Abstract
This package provides commands to switch between different date formats (standard, ISO, numeric, \TeX package). They are used by the \texttt{\today} command and by the \texttt{\printdate} and \texttt{\printdateTeX} commands that print any date. This package supports German (old and new rules, Austrian), US English, and all languages that have the same date format as British English does\footnote{E.g. Danish, French}.

The idea for this package was taken from the akletter class.

Contents

1 Commands
1.1 Switching the date format \hspace{1cm} 1
1.2 Printing any date \hspace{1cm} 2
1.3 Changing the ISO format \hspace{1cm} 2

2 Calling the package \hspace{1cm} 3

A Licence \hspace{1cm} 3

B Known errors \hspace{1cm} 3

C Planned features and changes \hspace{1cm} 3

D The implementation \hspace{1cm} 4

1 Commands

1.1 Switching the date format

\texttt{\today} This package provides five commands to switch the output format of the \texttt{\today},
the \printdate, and the \printdateTeX commands:

\begin{itemize}
  \item \isodate \hspace{2em} date format described in ISO 8601 and DIN 5008 (yyyy-mm-dd)
  \item \numdate \hspace{2em} numeric date format with four digits of the year
  \item \shortdate \hspace{2em} short numeric date format with two digits of the year
  \item \TeXdate \hspace{2em} date format used for version description of packages (yyyy/mm/dd)
  \item \origdate \hspace{2em} original \LaTeX format
\end{itemize}

The numeric and short numeric format change their behaviour depending on the actual language:

- German, nGerman: dd.,mm.–yyyy resp. dd.,mm.,yy
- US English: mm/dd/yyyy resp. mm/dd/yy
- other languages: dd/mm/yyyy resp. dd/mm/yy

So this package supports German (old and new rules, Austrian), US English, and all languages that have the same date format as British English does\textsuperscript{2}. Switching the language by using \selectlanguage also switches back to the original date format.

### 1.2 Printing any date

\begin{itemize}
  \item \texttt{\printdate{#1}} \hspace{2em} prints any date in the actual format. The argument may be a date in German, British English, or ISO format, e.g.
    \begin{itemize}
      \item \texttt{\printdate{24.12.2000}}
      \item \texttt{\printdate{24/12/2000}}
      \item \texttt{\printdate{2000-12-24}}
    \end{itemize}
    \texttt{\printdateTeX{#1}} \hspace{2em} prints any date in the actual format. The argument must be in the \LaTeX format yyyy/mm/dd, e.g.
    \begin{itemize}
      \item \texttt{\printdateTeX{2000/12/24}}
    \end{itemize}
\end{itemize}

This command is useful for printing version information stored in a macro. For example the version of this documentation is stored in the macro \texttt{\docdate} (“2000/08/08”). To print it with the actual date format you can use the command \texttt{\printdateTeX{\docdate}} which leads to “2000-08-08”.

### 1.3 Changing the ISO format

\begin{itemize}
  \item \texttt{\isodash} \hspace{2em} I am not sure whether the ISO format should be yyyy-mm-dd or yyyy–mm–dd. By default I use “−” as dash. You can change this using the \texttt{\isodash} command, e.g.
\end{itemize}

\textsuperscript{2}E.g. Danish, French
leads to “2000-12-24 2000–12–24”. Or for example
\isodash{$\cdot$}
\printdate{24/12/2000}
leads to “2000-12-24”.

\section{Calling the package}

The package is called using the \usepackage command:
\usepackage[option]{isodate}.

The possible package options can be seen in table 1.

\begin{table}[h]
\centering
\begin{tabular}{ll}
\hline
\textbf{option} & \textbf{used date format} \\
\hline
iso & ISO date format \\
num & numeric date format with 4 digits of the year \\
short & numeric date format with 2 digits of the year \\
TeX & \LaTeX numeric date format (yyyy/mm/dd) \\
orig & normal \LaTeX date format (default) \\
\hline
\end{tabular}
\end{table}

\section{Licence}

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\section{Known errors}

- The \printdate and \printdateTeX commands are not very good in checking the argument for correct syntax.

- For the language American: Using the package babel only the language name “american” works, using the package *german only “USenglish” works.

\section{Planned features and changes}

- Of course eliminate the errors.
- Add other languages then german, ngerman, english, USenglish. Please help me with this topic, I don't know the date formats in other languages.

D The implementation

Heading of the package:

\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{isodateo}[\filedate]
\RequirePackage{ifthen}
\RequirePackage{calc}
\IfFileExists{substr.sty}{\RequirePackage{substr}\
}{\PackageError{isodateo.sty}{Package file substr.sty not found}\
{This version of isodateo.sty needs the package substr.sty.^^J\
You can download it from CTAN:/macros/latex/contrib/substr/^^J\
E.g. one CTAN node is ftp.dante.de.\
Install substr.sty into your TeX tree.}}

At the end of the preamble the package tests whether one of the packages babel, german, or ngerman is loaded. If not it is assumed that American English is wanted (LATEX is an American programme). The original date format is saved and the command \iflanguage is redefined to process the “true part” for english, american, and USenglish options and otherwise the “false part”.

\AtBeginDocument{\%\IfPackageLoaded{babel}{\%\IfPackageLoaded{german}{\%\IfPackageLoaded{ngerman}{\%\let\dateamerican\today\%\setboolean{isodateamerican}{true}\%\def\iflanguage#1#2#3{\ifthenelse{\equal{#1}{english}\or\equal{#1}{american}\or\equal{#1}{USenglish}}{#2}{#3}}\\}}}}

Here you can add new languages. Tell me what you have inserted in order to enable me to actualize the package.

\newboolean{isodateamerican}\\
% \changes{1.06}{2000/08/08}{Avoid using the hack with redefining \selectlanguage}\\
% Define the package options.\\
% begin{macrocode}\\
% DeclareOption{iso}{\AtBeginDocument{\isodate}}\\
% DeclareOption{num}{\AtBeginDocument{\numdate}}\\
% DeclareOption{short}{\AtBeginDocument{\shortdate}}\\
% DeclareOption{TeX}{\AtBeginDocument{\TeXdate}}\\

Declare the boolean variable isodateamerican. This is necessary because the command \iflanguage cannot decide if the language is English or American.

% \newboolean{isodateamerican}\\
% % \changes{1.06}{2000/08/08}{Avoid using the hack with redefining \selectlanguage}\\
% % Define the package options.\\
% % begin{macrocode}\\
% % DeclareOption{iso}{\AtBeginDocument{\isodate}}\\
% % DeclareOption{num}{\AtBeginDocument{\numdate}}\\
% % DeclareOption{short}{\AtBeginDocument{\shortdate}}\\
% % DeclareOption{TeX}{\AtBeginDocument{\TeXdate}}\\

4
\DeclareOption{orig}{\AtBeginDocument{\origdate}}
\ExecuteOptions{orig}
\ProcessOptions
Print day or month filled with zero to a format with two digits.
\def\dday{\ifthenelse{\number\day<10}{0}{\number\day}}
\def\dmonth{\ifthenelse{\number\month<10}{0}{\number\month}}
Print day and month in numerical format using the right format for the present
language.
\DeclareRobustCommand*{\num@today}[1]{%}
\iflanguage{german}{\dday.\,\dmonth.#1}{%}
\iflanguage{austrian}{\dday.\,\dmonth.#1}{%}
\iflanguage{ngerman}{\dday.\,\dmonth.#1}{%}
\iflanguage{naustrian}{\dday.\,\dmonth.#1}{%}
Here you can add new languages. Tell me what you have inserted in order to
enable me to actualize the package.
\iflanguage{english}{%}
\ifthenelse{\boolean{isodate@american}}{\dmonth/\dday/}{\dday/\dmonth/}{}}}%
\numdate
Switch to long numeric date format.
\DeclareRobustCommand*{\numdate}{%
Find out whether the language may be English or American. The English original
date format does not contain a comma while the american does.
\origdate%
\setboolean{isodate@american}{false}%
\iflanguage{american}{\IfCharInString{,}{\today}{%}
\setboolean{isodate@american}{true}{}}{}}%
\gdef\today{%
\num@today(~)%
\number\year}}
\shortdate
Switch to short numeric date format.
\newcounter{yeartwo}
\DeclareRobustCommand*{\shortdate}{%
Find out whether the language may be English or American. The English original
date format does not contain a comma while the american does.
\origdate%
\setboolean{isodate@american}{false}%
\iflanguage{american}{\IfCharInString{,}{\today}{%}
\setboolean{isodate@american}{true}{}}{}}}%
Define the new \today command.
61 \gdef\today{%
62 \num@today\%  
63 \setcounter{yeartwo}{\number\year}\%  
64 \whiledo{\theyeartwo<99}{\setcounter{yeartwo}{\theyeartwo-100}}\%  
65 \ifthenelse{\number\theyeartwo<10}{0}{\theyeartwo}\}

\isodate Switch to ISO date format.
66 \DeclareRobustCommand*{\isodate}{%  
67 \gdef\today{%  
68 \number\year\iso@isodash\%  
69 \ifthenelse{\number\month<10}{0}{\number\month\iso@isodash}\%  
70 \ifthenelse{\number\day<10}{0}{\number\day}\}

Define the default ISO dash to “-”.
71 \def\iso@isodash{-}\%

\isodate Define the command \isodash which changes the dash in the ISO date format.
72 \DeclareRobustCommand*{\isodash}[1]{\def\iso@isodash{#1}}%

\origdate Switch back to original date format.
73 %\DeclareRobustCommand*{\origdate}{\gdef\today{\iso@origdate}}
74 \DeclareRobustCommand*{\origdate}{\csname date\languagename\endcsname}

\TeXdate Switch to the \TeX date format.
75 \DeclareRobustCommand*{\TeXdate}{%  
76 \gdef\today{%  
77 \number\year/%  
78 \ifthenelse{\number\month<10}{0}{\number\month/%  
79 \ifthenelse{\number\day<10}{0}{\number\day}\}

Print any date (internal command, syntax: \iso@printdate{yyyy}{mm}{dd}).
80 \DeclareRobustCommand*{\iso@printdate}[3]{%  
81 \begingroup%  
82 \def\year(#1)%  
83 \def\month(#2)%  
84 \def\day(#3)%  
85 \today%  
86 \egroup%  
87 }

Define counters to count the numbers of special characters in the arguments of
the \printdate and \printdate\TeX commands.
88 \newcounter{iso@slash}
89 \newcounter{iso@minus}
90 \newcounter{iso@dot}
\printdate \quad \text{Print any date in the actual date format. This command understands the German, British, and ISO formats.}

\isoexpafterprintdate \quad \text{The command \isoexpafterprintdate needs an already expanded argument. So the command \printdate expands it and calls \isoexpafterprintdate.}

\text{The error handling of this macro is very poor. It is just tested if either a "/",\footnote{Use one of}
\text{or "." is included in the argument twice. It is not tested if the argument consists of numbers, only.}

\printdateTeX \quad \text{Analyze the argument containing a date in the LaTeX style yyyy/mm/dd an print it. This format can not be handled automaticaly by \printdate because it could be mixed up with the English format. The error handling of this routine is very poor. It just checks whether the argument contains at least one "/".}
\DeclareRobustCommand*{\printdateTeX}[1]{\expandafter\iso@printdateTeX\expandafter{#1}}
\DeclareRobustCommand*{\iso@printdateTeX}[1]{\SubStringsToCounter{iso@slash}{/}{#1}\ifthenelse{\equal{\theiso@slash}{2}}{\expandafter\iso@@printdateTeX #1\@empty}{????\iso@isodash ??\iso@isodash ??\PackageError{isodateo}{unrecognized date format}{Use the format yyyy/mm/dd. Don’t use any spaces or commands like \protect\, or \protect~ inside the argument.}}}
\def\iso@@printdateTeX#1/#2/#3\@empty{\iso@printdate{#1}{#2}{#3}}

The end of the package.

Change History

1.01
General: Improve documentation  . 1

1.02
General: Fix American language support by a hack ............... 4

1.03
General: Insert code for handling not loaded language packages . 4

1.04
General: Add \LaTeX date format yyyy/mm/dd .................. 7
Make the commands robust ... 1
\TeXdate: Add \LaTeX date format yyyy/mm/dd .................. 6

1.05
General: Change all internal command names to start with \iso@ .................. 1
Note that every language that has the same format as English is supported. .................. 2

Throw out the commands \IfSubStringInString and \IfCharInString and use the package substr.sty instead ....... 1
\iso@expafterprintdate: Count appearances of "/", ",", and ", and complain if not at least one of them is equal to 2 ....... 7
\printdateTeX: Count appearances of "/" and complain if not equal to 2 .................. 7

\numdate: Choose between English and American language ....... 5
\origdate: Use the command \datelanguage to switch back to the original date format .... 6
\shortdate: Choose between English and American language .. 5

1.06a
General: Path changed according to new CTAN structure ....... 1

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; numbers in roman refer to the code lines where the entry is used.

Symbols
\@ifpackageloaded . 8