.-)"' , ""\%1"" ) )
```

```
91  }
92
93          %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
94  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
95  % Assuming ' at the start of the line means an opening quotation mark not an
    ↪  apostrophe
96  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
97  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

```
 98    function singlequotelinestart ( s )
 99              return (s:gsub ("^'","'" )  )
100         end
```

```
101         }
102
103    \luaexec{
```

```
104    function singlequotes ( s )
105              return ( s:gsub ( " ' "," ' " ) )
```

```
106    }
```

2.5   Activation commands

```
107    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%
108    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%
109    % activation and deactivation
110    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%
111    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%
112    \newcommand\doublequoteson{\directlua{
```

```
113
114    luatexbase.add_to_callback (
115        "process_input_buffer" , doublequotes , "doublequotes" )
```

```
116        }}
117    \newcommand\doublequotesoff{\directlua{
```

6

```
118    luatexbase.remove_from_callback (
119        "process_input_buffer" ,
120        "doublequotes" )
```

```
121    }}
122    \newcommand\singlequotelinestarton{\directlua{
```

```
123    luatexbase.add_to_callback (
124        "process_input_buffer" , singlequotelinestart , "singlequotelinestart" )
```

```
125        }}
```

```
126    luatexbase.remove_from_callback (
127        "process_input_buffer" , "singlequotelinestart" )
```

```
128        }}
129    \newcommand\singlequoteson{\directlua{
130    luatexbase.add_to_callback (
```

```
131        }}
132    \newcommand\singlequotesoff{\directlua{
```

```
133    luatexbase.remove_from_callback (
134        "process_input_buffer" , "singlequotes" )
```

```
135   }}
136        %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
137   %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
138   % global functions, useful for things like this
139   %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
140   %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
141        \newcommand{\smartquotes}{%
142   \doublequoteson%
143   \singlequotelinestarton%
144   \singlequoteson}
145        \newcommand{\dumbquotes}{\doublequotesoff
146        \singlequotelinestartoff
147        \singlequotesoff}
```

2.6   English option

```
148
149        \DeclareOption{en}{
150
151   \AtBeginDocument{\smartquotes}
152   \renewcommand{\texttt}[1]{{\ttfamily\addfontfeature{RawFeature={+qtbye,-
      ↪ tlig}}\dumbquotes
      ↪ #1}}
153
154        }
```

2.7   Auxiliary punctuation

```
155
156   %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
157   %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
158   % auxiliary punctuation
159   %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
160   %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
161   % Essentially to be used where the
162   % thing fails to provide the
163   % quotation or
164   % quote like punctuation
165   % needed
```

```latex
166  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
167  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
168  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
169  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
170  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
171  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
172  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
173  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
174  % German quotations
175  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
176  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
177  \newcommand{\desingle}{{\addfontfeature{RawFeature={-qtbye,-
     ↪  tlig}}\symbol{"201A}}}
178  \newcommand{\dedouble}{{\addfontfeature{RawFeature={-qtbye,-
     ↪  tlig}}\symbol{"201E}}}
179  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
180  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
181  % backtick
182  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
183  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
184  \newcommand{\bcktck}{{\addfontfeature{RawFeature={-qtbye,-tlig}}`}}
185  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
186  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
187  % Straight double
188  % and single quotes
189  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
190  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
191
192  \newcommand{\dqone}{{\addfontfeature{RawFeature={-qtbye,-
     ↪  tlig}}\symbol{"0027}}}
193  \newcommand{\dqtwo}{{\addfontfeature{RawFeature={-qtbye,-
     ↪  tlig}}\symbol{"0022}}}
194  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
195  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
196  % Prime, mostly for
197  % Feet and inches
198  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
199  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
200  \newcommand{\lqprime}{'}
201  \newcommand{\lqdoubleprime}{"}
202  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
203  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
204  % The Okina, for typing
205  % Hawai'i
206  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
207  %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
208  \newcommand{\okina}{'}
```

```
209    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
210    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
211    % The individual smart quotes
212    %
213    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
214    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
215    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
216    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
217    \newcommand{\sqtwoleft}{{\addfontfeature{RawFeature={-qtbye,-tlig}}"}}
218    \newcommand{\sqtworight}{{\addfontfeature{RawFeature={-qtbye,-tlig}}"}}
219    \newcommand{\sqoneright}{{\addfontfeature{RawFeature={-qtbye,-tlig}}'}}
220    \newcommand{\apost}{{\addfontfeature{RawFeature={-qtbye,-tlig}}'}}
221    \newcommand{\sqoneleft}{{\addfontfeature{RawFeature={-qtbye,-tlig}}'}}
222    \newcommand{\glmtl}{{\addfontfeature{RawFeature={-qtbye,-tlig}}«\,}}
223    \newcommand{\glmtr}{{\addfontfeature{RawFeature={-qtbye,-tlig}}\,»}}
224    \newcommand{\sglmtl}{{\addfontfeature{RawFeature={-qtbye,-tlig}}‹\,}}
225    \newcommand{\sglmtr}{{\addfontfeature{RawFeature={-qtbye,-tlig}}\,›}}
```

2.8 The German option

```
226
227    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
228    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
229    % DEUTSCH
230    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
231    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
232    \luaexec{
```

```
233    function dedoublequotes ( s )
234        return ( s:gsub ( '"(..-)"' , "„%1"" ) )
235      end
```

```
236        }
237    \luaexec{
```

```
238   function desinglequotelinestart ( s )
239            return (s:gsub ("^'","," )   )
240         end
```

```
241         }
242   \luaexec{
```

```
243   function desinglequotesclose( s )
244   return ( s:gsub ( " `(..-)'", " ,\%1`" ) )
245           end
```

```
246         }
247
248   %%% Two utility macros to activate/deactivate the Lua function:
249   \newcommand\dedoublequoteson{\directlua{
```

```
250   luatexbase.add_to_callback (
251      "process_input_buffer" , dedoublequotes , "dedoublequotes" )
```

```
252     }}
253   \newcommand\dedoublequotesoff{\directlua{luatexbase.remove_from_callback (
254      "process_input_buffer" , "dedoublequotes" )
```

```
255   }}
256   \newcommand\desinglequotelinestarton{\directlua{
```

```
257    luatexbase.add_to_callback (
```

```
258        }}
259    \newcommand\desinglequotelinestartoff{\directlua{
```

```
260    luatexbase.remove_from_callback (
261        "process_input_buffer" , "desinglequotelinestart" )
```

```
262        }}
263    \newcommand\desinglequotescloseon{\directlua{
```

```
264        luatexbase.add_to_callback (
265        "process_input_buffer" , desinglequotesclose , "desinglequotesclose" )
```

```
266        }}
267    \newcommand\desinglequotescloseoff{\directlua{
```

```
268    luatexbase.remove_from_callback (
269        "process_input_buffer" , "desinglequotesclose" )
```

```
270        }}
271        \newcommand{\desmartquotes}{\dedoublequoteson
272    \desinglequotelinestarton
273    \desinglequoteson
274    \desinglequotescloseon}
275        \newcommand{\dedumbquotes}{\dedoublequotesoff
```

```
276    \desinglequotelinestartoff
277    \desinglequotesoff
278    \desinglequotescloseoff}
279        \DeclareOption{de}{
280
281    \AtBeginDocument{\desmartquotes}
282    \renewcommand{\texttt}[1]{{\ttfamily\addfontfeature{RawFeature={+qtbye,-
   ↪    tlig}}\dedumbquotes
   ↪    #1}}
283
284
285    }
```

2.9 The French option

```
286
287    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
288    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
289    % Français
290    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
291    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
292    \luaexec{
```

```
293    function frdoublequotes ( s )
294            return ( s:gsub ( '“(..-)”' , "«\\,\%1\\,»" ) )
295        end
```

```
296    }
297    \luaexec{
```

```
298    function frsinglequotelinestart ( s )
299            return (s:gsub ("^'","'" )  )
```

13

```
300    }
301    \luaexec{
```

```
302    function frsinglequotesclose( s )
303    return ( s:gsub ( " '(..-)'", " ‹\\,\%1\\,›" ) )
304            end
```

```
305            }
306    %% Two utility macros to activate/deactivate the Lua function:
307    \newcommand\frdoublequoteson{\directlua{
```

```
308    luatexbase.add_to_callback (
309        "process_input_buffer" ,frdoublequotes , "frdoublequotes" )
```

```
310        }}
311    \newcommand\frdoublequotesoff{\directlua{
```

```
312    luatexbase.remove_from_callback (
313        "process_input_buffer" , "frdoublequotes" )
```

```
314        }}
315    \newcommand\frsinglequotelinestarton{\directlua{
```

```
316    luatexbase.add_to_callback (
317        "process_input_buffer" ,frsinglequotelinestart , "frsinglequotelinestart" )
```

14

```
318    }}
319 \newcommand\frsinglequotelinestartoff{\directlua{
```

```
320 luatexbase.remove_from_callback (
321    "process_input_buffer" , "frsinglequotelinestart" )
```

```
322    }}
323    \newcommand\frsinglequotescloseon{\directlua{
```

```
324    luatexbase.add_to_callback (
325    "process_input_buffer" ,frsinglequotesclose , "frsinglequotesclose" )
```

```
326 }}
327 \newcommand\frsinglequotescloseoff{\directlua{
```

```
328 luatexbase.remove_from_callback (
329    "process_input_buffer" , "frsinglequotesclose" )
```

```
330 }}
331    \newcommand{\frsmartquotes}{\frdoublequoteson
332 \frsinglequotelinestarton
333 \frsinglequotescloseon}
334    \newcommand{\frdumbquotes}{\frdoublequotesoff
335 \frsinglequotelinestartoff
336 \frsinglequotescloseoff}    \DeclareOption{fr}{
337
338 \AtBeginDocument{\frsmartquotes}
339 \renewcommand{\texttt}[1]{{\ttfamily\addfontfeature{RawFeature={+qtbye,-
    ↪    tlig}}\frdumbquotes
    ↪    #1}}
```

15

```
340
341
342    }
```

2.10 Process Options

```
343    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
344    % Default option is English
345    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
346    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
347    \ExecuteOptions{en}%
348      \ProcessOptions*
349
350
351
```

3 Version History

3.1 *1.0.0*

21 August 2022: Package creation