

The `nomentbl` package*

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Updated by Patrick Egan, March 2006.

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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 `nomenc1` package that presents the nomenclature in a table of the `longtable`-type.

With the most recent update¹ to the `nomenc1` 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 `nomenc1` version.

This document gives a very limited yet sufficient introduction to the use of `longtable` together with the `nomenc1` package for writing nomenclatures.

2 Prerequisite

The `nomentbl` package requires both `nomenc1` 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 `nomenc1` 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.

¹September 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:

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

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:

$$F = m\alpha \quad (2)$$

```
\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	ML/T ²
f	Residual value vector		
J	Jacobian Matrix		
m	mass	kg	M
Δx	Variable displacement vector		

x Variable value vector

Greek Letters

α acceleration m/s^2 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

```
1 <*package>
2 % Additions and corrections to the package (especially for updating
3 % it to version 4.2 of nomencl) have been provided by:
4 % Stefan Pinnow (SP)
5 % Patrick Egan (PE)
6 % Rasmus Solmer Eriksen (RSE)
7 % Andrea Kern
8 % Christian Faulhammer (CF)
9 %
10 \def\docdate{2006/04/14}
11 %SP

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

13 \RequirePackage{longtable}
14 %SP
15 \RequirePackageWithOptions{nomencl}[2005/09/22 v4.2 Nomenclature package (LN)]
16 \RequirePackage{ifthen}
17 \RequirePackage{calc}
18 %SP
19 \RequirePackage{array}
20 %SP
21 \DeclareOption{intoc}{\@intoctrue}
22 \DeclareOption{notintoc}{\@intocfalse}
23 %
24 \DeclareOption*{%
25 \PassOptionsToPackage{\CurrentOption}{nomencl}}%
26 }
27 %
28 \DeclareOption{croatian}{%
29 \def\eqdeclaration#1{jednad\v{z}bu\nobreakspace(#1)}%
30 \def\pagedeclaration#1{\hspace*{2mm}stranica\nobreakspace#1}%
31 %SP
32 \def\nomname{Popis simbola}%
33 \def\nomAname{Latin Letters}%
34 \def\nomGname{Greek Letters}%
35 \def\nomXname{Superscripts}%
36 \def\nomZname{Subscripts}}
```

```

37 \DeclareOption{danish}{%
38   \def\eqdeclaration#1{\ligning\nobreakspace(#1)}%
39   \def\pagedeclaration#1{\hspace*{2mm}side\nobreakspace#1}%
40 %SP
41   \def\nomname{Symbolliste}%
42   \def\nomAname{Romerske bogstaver}%
43   \def\nomGname{Grske bogstaver}%
44   \def\nomXname{(Hjtstillede) indices}%
45   \def\nomZname{Indices}}
46 \DeclareOption{english}{%
47   \def\eqdeclaration#1{equation\nobreakspace(#1)}%
48   \def\pagedeclaration#1{\hspace*{2mm}page\nobreakspace#1}%
49 %SP
50   \def\nomname{Nomenclature}%
51   \def\nomAname{Latin Letters}%
52   \def\nomGname{Greek Letters}%
53   \def\nomXname{Superscripts}%
54   \def\nomZname{Subscripts}}
55 \DeclareOption{french}{%
56   \def\eqdeclaration#1{\'equation\nobreakspace(#1)}%
57   \def\pagedeclaration#1{\hspace*{2mm}page\nobreakspace#1}%
58 %SP
59   \def\nomname{Liste des symboles}%
60   \def\nomAname{Latin Letters}%
61   \def\nomGname{Greek Letters}%
62   \def\nomXname{Superscripts}%
63   \def\nomZname{Subscripts}}
64 \DeclareOption{german}{%
65   \def\eqdeclaration#1{Gleichung\nobreakspace(#1)}%
66   \def\pagedeclaration#1{\hspace*{2mm}Seite\nobreakspace#1}%
67 %SP
68 %CF
69   \def\nomname{Symbolverzeichnis}%
70   \def\nomAname{Lateinische Buchstaben}%
71   \def\nomGname{Griechische Buchstaben}%
72   \def\nomXname{(hochgestellte) Indizes}%
73   \def\nomZname{Indizes}}
74 \DeclareOption{italian}{%
75   \def\eqdeclaration#1{equazione\nobreakspace(#1)}%
76   \def\pagedeclaration#1{\hspace*{2mm}pagina\nobreakspace#1}%
77 %SP
78   \def\nomname{Elenco dei Simboli}%
79   \def\nomAname{Latin Letters}%
80   \def\nomGname{Greek Letters}%
81   \def\nomXname{Superscripts}%
82   \def\nomZname{Subscripts}}
83 \DeclareOption{polish}{%
84   \def\eqdeclaration#1{rownanie\nobreakspace(#1)}%
85   \def\pagedeclaration#1{\hspace*{2mm}strona\nobreakspace#1}%
86 %SP

```

```

87 \def\nomname{Lista symboli}%
88 \def\nomAname{Latin Letters}%
89 \def\nomGname{Greek Letters}%
90 \def\nomXname{Superscripts}%
91 \def\nomZname{Subscripts}}
92 \DeclareOption{portuguese}{%
93 \def\eqdeclaration#1{equa\c{c}\~ao\nobreakspace(#1)}%
94 \def\pagedeclaration#1{\hspace*{2mm}p\'agina\nobreakspace#1}%
95 %SP
96 \def\nomname{Nomenclatura}%
97 \def\nomAname{Latin Letters}%
98 \def\nomGname{Greek Letters}%
99 \def\nomXname{Superscripts}%
100 \def\nomZname{Subscripts}}
101 \DeclareOption{russian}{%
102 \def\eqdeclaration#1{\cyr\cyrm.\nobreakspace(#1)}%
103 \def\pagedeclaration#1{\hspace*{2mm}\cyr\cyrt\cyrr.\nobreakspace#1}%
104 \def\nomname{\CYRS\cyrp\cyri\cyr\cyro\cyrk%
105 \ \cyro\cyrb\cyro\cyrz\cyrn\cyra\cyrch\cyre\cyrn\cyri%
106 \cyrishrt}%
107 %SP
108 \def\nomAname{Latin Letters}%
109 \def\nomGname{Greek Letters}%
110 \def\nomXname{Superscripts}%
111 \def\nomZname{Subscripts}}
112 \DeclareOption{spanish}{%
113 \def\eqdeclaration#1{ecuaci\'on\nobreakspace(#1)}%
114 \def\pagedeclaration#1{\hspace*{2mm}p\'agina\nobreakspace#1}%
115 %SP
116 \def\nomname{Nomenclatura}%
117 \def\nomAname{Latin Letters}%
118 \def\nomGname{Greek Letters}%
119 \def\nomXname{Superscripts}%
120 \def\nomZname{Subscripts}}
121 \DeclareOption{ukrainian}{%
122 \def\eqdeclaration#1{\cyrd\cyri\cyrv.\nobreakspace(#1)}%
123 \def\pagedeclaration#1{\hspace*{2mm}\cyr\cyrt\cyro\cyrr.\nobreakspace#1}%
124 \def\nomname{\CYRP\cyre\cyrr\cyre\cyrl\cyrii\cyrk%
125 \ \cyrp\cyro\cyrz\cyrn\cyra\cyrch\cyre\cyrn\cyrsfts}%
126 %SP
127 \def\nomAname{Latin Letters}%
128 \def\nomGname{Greek Letters}%
129 \def\nomXname{Superscripts}%
130 \def\nomZname{Subscripts}}
131 \ExecuteOptions{notintoc,norefeq,norefpage,prefix,cfg,english}
132 \ProcessOptions\relax
133 %
134 %SP

```

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

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

138 %SP
139 %PE
140 \protected@write\@nomenclaturefile{%
141 {\string\nomenclatureentry{#1\nom@verb\@tempa @{\nom@verb\@tempa}&%
142 \begingroup\nom@verb\@tempb\endgroup &\begingroup#4\endgroup&%
143 \begingroup#5\endgroup&\begingroup\protect\nomeqref{\theequation}%
144 |nompageref}{\thepage}}%
145 \endgroup
146 \@esphack}
147 %
148 %SP
149 %PE
150 %RSE
151
152
153 \def\thenomenclature{%
154 \@ifundefined{chapter}%
155 {
156 \section*{\nomname}
157 \if@intoc\addcontentsline{toc}{section}{\nomname}\fi%
158 }%
159 {
160 \chapter*{\nomname}
161 \if@intoc\addcontentsline{toc}{chapter}{\nomname}\fi%
162 }%
163 % \@ifundefined{chapter}{\section*}{\chapter*}{\nomname}%
164 \markboth{\nomname}{\nomname}
165 \nompreamble
166 }
167
168 \def\endthenomenclature{%
169 \endlist
170 \nompostamble}
171
172 \renewcommand\nomgroup[1]{%
173 %SP
174 \ifthenelse{\equal{#1}{A}}{%
175 \large{\nomAname}}{%
176 \ifthenelse{\equal{#1}{G}}{%
177 \large{\nomGname}}{%
178 \ifthenelse{\equal{#1}{X}}{%
179 \large{\nomXname}}{%
180 \ifthenelse{\equal{#1}{Z}}{%
181 \large{\nomZname}}{%
182 {}}}}}}
```

183 \langle /package \rangle

8.1 The *MakeIndex* Style File

```
184  $\langle$ *idxstyle $\rangle$ 
185 % Nomenclature style file for makeindex. Based on the file
186 %SP
187 % nomencl.ist distributed with the LaTeX package nomencl version v4.2 2005/09/22
188 %
189 %
190 % Written by Brian Elmegaard be@mek.dtu.dk
191 % (Original file by Boris Veytsman)
192 %SP
193 % Updated by Stefan Pinnow 27 March 2006.
194 %PE
195 % Updated by Patrick Egan 02 March 2006.
196
197 %
198 % The output has been changed to a (LaTeX-style) longtable to have four
199 % columns.
200 %
201 actual '@'
202 quote '%'
203 delim_0 ""
204 delim_1 ""
205 delim_2 ""
206 item_0 ""
207 delim_t " \\\n"
208 line_max 1000
209 heading_prefix "\\multicolumn{3}{l}{\\nomgroup{"
210 heading_suffix "}} \\\n\\nopagebreak\\\\"*{\\parskip}\\n\\nopagebreak{"
211 headings_flag 1
212 group_skip "\\\\"*{\\parskip}"
213 %SP
214 %PE
215 preamble "\n\\begin{thenomenclature}\\n%
216 \\begin{longtable}[l]%
217 {cp{\\textwidth*\\real{0.5}}c!{\\extracolsep{\\fill}}lll}\\n"
218 postamble "\n\\end{longtable}\\n\\n\\end{thenomenclature}\\n"
219 %SP
220 %PE
221 keyword "\\nomenclatureentry"
222 %
223  $\langle$ /idxstyle $\rangle$ 
224  $\langle$ *example $\rangle$ 
225 % Example provided by Stefan Pinnow (SP)
226 \\documentclass{article}
227 \\usepackage[notintoc]{nomentbl}
228 \\usepackage{setspace}
```

```

229 \makenomenclature
230 %
231 \begin{document}
232 %
233 \section*{Main equations}
234 %
235 Here an equation
236 \begin{equation}\label{eq:heatflux}
237 \dot{Q} = k \cdot A \cdot \Delta T
238 \end{equation}%
239 \nomenclature[aQ]{$\dot{Q}$}{heat flux}{W}{}%
240 \nomenclature[ak]{$k$}{overall heat transfer coefficient}{$\frac{\mathrm{W}}{\mathrm{m}^2}$}{}%
241 \nomenclature[aA]{$A$}{area}{m$^2$}{L$^2$}%
242 \nomenclature[aL]{$L$}{length}{m}{SI base quantity}%
243 \nomenclature[aT]{$T$}{temperature}{K}{SI base quantity}%
244 \nomenclature[aT]{$\Delta T$}{temperature difference}{K}{SI base quantity}%
245 %
246 or another one
247 \begin{equation}\label{eq:ohc}
248 \frac{1}{k} = \left[ \frac{1}{\alpha_{\mathrm{i}} \cdot r_{\mathrm{i}}} + \right.
249 \sum_{j=1}^n \frac{1}{\lambda_j} \cdot \ln \frac{r_{\mathrm{a},j}}{r_{\mathrm{i},j}} +
250 \left. \frac{1}{\alpha_{\mathrm{a}} \cdot r_{\mathrm{a}}} \right] \cdot r_{\mathrm{reference}}
251 \end{equation}%
252 \nomenclature[ga]{$\alpha$}{convection heat transfer coefficient}{$\frac{\mathrm{W}}{\mathrm{m}^2 \cdot \mathrm{K}}$}{}%
253 \nomenclature[zi]{i}{in}{}{}%
254 \nomenclature[gl]{$\lambda$}{thermal conductivity}{$\frac{\mathrm{W}}{\mathrm{m} \cdot \mathrm{K}}$}{}%
255 \nomenclature[za]{a}{out}{}{}%
256 \nomenclature[zn]{$n$}{number of walls}{}{}%
257 \nomenclature[zj]{$j$}{running parameter}{}{}%
258 %
259 That should do it.
260 %
261 \onehalfspacing
262 \printnomenclature
263 %
264 \end{document}
265 %
266 \end{example}

```

Change History

v0.3	array package	3
General: Initial version more or less	Updating to version 4.2 of	
. 1, 3	nomencl	3
v0.4	Version updated for nomencl 4.2	
General: Adding intoc option (SP)	with a few additions to func-	3
Improving the table by use of the	tionality	1

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