# The nomentbl package*

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## 1 Introduction

Often it is desirable to include the units of nomenclature in a tabular environment. Nomentbl is a customization of the `nomencl` package that presents the nomenclature in a table of the longtable-type.

With the most recent update[1] to the nomencl package to version 4.2, the nomentbl package version 0.3 is not compatible with the `\makenomenclature` and `\printnomenclature` commands. This document describes version 0.4 of the nomentbl package. It is compatible with the most recent nomencl version.

This document gives a very limited yet sufficient introduction to the use of longtable together with the nomencl package for writing nomenclatures.

## 2 Prerequisite

The nomentbl package requires both nomencl and longtable to be present on your system.

## 3 Usage

- Install `nomentbl.sty` where latex can find it, and `nomentbl.ist` where *MakeIndex* can find that.
- Put `\usepackage[<options>]{nomentbl}` in the preamble of the document. For further information on `<options>` see the nomencl user guide.
- Put `\makenomenclature` in the preamble of the document.
- Put `\printnomenclature` where the nomenclature section/chapter is desired.

*This document corresponds to nomentbl v0.4, dated 2006/04/14.
[1]September 22, 2005.

- Issue the `\nomenclature` command for each symbol desired to be in the nomenclature list (see Section 5).
- Run LaTeX. This generates the nomenclature input file `<filename>.nlo`.
- Run *MakeIndex* with

```
makeindex -s nomentbl.ist -o <filename>.nls <filename>.nlo
```

- Run LaTeX again.

# 4 Examples

An equation is needed for the current setup:

$$\mathbf{J}_i \cdot \Delta \underline{x}_{i+1} = -\underline{f}_i \tag{1}$$

The nomenclature is a result of the following:

```
\nomenclature[AJ]{$J$}{Jacobian Matrix}{}{}%
\nomenclature[Zi]{$i$}{Variable number}{}{}%
\nomenclature[Ax]{$\Delta x$}{Variable displacement vector}{}{}%
\nomenclature[Af]{$f$}{Residual value vector}{}{}%
\nomenclature[Ax]{$x$}{Variable value vector}{}{}%
```

Some symbols with units:

$$F = m\alpha \tag{2}$$

```
\nomenclature[AF]{$F$}{Force}{N}{ML/T$^2$}%
\nomenclature[Am]{$m$}{mass}{kg}{M}%
\nomenclature[Ga]{$\alpha$}{acceleration}{m/s$^2$}{L/T$^2$}%
```

The nomenclature is typeset in a `section*` by using the `\printnomenclature` command. In this example it gives the following result nomenclature.

# Nomenclature

## Latin Letters

| | | | |
|---|---|---|---|
| $F$ | Force | N | $\mathrm{ML/T^2}$ |
| $f$ | Residual value vector | | |
| $J$ | Jacobian Matrix | | |
| $m$ | mass | kg | M |
| $\Delta x$ | Variable displacement vector | | |

$x$ Variable value vector

Greek Letters

$\alpha$ acceleration $\mathrm{m/s^2}$ $\mathrm{L/T^2}$

Subscripts

$i$ Variable number

# 5 The \nomenclature command

`\nomenclature` To use the `\nomenclature` command

```
\nomenclature[<prefix>]{<symbol>}{<description>}{<units>}{<dimension>}
```

The `<symbol>` is the symbol entry to the nomenclature table. Do not forget to use the math environment (`$ $`) if it is a mathematical symbol. The `<description>` is the description of the symbol. The `<units>` are the physical (SI) units of the symbol. The `<dimension>` may be used to give the dimension of the used symbol, but other uses may be found.

The `<prefix>` is made of two characters, as outlined in Section 4. The second character acts as a sorting identifier, for example, a–z. The first character can be:

- 'A' so that the symbol is classified as a Latin letter.
- 'G' so that the symbol is classified as a Greek letter.
- 'X' so that the symbol is classified as a superscript.
- 'Z' so that the symbol is classified as a subscript.

# 6 Acknowledgements

Nomentbl is only a customized version of the nomencl by Boris Veytsman and Bernd Schandl.

The package files `nomentbl.ins` and `nomentbl.dtx` are based on `skeleton.ins` and `skeleton.dtx` in the dtxtut package by Scott Pakin.

Additions and corrections to the package (especially for updating it to version 4.2 of nomencl) have been provided by: Stefan Pinnow (SP), Patrick Egan (PE), Rasmus Solmer Eriksen (RSE), Andrea Kern, Christian Faulhammer (CF)

# 7 To do

Ideas for future development:

- Option for underlining group header lines
- Make the dimension column optional
- Possibility for user-defined symbol groups
- Translation of symbol group names

# 8 Implementation

```
⟨*package⟩
% Additions and corrections to the package (especially for updating
% it to version 4.2 of nomencl) have been provided by:
% Stefan Pinnow (SP)
% Patrick Egan (PE)
% Rasmus Solmer Eriksen (RSE)
% Andrea Kern
% Christian Faulhammer (CF)
%
\def\docdate{2006/04/14}
%SP
```

`\intoc` Option to specify if the nomenclature should be shown in the table of contents.

```
\newif\if@intoc

\RequirePackage{longtable}
%SP
\RequirePackageWithOptions{nomencl}[2005/09/22 v4.2 Nomenclature package (LN)]
\RequirePackage{ifthen}
\RequirePackage{calc}
%SP
\RequirePackage{array}
%SP
\DeclareOption{intoc}{\@intoctrue}
\DeclareOption{notintoc}{\@intocfalse}
%
\DeclareOption*{%
\PassOptionsToPackage{\CurrentOption}{nomencl}%
}
%
 \DeclareOption{croatian}{%
   \def\eqdeclaration#1{jednad\v{z}bu\nobreakspace(#1)}%
   \def\pagedeclaration#1{\hspace*{2mm}stranica\nobreakspace#1}%
%SP
   \def\nomname{Popis simbola}%
   \def\nomAname{Latin Letters}%
   \def\nomGname{Greek Letters}%
   \def\nomXname{Superscripts}%
   \def\nomZname{Subscripts}}
```

```
 \DeclareOption{danish}{%
   \def\eqdeclaration#1{ligning\nobreakspace(#1)}%
   \def\pagedeclaration#1{\hspace*{2mm}side\nobreakspace#1}%
%SP
   \def\nomname{Symbolliste}%
   \def\nomAname{Romerske bogstaver}%
   \def\nomGname{Grske bogstaver}%
   \def\nomXname{(Hjtstillede) indices}%
   \def\nomZname{Indices}}
 \DeclareOption{english}{%
   \def\eqdeclaration#1{equation\nobreakspace(#1)}%
   \def\pagedeclaration#1{\hspace*{2mm}page\nobreakspace#1}%
%SP
   \def\nomname{Nomenclature}%
   \def\nomAname{Latin Letters}%
   \def\nomGname{Greek Letters}%
   \def\nomXname{Superscripts}%
   \def\nomZname{Subscripts}}
 \DeclareOption{french}{%
   \def\eqdeclaration#1{\'equation\nobreakspace(#1)}%
   \def\pagedeclaration#1{\hspace*{2mm}page\nobreakspace#1}%
%SP
   \def\nomname{Liste des symboles}%
   \def\nomAname{Latin Letters}%
   \def\nomGname{Greek Letters}%
   \def\nomXname{Superscripts}%
   \def\nomZname{Subscripts}}
\DeclareOption{german}{%
   \def\eqdeclaration#1{Gleichung\nobreakspace(#1)}%
   \def\pagedeclaration#1{\hspace*{2mm}Seite\nobreakspace#1}%
%SP
%CF
   \def\nomname{Symbolverzeichnis}%
   \def\nomAname{Lateinische Buchstaben}%
   \def\nomGname{Griechische Buchstaben}%
   \def\nomXname{(hochgestellte) Indizes}%
   \def\nomZname{Indizes}}
 \DeclareOption{italian}{%
   \def\eqdeclaration#1{equazione\nobreakspace(#1)}%
   \def\pagedeclaration#1{\hspace*{2mm}pagina\nobreakspace#1}%
%SP
   \def\nomname{Elenco dei Simboli}%
   \def\nomAname{Latin Letters}%
   \def\nomGname{Greek Letters}%
   \def\nomXname{Superscripts}%
   \def\nomZname{Subscripts}}
 \DeclareOption{polish}{%
   \def\eqdeclaration#1{rownanie\nobreakspace(#1)}%
   \def\pagedeclaration#1{\hspace*{2mm}strona\nobreakspace#1}%
%SP
```

```
   \def\nomname{Lista symboli}%
   \def\nomAname{Latin Letters}%
   \def\nomGname{Greek Letters}%
   \def\nomXname{Superscripts}%
   \def\nomZname{Subscripts}}
 \DeclareOption{portuguese}{%
   \def\eqdeclaration#1{equa\c{c}\~ao\nobreakspace(#1)}%
   \def\pagedeclaration#1{\hspace*{2mm}p\'agina\nobreakspace#1}%
%SP
   \def\nomname{Nomenclatura}%
   \def\nomAname{Latin Letters}%
   \def\nomGname{Greek Letters}%
   \def\nomXname{Superscripts}%
   \def\nomZname{Subscripts}}
 \DeclareOption{russian}{%
   \def\eqdeclaration#1{\cyrs\cyrm.\nobreakspace(#1)}%
   \def\pagedeclaration#1{\hspace*{2mm}\cyrs\cyrt\cyrr.\nobreakspace#1}%
   \def\nomname{\CYRS\cyrp\cyri\cyrs\cyro\cyrk%
     \ \cyro\cyrb\cyro\cyrz\cyrn\cyra\cyrch\cyre\cyrn\cyri%
     \cyrishrt}%
%SP
   \def\nomAname{Latin Letters}%
   \def\nomGname{Greek Letters}%
   \def\nomXname{Superscripts}%
   \def\nomZname{Subscripts}}
\DeclareOption{spanish}{%
   \def\eqdeclaration#1{ecuaci\'on\nobreakspace(#1)}%
   \def\pagedeclaration#1{\hspace*{2mm}p\'agina\nobreakspace#1}%
%SP
   \def\nomname{Nomenclatura}%
   \def\nomAname{Latin Letters}%
   \def\nomGname{Greek Letters}%
   \def\nomXname{Superscripts}%
   \def\nomZname{Subscripts}}
 \DeclareOption{ukrainian}{%
   \def\eqdeclaration#1{\cyrd\cyri\cyrv.\nobreakspace(#1)}%
   \def\pagedeclaration#1{\hspace*{2mm}\cyrs\cyrt\cyro\cyrr.\nobreakspace#1}%
   \def\nomname{\CYRP\cyre\cyrr\cyre\cyrl\cyrii\cyrk%
          \ \cyrp\cyro\cyrz\cyrn\cyra\cyrch\cyre\cyrn\cyrsftsn}%
%SP
   \def\nomAname{Latin Letters}%
   \def\nomGname{Greek Letters}%
   \def\nomXname{Superscripts}%
   \def\nomZname{Subscripts}}
\ExecuteOptions{notintoc,norefeq,norefpage,prefix,cfg,english}
\ProcessOptions\relax
%
%SP
```

\nomenclature This is the actual command provided by the package.

```
\def\@@nomenclature[#1]#2#3#4#5{\endgroup\@esphack}
\def\@@@nomenclature[#1]#2#3#4#5{%
 \def\@tempa{#2}\def\@tempb{#3}%

%SP
%PE
 \protected@write\@nomenclaturefile{}%
  {\string\nomenclatureentry{#1\nom@verb\@tempa @{\nom@verb\@tempa}&%
      \begingroup\nom@verb\@tempb\endgroup &\begingroup#4\endgroup&%
      \begingroup#5\endgroup&\begingroup\protect\nomeqref{\theequation}%
        |nompageref}{\thepage}}%
 \endgroup
 \@esphack}
%
%SP
%PE
%RSE


\def\thenomenclature{%
  \@ifundefined{chapter}%
  {
    \section*{\nomname}
    \if@intoc\addcontentsline{toc}{section}{\nomname}\fi%
  }%
  {
    \chapter*{\nomname}
    \if@intoc\addcontentsline{toc}{chapter}{\nomname}\fi%
  }%
%  \@ifundefined{chapter}{\section*}{\chapter*}{\nomname}%
  \markboth{\nomname}{\nomname}
  \nompreamble
}

\def\endthenomenclature{%
  \endlist
  \nompostamble}

\renewcommand\nomgroup[1]{%
%SP
    \ifthenelse{\equal{#1}{A}}{%
      \large{\nomAname}}{%
      \ifthenelse{\equal{#1}{G}}{%
        \large{\nomGname}}{%
        \ifthenelse{\equal{#1}{X}}{%
          \large{\nomXname}}{%
          \ifthenelse{\equal{#1}{Z}}{%
            \large{\nomZname}}{%
            {}}}}}
```

⟨/package⟩

## 8.1 The *MakeIndex* Style File

⟨*idxstyle⟩
```
%    Nomenclature style file for makeindex. Based on the file
%SP
%    nomencl.ist distributed with the LaTeX package nomencl version v4.2 2005/09/22
%
%
%    Written by Brian Elmegaard be@mek.dtu.dk
%    (Original file by Boris Veytsman)
%SP
%    Updated by Stefan Pinnow 27 March 2006.
%PE
%    Updated by Patrick Egan 02 March 2006.

%
%    The output has been changed to a (LaTeX-style) longtable to have four
%    columns.
%
actual '@'
quote '%'
delim_0   ""
delim_1   ""
delim_2   ""
item_0    ""
delim_t   " \\\\\n"
line_max  1000
heading_prefix   "\\multicolumn{3}{l}{\\nomgroup{"
heading_suffix   "}} \\\\\n\\nopagebreak\\\\*[\\parskip]\n\\nopagebreak{}"
headings_flag       1
group_skip        "\\\\*[\\parskip]"
%SP
%PE
preamble "\n\\begin{thenomenclature}\n%
\\begin{longtable}[l]%
{cp{\\textwidth*\\real{0.5}}c!{\\extracolsep{\\fill}}lll}\n"
postamble "\n\\end{longtable}\n\n\\end{thenomenclature}\n"
%SP
%PE
keyword "\\nomenclatureentry"
%
```
⟨/idxstyle⟩

⟨*example⟩
```
% Example provided by Stefan Pinnow (SP)
\documentclass{article}
\usepackage[notintoc]{nomentbl}
\usepackage{setspace}
```

```
    \makenomenclature
%
\begin{document}
%
\section*{Main equations}
%
Here an equation
    \begin{equation}\label{eq:heatflux}
        \dot{Q} = k \cdot A \cdot \Delta T
    \end{equation}%
    \nomenclature[aQ]{$\dot{Q}$}{heat flux}{W}{}%
    \nomenclature[ak]{$k$}{overall heat transfer coefficient}{$\frac{\mathrm{W}}{\mathrm{m}^
    \nomenclature[aA]{$A$}{area}{m$^2$}{$L^2$}%
    \nomenclature[aL]{$L$}{length}{m}{SI base quantity}%
    \nomenclature[aT]{$T$}{temperature}{K}{SI base quantity}%
    \nomenclature[aT]{$\Delta T$}{temperature difference}{K}{SI base quantity}%
%
or another one
    \begin{equation}\label{eq:ohtc}
        \frac{1}{k} = \left[\frac{1}{\alpha _{\mathrm{i}}\,r_{\mathrm{i}}} +
        \sum^n_{j=1}\frac{1}{\lambda _j}\,
        \ln \frac{r_{\mathrm{a},j}}{r_{\mathrm{i},j}} +
        \frac{1}{\alpha _{\mathrm{a}}\,
          r_{\mathrm{a}}}\right] \cdot r_{\mathrm{reference}}
    \end{equation}%
    \nomenclature[ga]{$\alpha$}{convection heat transfer coefficient}{$\frac{\mathrm{W}}{\ma
    \nomenclature[zi]{i}{in}{}{}%
    \nomenclature[gl]{$\lambda$}{thermal conductivity}{$\frac{\mathrm{W}}{\mathrm{m K}}$}{}%
    \nomenclature[za]{a}{out}{}{}%
    \nomenclature[zn]{$n$}{number of walls}{}{}%
    \nomenclature[zj]{$j$}{running parameter}{}{}%
%
That should do it.
%
\onehalfspacing
\printnomenclature
%
\end{document}
```

⟨/example⟩

# Change History

# 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.