Arno Trautmann
arno.trautmann@gmx.de

neoshorthands

Abstract

This is the documentation of the package `neoshorthands`. It is a tool to use the powerfull Neo-layout with XeLaTeX. It does not do very much, but mapping many of the usefull symbols to TeX commands. [1] will be converted to `\tau`. This package does *not* define fancy commands and is therefore very robust. Just say `\usepackage{% neoshorthands}`. If you find any incompatiblities with any package, pleas drop me a mail and maybe I can take care of it.

The single command of this package is `\neoshorthand{ }\tau` wich maps the command onto the given symbol. You can add your own definitions, but please consider to send me the code so I could add it to the package. Only with the help of many people, this package can be usefull for many people!

`\sh{ }\tau` is a shorthand for `\neoshorthand`. It could have been `\ns` for `\neoshorthand`, but I found `\ns` not to be an appropriate macro name considering the german history.

Special thanks to the guys on german TeX mailinglist `tex-d-l` who gave me the code (I copied it from the alttex package).

Special features

Normally, the greek capital Sigma will be converted to `\sum` which is regarded as a feature. If you really want it to be a Sigma, use the package option `sigma`. Of course, you still can write both `\sum` and `\Sigma` in your document.

Contents

[1] There should be a greek letter tau shown here. If not, this document was not compiled with a font containing the regarding glyph. Most likely, many glyphs will be missing in this pdf, so have a look at the dtx to see what's really going on.

Implementation

First, the helper macros. Thanks to the german mailinglist participants!

```
\RequirePackage{xkeyval}
\add@special \def\add@special#1{%
  \rem@special{#1}%
  \expandafter\gdef\expandafter\dospecials\expandafter
{\dospecials␣\do␣#1}%
  \expandafter\gdef\expandafter\@sanitize\expandafter
{\@sanitize␣\@makeother␣#1}}
\rem@special \def\rem@special#1{%
  \def\do##1{%
    \ifnum`#1=`##1␣\else␣\noexpand\do\noexpand##1\fi}%
  \xdef\dospecials{\dospecials}%
  \begingroup
    \def\@makeother##1{%
      \ifnum`#1=`##1␣\else␣\noexpand\@makeother\noexpand##1\fi}%
    \xdef\@sanitize{\@sanitize}%
  \endgroup}
\neoshorthand \def\neoshorthand#1#2{%
  \expandafter\ifx\csname␣cc\string#1\endcsname\relax
    \add@special{#1}%
    \expandafter
    \xdef\csname␣cc\string#1\endcsname{\the\catcode`#1}%
    \begingroup
      \catcode`\~\active␣␣\lccode`\~`#1%
      \lowercase{%
      \global\expandafter\let
         \csname␣ac\string#1\endcsname~%
      \expandafter\gdef\expandafter~\expandafter{#2}}%
    \endgroup
    \global\catcode`#1\active
  \else
  \fi
}
\makeneosection \def\makeneosection#1{
  \count@\escapechar\escapechar\m@ne\expandafter\let\csname␣if#1%
        \endcsname\iffalse\expandafter\@if\csname␣if#1\endcsname%
        \iftrue\expandafter\@if\csname␣if#1\endcsname\iffalse%
        \escapechar\count@%
  \csname#1true\endcsname
no#1  \DeclareOptionX{no#1}{\expandafter\csname#1false\endcsname}
}
\neosection \def\neosection#1{
  \expandafter\csname␣if#1\endcsname␣\let\sh\neoshorthand␣\else␣\let%
        \sh\@gobbletwo␣\fi
}

\makeneosection{greek}
\makeneosection{math}
```

```
\makeneosection{sets}
\makeneosection{arrows}
\makeneosection{bbm}
\makeneosection{fractions}
\makeneosection{subscripts}
```

\ifneoshorthands@sigma
```
\newif\ifneoshorthands@sigma
\neoshorthands@sigmafalse
```

exclude
\excludeoptions
sigma
```
\DeclareOptionX{exclude}{\def\excludeoptions{#1}}
\DeclareOptionX{sigma}{\neoshorthands@sigmatrue}
\ProcessOptionsX
```

\ifpackage@option@math
```
\newif\ifpackage@option@math
\package@option@mathtrue
```

\package@test@exclude
```
\def\package@test@exclude{%
  \@for\@tempa:=\excludeoptions\do{%
    \ifcsname␣ifpackage@option@\@tempa\endcsname
      \package@option@mathfalse
      \@nameuse{package@option@\@tempa␣false}%
    \fi
  }%
}
\package@test@exclude
```

```
\ifx\excludeoptions\@emtpy\else
  \package@test@exclude
\fi
```

And from here on, the great list of symbols is defined.

greek

```
\neosection{greek}
\sh{ }\alpha
\sh{ }\beta
\sh{ }\gamma
\sh{ }\delta
\sh{ }\epsilon
\sh{ }\eta
\sh{ }\theta
\sh{ }\mu
\sh{ }\nu
\sh{ }\lambda
\sh{ }\pi
\sh{ }\sigma
\sh{ }\xi
\sh{ }\chi
\sh{ }\psi
\sh{ }\phi
\sh{ }\zeta
\sh{ }\tau
\sh{ }\rho
```

```
\sh{ }\upsilon
\sh{ }\omega
```

```
\sh{Γ}\Gamma
\sh{Δ}\Delta
\sh{Π}\Pi
\sh{Ψ}\Psi
\sh{Φ}\Phi
\sh{Λ}\Lambda
\sh{Ξ}\Xi
```

careful! Σ will give a sum-sign, not a Sigma!!

```
\ifneoshorthands@sigma
\sh{Σ}\Sigma␣\else␣\sh{Σ}\sum␣\fi
\sh{Ω}\Omega
```

arrows

```
\neosection{arrows}
\def\ensRightarrow{\ensuremath{\Rightarrow}}
\sh{ }\Leftarrow
\sh{ }\ensRightarrow
\sh{ }\Leftrightarrow
\sh{→}\rightarrow
```

\ensRightarrow

mathematical symbols

```
\neosection{math}
\sh{√}\sqrt
\sh{ }\int
\sh{ }\nabla
\sh{ }\partial
\sh{ }\exists
\sh{ϖ}\infty
\sh{ }\aleph
\sh{ }\geq
\sh{ }\leq
\sh{·}\cdot
```

sets and logic

```
\neosection{sets}
\sh{ }\emptyset
\sh{ }\subset
\sh{ }\cup
\sh{ }\cap
\sh{ }\in
\sh{ }\notin
\sh{ }\forall
```

sub/superscript

```
\neosection{subscripts}
\def\sub0{_0}
\def\subi{_1}
\def\subii{_2}
\sh{ }\sub0
\sh{ }\subi
\sh{ }\subii
\def\sup0{^0}
\def\supi{^1}
\def\supii{^2}
\def\supiii{^3}
\def\supiv{^4}
\def\supv{^5}
\def\supvi{^6}
\def\supvii{^7}
\def\supviii{^8}
\sh{ }\sup0
\sh{¹}\supi
\sh{²}\supii
\sh{³}\supiii
\sh{ }\supiv
\sh{ }\supv
\sh{ }\supvi
\sh{ }\supvii
\sh{ }\supviii
\def\supplus{^+}
\def\supminus{^-}
\sh{ }\supplus
\sh{ }\supminus
\neosection{fractions}
\def\sh@half{\bgroup\textstyle\frac␣12\egroup}
\def\sh@quarter{\bgroup\textstyle\frac␣12\egroup}
\def\sh@sixth{\bgroup\textstyle\frac␣16\egroup}
\def\sh@twothirds{\bgroup\textstyle\frac␣23\egroup}
\sh{½}\sh@half
\sh{¼}\sh@quarter
\sh{ }\sh@sixth
\sh{ }\sh@twothirds
```

blackboard bold math

bbm needs some special treatment, as `\mathbb` is not known without the package. So we hide it and wrap it etc. Most of the glyphs are not available in this document's font, but you can guess which glyphs should be there. If not so, look into the .dtx or .sty file using an editor with a good (complete) font.

```
\neosection{bbm}
\def\makemathbb#1{
```

```
  \expandafter\def␣\csname␣mathbb#1\endcsname{\mathbb{#1}}
}
\makemathbb␣C
\makemathbb␣N
\makemathbb␣R
\makemathbb␣Q
\makemathbb␣Z
\sh{ }\mathbbC
\sh{ }\mathbbN
\sh{ }\mathbbR
\sh{ }\mathbbQ
\sh{ }\mathbbZ
```

⟨/package⟩

contribution

If you want to change a certain symbol in your document, you have to use the command `\neoshorthand`, as `\sh` will no longer be defined after this package is loaded. I think, the name is too good to be blocked by such a function. Thanks to Dennis „f“ Heidsiek and Sebastian Werk for submitting some `\sh`-lines!

□