upquote – upright-quote and grave-accent glyphs in verbatim*

Michael A. Covington†, Frank Mittelbach, Markus G. Kuhn‡

2012/04/19

Introduction

By default, the LaTeX `\verb` macro and `verbatim` environment display ASCII characters 27 and 60 as ’ and ‘, respectively, in line with how these two characters are used to typeset opening and closing quotation marks elsewhere in TeX. However, the character-set standards define character 27 to represent a straight single quotation mark ' and character 60 as a grave accent `. This is what most modern fonts show, and what readers of software source code are now likely to expect [1, 2]. The curly quotation mark characters ‘ and ’ are instead associated with Unicode positions U+2018 and U+2019.

Usage

Add `\usepackage{upquote}` to the preamble (preferably after any packages that change fonts or font encoding), and the behaviour of the macros `\verb` and `\verb*` and the environments `verbatim` and `verbatim*` will change such that ASCII characters 27 and 60 appear as ' and ` rather than ’ and ‘. This does not affect `\tt`, `\texttt`, etc.

When the Computer Modern typewriter font `cmtt` in Knuth's original OT1 encoding is used (i.e., `\encodingdefault=OT1`, `\ttdefault=cmtt`), then the two replacement glyphs are taken from that same font, where they are already available at positions 13 and 18. If any other font or font encoding is used, then the `textcomp` package is loaded and its `\textquotesingle` and `\textasciigrave` macros are used to typeset these characters.

This package loads `textcomp.sty` only if the use of a non-`cmtt` font or a non-OT1 font encoding was already evident at the point where `upquote.sty` was loaded. If such changes happen later, add `\usepackage{textcomp}` yourself.

*This file describes version v1.3, last revised 2012/04/19.

†Artificial Intelligence Center, The University of Georgia, http://www.ai.uga.edu/~mc/

‡University of Cambridge, Computer Laboratory, http://www.cl.cam.ac.uk/~mgk25/

Appendix

Implementation

We check `\encodingdefault` and `\ttdefault` to see whether the glyphs that are already in `cmtt` as `\char13` (`'`) and `\char18` (`` ` ``) can be used, or whether textcomp has to be loaded to access such glyphs.

```
\newcommand\upquote@cmtt{cmtt}
\newcommand\upquote@OTone{OT1}
\ifx\encodingdefault\upquote@OTone
  \ifx\ttdefault\upquote@cmtt\else\RequirePackage{textcomp}\fi
\else
  \RequirePackage{textcomp}
\fi
```

The `\@noligs` macro is called by `\verb` and `\begin{verbatim}` to turn the characters `‘ < > , ’ -` into active characters that merely print themselves rather than activating ligatures.

This package merely adds code to `\@noligs` that changes the glyphs used for `‘` and `’`.

```
\begingroup
\catcode‘’=\active
\catcode‘‘=\active
\g@addto@macro\@noligs
   {\let’\textquotesingle
    \let‘\textasciigrave
    \ifx\encodingdefault\upquote@OTone
    \ifx\ttdefault\upquote@cmtt
    \def’{\char13 }%
    \def‘{\char18 }%
    \fi\fi}
\endgroup
```

We check `\encodingdefault` and `\ttdefault` again at each invocation of `\verb` or `\begin{verbatim}`, such that users can change fonts and encodings within a document.

References

[1] M. Covington, *Computer Languages in Type*, Journal of Scholarly Publishing, 26.1:34–41, 1994.

[2] M. Kuhn, *ASCII and Unicode quotation marks*, 1999.
`http://www.cl.cam.ac.uk/~mgk25/ucs/quotes.html`