

# nomencl: A Package to Create a Nomenclature

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# 1 Introduction

How often did you try to understand a theorem in a book, but just couldn't figure out what all those strange symbols were all about? The `nomenc` package should help authors format a nomenclature. It uses the powerful capabilities of the *MakeIndex* program to generate such a list automatically using information provided by the author throughout the text.

## 1.1 History

This package was written by Boris Veytsman for his paper in AiCHE in 1996. It was improved by Bernd Schandl, Lee Netherton, CV Radhakrishnan, and Brian Elmegaard up to 2006. In 2006 a version of `nomenc` for table-like nomenclature lists was released by Brian Elmegaard as `nomentbl`.

In 2018 Boris Veytsman took over the package, and merged the `nomentbl` fork back. He also changed some code, trying to keep the compatibility with the older `nomenc` and `nomentbl`.

## 1.2 Important Notes for Users of Previous Versions

An update to the `nomenc` package has included some major changes to some of the commands. In particular, the `\makeglossary` and `\printglossary` commands have now been renamed to `\makenomenclature` and `\printnomenclature` respectively. The reason for this change is to increase the package's compatibility with other *MakeIndex* using packages. With this increased compatibility, users will be able to have nomenclatures, glossaries and indexes all in one document.

There is a compatibility option that will allow you to still use your `\makeglossary` and `\printglossary` commands (see section 2.3), but it is advised that you change your `\...glossary` commands to the new `\...nomenclature` commands in your  $\text{\LaTeX}$  files. For more information on the compatibility mode see section 2.10.

# 2 Usage

## 2.1 The Basics

The creation of the nomenclature list is very similar to the creation of an index [6, App. A]. You need to:

- Put `\usepackage[<options>]{nomenc1}` in the preamble of your document.
- `\makenomenclature` • Put `\makenomenclature` in the preamble of your document.
- `\nomenclature` • Issue the `\nomenclature` command (see Section 2.2) for each symbol you want to have included in the nomenclature list. The best place for this command is immediately after you introduce the symbol for the first time.
- `\printnomenclature` • Put `\printnomenclature` at the place you want to have your nomenclature list.

Now put your file through  $\text{\LaTeX}$ . The command `\makenomenclature` will instruct  $\text{\LaTeX}$  to open the nomenclature file `<filename>.nlo` corresponding to your  $\text{\LaTeX}$  file `<filename>.tex` and to write the information from your `\nomenclature` commands to this file.

The next step is to invoke *MakeIndex*. You should instruct *MakeIndex* to use `<filename>.nlo` as your input file, use `nomenc1.ist` as your style file and write output to the file `<filename>.nls`. How to do this depends on your implementation of *MakeIndex*. For most UNIX implementations you should write something like

```
makeindex <filename>.nlo -s nomenc1.ist -o <filename>.nls
```

Now you have the file `<filename>.nls` that contains your nomenclature list properly ordered. The last step is to invoke  $\text{\LaTeX}$  on your master file `<filename>.tex` once more. It will input your `.nls` file and process it accordingly to the current options. That's all!

## 2.2 The Main Command

`\nomenclature` The main command of the `nomenc1` package has the following syntax:

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

where `<prefix>` is used for fine tuning the sort order, `<symbol>` is the symbol you want to describe and `<description>` is the actual description. The sortkey will be `<prefix><symbol>`, where `<prefix>` is either the one from the optional argument or, if no optional argument was given, the default `<prefix>` which may be empty. See Section 2.5 to make sense of this.

Put this command immediately after the equation or text that introduces `<symbol>`. Usually it is a good idea to avoid a space or an unquoted

```

1 \(*sample01.tex)
2 \documentclass{article}
3 \usepackage[nocfg]{nomencl}
4 \makenomenclature
5 \begin{document}
6 \section*{Main equations}
7 \begin{equation}
8   a=\frac{N}{A}
9 \end{equation}%
10 \nomenclature{$a$}{The number of angels per unit area\nomrefeq}%
11 \nomenclature{$N$}{The number of angels per needle point\nomrefpage}%
12 \nomenclature{$A$}{The area of the needle point}%
13 The equation  $\sigma = m a$ 
14 \nomenclature{$\sigma$}{The total mass of angels per unit area\nomrefeqpage}%
15 \nomenclature{$m$}{The mass of one angel}
16 follows easily.
17 \eqdeclaration{32}
18 \printnomenclature
19 \end{document}
20 \(/sample01.tex)

```

Figure 1: Input for the simple example

newline just in front of the `\nomenclature` command. Put a `%` at the end of the preceding line if necessary. Don't forget to enclose math in  $\langle symbol \rangle$  in `$` signs.

Let's have a look at a simple example. If your input file looks like the one in Figure 1 then your nomenclature should look like Figure 2.

Note the necessary quoting of newlines to suppress spurious spaces.

Due to the way `\nomenclature` scans its arguments you don't need to `\protect` any macros, but you also must not have any character in front of the first or between the first and the second argument, especially no line break (even with a `%`). So

```

\nomenclature{$x$}%
  {Description}

```

does *not* work. You can have line breaks in the argument, but also no `%`.

Note that `nomentbl` option described in Section 2.7 changes the syntax of this command.

## Nomenclature

$\sigma$  The total mass of angels per unit area, see equation (1), page 1

$A$  The area of the needle point

$a$  The number of angels per unit area, see equation (1)

$m$  The mass of one angel

$N$  The number of angels per needle point, page 1

Figure 2: The typeset output for the simple example

### 2.3 Package Options

The `nomenc1` package has the following options:

**refeq** The phrase “, see equation ( $\langle eq \rangle$ )” is appended to every entry in the nomenclature where  $\langle eq \rangle$  is the number of the last equation in front of the corresponding command `\nomenc1ature`.

**norefeq** No equation reference is printed. (default)

**refpage** The phrase “, page  $\langle page \rangle$ ” is appended to every entry in the nomenclature where  $\langle page \rangle$  is the number of the page on which the corresponding command `\nomenc1ature` appeared.

**norefpage** No page reference is printed. (default)

**prefix** Every sort key is preceded by the letter “a” (changeable); see Sections 2.5 and Section 2.6 to learn why this might make sense. (default)

**noprefix** No prefix is used.

**stdsubgroups** Use standard subgroups in nomenclature, see Section 2.6.

**nostdsubgroups** Do not use standard subgroups in nomenclature, see Section 2.6 (default).

**cfg** A configuration file, by default, `nomenc1.cfg` is loaded, if it exists (default). The variant `cfg=FILENAME` uses the configuration `FILENAME` instead of `nomenc1.cfg`. This is used in the examples in the package documentation.

- nocfg** The configuration file is not loaded.
- intoc** Inserts the nomenclature in the Table of Contents.
- notintoc** No entry for the nomenclature in the Table of Contents. (default)
- tocbasic** Use *tocbasic* package from KOMA script bundle for TOC handling (default)
- notocbasic** Do not use *tocbasic* package from KOMA script. You may need this option if *tocbasic* conflicts with other packages like *pgfopts*.
- compatible** Run in compatibility mode. Older tex files may need this option selected to be able to compile. In the latest version of *nomenc* the commands `\makeglossary` and `\printglossary` were replaced with `\makenomenclature` and `\printnomenclature`. Selecting this option will redefine the old commands, but will lose the compatibility with other glossary packages.
- noncompatible** Do not run in compatibility mode. (default)
- nomentbl** Print nomenclature in the `nomentbl` style, see Section 2.7.
- nonomentbl** Do not print nomenclature in the `nomentbl` style, see Section 2.7 (default).
- croatian, danish, english, french, german, italian, norwegian-bokmaal, norwegian-nynorsk, polish, portuguese, russian, slovene, spanish, ukrainian** The reference texts and the nomenclature title will appear in the corresponding language. Note that in order to use Russian or Ukrainian, you have to have Cyrillic fonts installed and you might need a replacement for *MakeIndex*, e.g. **xindy**. Please help me out with other languages. (default: english)

## 2.4 Referencing

`\nomrefeq` As explained in Section 2.3, you can turn referencing to equations and pages on/off globally using the package options. But sometimes `\nomrefpage` you might want to change the referencing behavior for single entries. `\nomrefeqpage` The following six macros can be used inside a `\nomenclature` macro: `\nomnorefeq` `\nomrefeq`, `\nomnorefeq`, `\nomrefpage`, `\nomnorefpage`, `\nomrefeqpage`, `\nomnorefpage` `\nomnorefeqpage`. The first four work similarly to the package options,

```

\begin{equation}
  a=\frac{N}{A}
\end{equation}%
\nomenclature{$a$}{The number of angels per unit area\nomrefeqpage}%
\nomenclature{$N$}{The number of angels per needle point\nomrefeq}%
\nomenclature{$A$}{The area of the needle point\nomrefeq\nomrefpage}%
The equation  $\sigma = m a$ %
\nomenclature{$\sigma$}{The total mass of angels per unit area}%
\nomenclature{$m$}{The mass of one angel\nomrefpage}
follows easily.
\printnomenclature
\end{document}

```

Figure 3: Explicit references

## Nomenclature

- $\sigma$  The total mass of angels per unit area
- $A$  The area of the needle point, see equation (1), page 1
- $a$  The number of angels per unit area, see equation (1), page 1
- $m$  The mass of one angel, page 1
- $N$  The number of angels per needle point, see equation (1)

Figure 4: Typeset output for Figure 3

only local to the entry; the last two are shortcuts, so saying `\nomrefeqpage` is equivalent to `\nomrefeq\nomrefpage`.

If we changed the relevant parts of the last example as shown in Figure 3 then the nomenclature should look like Figure 4.

While these macros do not have to be at the end of the entries, it's probably the most sensible place to put them. Note that such local request always supersede the package options.

### 2.5 Sorting

The Greek letter  $\sigma$  turned out to be first in the nomenclature list in the examples above because the backslash in `\sigma` precedes any alphabetical character. Sometimes this is not what you want. Then you can use `\langle prefix \rangle`



to fine tune the sort order.

Before we describe the usage of  $\langle prefix \rangle$ , we have to explain how *MakeIndex* sorts entries, see [2]. *MakeIndex* distinguishes three kinds of sort keys:

**Strings** Everything that starts with a alphabetic letter (A...Z, a...z).

**Numbers** Everything that starts and only contains digits (0...9).

**Symbols** Everything else.

Each group is sorted separately (and differently), then the groups are sorted in the order symbols, numbers, strings<sup>1</sup>. For the groups the following algorithm is used:

**Strings** If two letters are compared, the usual ordering is used ( $a < C < q$ ), but if two words are the same except for the capitalization, then an upper case letter precedes the lower case letter (**Tea** < **tea**). If a letter is compared with a non-letter (digit, symbol), ASCII code is used ( $1 < A < \sim$ ).<sup>2</sup> If two non-letters are compared (which can not happen at the first position of a string), ASCII code is used ( $+ < 1 < : < \backslash$ ). Additionally there is the issue of word ordering (treat spaces as letters with ASCII code smaller than every printable symbol) and letter ordering (ignore spaces). *MakeIndex* uses word ordering by default, but you can change it with some command line option (`-1` on my UNIX).

**Numbers** The natural ordering is used ( $8 < 34 < 111$ ).

**Symbols** ASCII code is used ( $+ < 1 < : < A < \backslash < a$ ).

Let's consider the following eight nomenclature entries (without the optional argument): `$~Ab$`, `$~aa$`, `$\Ab$`, `$\aa$`, `$Ab$`, `$aa$`, `Ab`, `aa`. Try to understand the following example with the help of the explanation above and an ASCII table.

If you use `nomencl` with its default settings (i.e. "a" is added to every sort key, so every sort key is considered as a string), you will get the sort order `$\aa$`, `$\Ab$`, `$aa$`, `$Ab$`, `$~aa$`, `$~Ab$`, `aa`, `Ab`. Note that `aa` is in

---

<sup>1</sup>With the `-g` switch of *MakeIndex*, they are sorted in the order symbols, strings, numbers.

<sup>2</sup>An exception seems to be that the non-letters between upper and lower case letters (code 91–96) are put just before the capital letters (between code 64 and 65) while the non-letters after the lower case letters (code 123–127) are left there.

front of **Ab** in all four pairs; note also the order  $\$Ab$ ,  $\$Ab$ ,  $\$Ab$  which does not agree with the ASCII code.

If you specify the option `noprefix`, then you will get  $\$Ab$ ,  $\$Ab$ ,  $\$aa$ ,  $\$aa$ ,  $\$Ab$ ,  $\$aa$ , **aa**, **Ab**. The first six entries are considered as symbols and sorted according to the ASCII code (this time correctly). Note that  $\$Ab$  is in front of  $\$aa$  because **A** has the smaller ASCII code. The two strings follow at the end.

## 2.6 Subgroups

It often makes sense to separate index entries into several groups according to their meaning. The prefix parameter for the `\nomenclature` command provides a way to do it. The algorithm is:

1. Start prefixes with different letters for different subgroups.
2. Define `\nomgroup` command (see Section 2.8.1 below) to typeset group names.

One of the popular choices, suggested by Brian Elmegaard in `nomentbl` is the following (the corresponding prefixes are in bold):

- A** Latin letters
- G** Greek letters
- X** Superscripts
- Z** Subscripts

This choice is implemented in the `stsubgroups` option of the package, see Figure 5. A further customization is discussed in Section 2.8.

## 2.7 Tabular nomenclature (`nomentbl` style)

The option `nomentbl` changes the behavior of `nomenclature`.

`\nomenclature`      The command `\nomenclature` now has four, rather than two, mandatory arguments:

`\nomenclature` [*prefix*] {*symbol*} {*description*} {*units*} {*note*}

Here [*prefix*], {*symbol*}, and {*description*} have the same meaning as for the usual `\nomenclature` command. The additional arguments are {*units*}, which is internally enclosed in the `\si` command from `siunitx` package, and *note*, which is an arbitrary note added to the description.

`\setnomtableformat`      The list is wrapped in a `longtable` with the default format

```

21 \langle *sample02.tex\rangle
22 % Example provided by Stefan Pinnow (SP)
23 \documentclass{article}
24 \usepackage[stdsubgroups,nocfg]{nomencl}
25 \usepackage{setspace}
26 \makenomenclature
27 \begin{document}
28 \section*{Main equations}
29 Here an equation
30 \begin{equation}\label{eq:heatflux}
31 \dot{Q} = k \cdot A \cdot \Delta T
32 \end{equation}%
33 \nomenclature[aQ]{\dot{Q}}{heat flux}%
34 \nomenclature[ak]{k}{overall heat transfer
35 coefficient}%
36 \nomenclature[aA]{A}{area}%
37 \nomenclature[aL]{L}{length}%
38 \nomenclature[aT]{T}{temperature}%
39 \nomenclature[aT]{\Delta T}{temperature difference}%
40 or another one
41 \begin{equation}\label{eq:ohc}
42 \frac{1}{k} = \left[ \frac{1}{\alpha_{\mathrm{i}}}, r_{\mathrm{i}} \right] +
43 \sum_{j=1}^n \frac{1}{\lambda_j} \ln \frac{r_{\mathrm{a},j}}{r_{\mathrm{i},j}} +
44 \frac{1}{\alpha_{\mathrm{a}}},
45 r_{\mathrm{a}} \right] \cdot r_{\mathrm{reference}}
46 \end{equation}%
47 \nomenclature[ga]{\alpha}{convection heat transfer coefficient}%
48 \nomenclature[zi]{i}{in}%
49 \nomenclature[gl]{\lambda}{thermal conductivity}%
50 \nomenclature[za]{a}{out}%
51 \nomenclature[zn]{n}{number of walls}%
52 \nomenclature[zj]{j}{running parameter}%
53 \nomenclature[zj]{j}{running parameter}%
54 \onehalfspacing
55 \printnomenclature
56 \end{document}
57 \langle /sample02.tex\rangle

```

Figure 5: The stdsubgroups option

`lp{0.4\textwidth}sp{0.3\textwidth}@{}l`

The command `\setnomtableformat{format}` can be used to change it, for example,

```
\setnomtableformat{lllll}
```

Note that the table has five columns: symbol, description, units, note, and reference. If you do not use references, you may suppress the last column using `@{}l` declaration. The `s` column is used for units in the `siunitx` format.

Figure 6 provides an example of this option.

## 2.8 Customization

Besides the things you can customize by using the package options, there are a few more commands that you might want to redefine. If you make the same changes in every file, it's probably easier to put all those in a file `nomenc1.cfg` which is automatically read by the `nomenc1` package whenever it exists in the search path (unless you specified the `nocfg` option). You can experiment with loading alternative configuration files using `cfg=FILENAME` version of this option.

### 2.8.1 Formatting the Nomenclature

`\printnomenclature` Probably the most common change to the nomenclature is a different amount of space for the symbols. By default, the nomenclature is formatted as a list with the label width equal to `\nomlabelwidth` which is initialized to 1 cm. You can change this dimension in the `cfg` file or you can use the optional argument of `\printnomenclature`. If you want to have a little more space for the labels (and you don't live in a metric world) you can use `\printnomenclature[0.5in]` instead of the simple `\printnomenclature`.

`thenomenclature` If you don't like the format of the nomenclature at all, you will have to redefine the `thenomenclature` environment. Maybe a look at the documented code of `nomenc1` will help.

`\nomname` In case you don't like the name of the nomenclature, just redefine the `\nomname` macro, e.g.

```
\renewcommand{\nomname}{List of Symbols}
```

Putting an entry for the nomenclature in the table of contents can be done by adding an `intoc` to the package options.

```

58 \langle *sample03.tex\rangle
59 % Example provided by Stefan Pinnow (SP)
60 \documentclass{article}
61 \usepackage[nomentbl, stdsubgroups]{nomencl}
62 \usepackage{setspace}
63 \makenomenclature
64 \begin{document}
65 \section*{Main equations}
66 %
67 Here an equation
68 \begin{equation}\label{eq:heatflux}
69 \dot{Q} = k \cdot A \cdot \Delta T
70 \end{equation}%
71 \nomenclature[aQ]{\dot{Q}}{heat flux}{W}{}%
72 \nomenclature[ak]{k}{overall heat transfer
73 coefficient}{\watt\per(\square\meter\kelvin)}{see
74 eq.~(\ref{eq:ohtc})}%
75 \nomenclature[aA]{A}{area}{\square\meter}{}%
76 \nomenclature[aL]{L}{length}{\meter}{SI base quantity}%
77 \nomenclature[aT]{T}{temperature}{\kelvin}{SI base quantity}%
78 \nomenclature[aT]{\Delta T}{temperature difference}{\kelvin}{SI base quantity}%
79 or another one
80 \begin{equation}\label{eq:ohtc}
81 \frac{1}{k} = \left[ \frac{1}{\alpha_{\mathrm{i}}}, r_{\mathrm{i}} +
82 \sum_{j=1}^n \frac{1}{\lambda_j},
83 \ln \frac{r_{\mathrm{a},j}}{r_{\mathrm{i},j}} +
84 \frac{1}{\alpha_{\mathrm{a}}},
85 r_{\mathrm{a}} \right] \cdot r_{\mathrm{reference}}
86 \end{equation}%
87 \nomenclature[ga]{\alpha}{convection heat transfer
88 coefficient}{\watt\per(\square\meter\kelvin)}{}%
89 \nomenclature[zi]{i}{in}{}%
90 \nomenclature[gl]{\lambda}{thermal conductivity}{\watt\per\kelvin}{}%
91 \nomenclature[za]{a}{out}{}%
92 \nomenclature[zn]{n}{number of walls}{}%
93 \nomenclature[zj]{j}{running parameter}{}%
94
95 \onehalfspacing
96 \printnomenclature
97 \end{document}
98 \langle /sample03.tex\rangle

```

Figure 6: Use of nomentbl option

`\nomgroup` Usually, *MakeIndex* inserts the macro `\indexspace` between every character group, i. e. between symbols and numbers, numbers and letters and between every two letter groups. The `nomencl` package inserts the macro `\nomgroup{⟨arg⟩}` *instead*, where `⟨arg⟩` is either the string “Symbols” or the string “Numbers” or the capital letter of the group that is about to start. You can redefine `\nomgroup` to insert some white space `\renewcommand{\nomgroup}[1]{\medskip}`, or to print a fancy divider

```
\renewcommand{\nomgroup}[1]{%
  \item[]\hspace*{-\leftmargin}%
  \rule[2pt]{0.45\linewidth}{1pt}%
  \hfill #1\hfill
  \rule[2pt]{0.45\linewidth}{1pt}}
```

Note that `\nomgroup` is executed in a list environment, so you need to have an `\item` first and then jump back to the beginning of the line with the `\hspace` command.

`\nompreamble` Maybe you want to explain something just between the title of the  
`\nompostamble` nomenclature and the start of the list or at the very end of the list. Just  
 redefine the macros `\nompreamble` and `\nompostamble` which do nothing  
 by default. Note that they are executed *outside* of the list environment.

`\nomitemsep` The skip between two entries in the nomenclature can be adjusted  
 using `\nomitemsep`. This should be done in the preamble or the file  
`nomencl.cfg`. Note that if you want no extra skip between entries you  
 have to use `\setlength{\nomitemsep}{-\parsep}`

`\nomprefix` If you want, you can redefine the default prefix that is used for the  
 sortkeys. By default, `\nomprefix` is set to “a”; redefining it supersedes the  
 package options `prefix` and `noprefix`.

## 2.8.2 Formatting the Entries

`\nomlabel` By default, the labels are just shifted to the left within their allocated  
 box. If you want to change this, redefine `\nomlabel` which should get  
 one argument, e. g. `\renewcommand{\nomlabel}[1]{\hfil #1\hfil}` to  
 center the symbols.

`\numentryend` Maybe you would like to have a period at the end of every entry. Just  
 say `\renewcommand{\numentryend}{.}`, and there it is. Section 2.9.2 ex-  
 plains another nice application of this macro.

`\eqdeclaration` If you don’t like the text that is used for the references to equations  
`\pagedeclaration` and pages, you can define `\eqdeclaration` and `\pagedeclaration`. Both  
 should accept one argument, namely the equation and page number, res-  
 pectively. An example is

```
\renewcommand{\eqdeclaration}[1]{, first used in eq.~(#1)}.
```

## 2.9 Tips and Tricks

### 2.9.1 Advanced subgroups

The standard subgroups described in Section 2.6 is just one of the possible ways to separate your index. You can do much more if you play with the `\nomgroup` command. Note that all entries sharing the first letter of prefix as grouped together and preceded by the `\nomgroup[⟨Uppercased first letter⟩]` command. So, for example, if you want to separate constants and variables, you may use prefixes `c...` for constants and `v...` for variables, and then write down (package `ifthen` being loaded by `nomenc`)

```
\renewcommand{\nomgroup}[1]{%
\ifthenelse{\equal{#1}{V}}{\item[\textbf{Variables}]}{%
\ifthenelse{\equal{#1}{C}}{\item[\textbf{Constants}]}{}}
```

### 2.9.2 Units

Besides the obvious possibility of adding units for symbols in the description string, you can also use `\numentryend` to shift the unit to the right margin. With package `siunitx` you can define

```
99 ⟨*sample04.cfg⟩
100 \newcommand{\nomunit}[1]{%
101   \renewcommand{\numentryend}{\hspace*{\fill}\si{#1}}
102 ⟨/sample04.cfg⟩
```

and then define nomenclature as

```
\nomenclature{$l$}{Length\nomunit{\meter}}
```

See Figure 7 for the example of the input file.

Option `nomentbl` allows an alternative way to add units to the nomenclature (Section 2.7).

### 2.9.3 Expansion

The `nomenc` package tries hard to write the arguments of the `\nomenclature` macro verbatim to the glossary file. This is usually the right thing to do because some macros do not like to be expanded at the wrong moment or give weird results if they are. On the other hand, there are occasions where it is good to have the meaning (or expansion) of a macro in the

```

103 \langle *sample04.tex\rangle
104 \documentclass{article}
105 \usepackage[cfg=sample04.cfg]{nomencl}
106 \usepackage{siunitx}
107 \makenomenclature
108 \begin{document}
109 \section*{Main equations}
110 \begin{equation}
111   a = \frac{N}{A}
112 \end{equation}%
113 \nomenclature{a}{The number of angels per unit
114   area\nomunit{\per\square\meter}}%
115 \nomenclature{N}{The number of angels per needle point}%
116 \nomenclature{A}{The area of the needle
117   point\nomunit{\square\meter}}%
118 The equation  $\sigma = m a$ %
119 \nomenclature{\sigma}{The total mass of angels per unit
120   area\nomunit{\kilogram\per\square\meter}}%
121 \nomenclature{m}{The mass of one angel\nomunit{\kilogram}}
122 follows easily.
123 \printnomenclature
124 \end{document}
125 \rangle /sample04.tex\rangle

```

Figure 7: A simple example with units



glossary file instead of its name. There are quite some occasions where you will get in trouble with this expansion, for example, if the expansion of a macro contains @ (`\mathcal` expands to `\@mathcal`) because @ is a special character for *MakeIndex* and thus *MakeIndex* will either fail or give unexpected results. You can avoid the expansion on a case by case basis by using `\protect` in front of the macro that should not be expanded.

In order to get macro expansion, the redefinition of the `\@nomenclature` macro within the `\makenomenclature` macro has to be changed.

```

126 \(*sample05.cfg)
127 \def\makenomenclature{%
128   \newwrite\@nomenclaturefile
129   \immediate\openout\@nomenclaturefile=\jobname\@outputfileextension
130   \def\@nomenclature{%
131     \ifnextchar[%
132       {\@@@nomenclature}{\@@@nomenclature[\nomprefix]}}%
133   \PackageInfo{nomenc1}{Writing nomenclature file \jobname\@outputfileextension}%
134   \let\makenomenclature\@empty}

```

The new macro to be called by `\@nomenclature` just writes its arguments to the glossary file without further ado, so they will be expanded.

```

135 \def\@@@nomenclature[#1]#2#3{%
136   \protected@write\@nomenclaturefile{%
137     {\string\nomenclatureentry{#1#2@[{#2}]}%
138       \begingroup#3\protect\nomeqref{\theequation}%
139       |nompageref|{\thepage}}}%
140 \(/sample05.cfg)

```

The following file has completely different result when using expanded and non-expanded versions

```

141 \(*sample05.tex)
142 \documentclass{article}
143 \usepackage[cfg=sample05.cfg]{nomenc1}
144 \makenomenclature
145 \begin{document}
146 \section*{Main equations}
147 \begin{equation}
148   a=\frac{N}{A}
149 \end{equation}%
150 \newcommand{\magritte}{Not the number }
151 \nomenclature{\$a\$}{\magritte of angels per unit area}%
152 \nomenclature{\$N\$}{\magritte of angels per needle point}%
153 \nomenclature{\$A\$}{The area of the needle point}%
154 The equation  $\sigma = m a$ %
155 \nomenclature{\$\sigma\$}{The total mass of angels per unit area}%

```

**Symbol** . . . . . page number  
 Explanation.

Figure 8: Glossary entry in “Kopka Style”

```

156 \nomenclature{$m$}{The mass of one angel}
157 follows easily.
158
159 % We renew the command before printing nomenclature. However, since
160 % our nomencl.cfg uses expansion, it does not affect the result.
161 % Cf. nocfg option
162 \renewcommand{\magritte}{The number }
163 \printnomenclature
164 \end{document}
165 </sample05.tex>

```

#### 2.9.4 Glossary in “Kopka Style”

I was told that the glossary in the L<sup>A</sup>T<sub>E</sub>X book by Kopka looks roughly like in Figure 8. In order to get a glossary like this, there are quite some configurations to do.

First we have to change the macro `\@@@nomenclature` which takes care of writing the glossary entry to the glossary file. The only difference to the original definition is that we hand over the explanation of a symbol (`#3`) and the equation number to `\nompageref` instead of writing it directly after the symbol (`#2`). This is necessary because the explanation should appear after (actually below) the page number.

```

166 (*sample06.cfg)
167 \@printpagereftrue
168 \def\@@@nomenclature[#1]#2#3{%
169   \def\@tempa{#2}\def\@tempb{#3}%
170   \protected@write\@nomenclaturefile{%
171     {\string\nomenclatureentry{#1\nom@verb\@tempa @[\nom@verb\@tempa]}%
172       |nompageref{\begingroup\nom@verb\@tempb\protect\nomeqref{\theequation}}}%
173     {\thepage}}%
174   \endgroup
175   \@esphack}

```

Now we change the definition of `\nompageref` so that it accepts two arguments, the explanation (`#1`) and the page number (`#2`). The page number is only printed if required, otherwise `\null` is used to avoid an error because of the following `\linebreak`. Note that it is *not* possible to turn off the page number locally, because the explanation appears after the page

number.

```
176 \def\nompageref#1#2{%
177   \if@printpageref\pagedeclaration{#2}\else\leavevmode\fi
178   \linebreak#1\nomentryend\endgroup}
```

And a few little things. We want dots and a space before the page number appears at the right margin; the explanation should end with a period; and the symbol should be printed in bold face (this only works for regular text, not for formulas).

```
179 \def\pagedeclaration#1{\dotfill\nobreakspace#1}
180 \def\nomentryend{.}
181 \def\nomlabel#1{\textbf{#1}\hfil}
182 </sample06.cfg>
```

## 2.10 Compatibility Mode

With previous versions of the `nomencl`, the commands `\makeglossary` and `\pringlossary` were used to generate and display the nomenclature. These commands have now been deprecated, and replaced with the `\makenomenclature` and `\printnomenclature` commands. The new commands do exactly the same as the old commands, but because of the name changes, the package is now compatible with other packages which use the `\makeglossary` commands. The previous versions of `nomencl` also used the file extensions `.glo` and `.gls` for the generated output and input files. These extensions have now been changed to `.nlo` and `.nls` respectively—again, for increased compatibility.

For all of the legacy  $\text{\LaTeX}$  files out there which use the old commands there is a compatibility option available so that the old commands will still work without having to change any of the existing code. To enable the compatibility mode simply supply the **compatible** option when using the package. For example:

```
\usepackage[compatible]{nomencl}
```

Under compatibility mode, the package will generate and use files with the old-style file extensions (i.e. `.glo` and `.gls`).

It is worth noting that even though the compatibility mode is available, it is highly recommended to update your  $\text{\LaTeX}$  files to use the new nomenclature commands.

## 2.11 Acknowledgements

Since version 5.0 the package incorporates the code from `nomentbl.dtx` by Brian Elmegaard.

The authors want to thank Stefan Böhm and Karl Heinz Marbaise who helped testing this package.

The translations were done by Branka Lončarević (Croatian), Brian Elmegaard (Danish), Denis B. Roegel (French), Sani Egisto (Italian), Artur Gorka (Polish), Pedro Areal (Portuguese), Alejandro Lopez-Valencia (Spanish), joder (Slovene), and Boris Veytsman (Russian and Ukrainian).

## 2.12 Releases and Legal Issues

This package can be redistributed and/or modified under the terms of the L<sup>A</sup>T<sub>E</sub>X Project Public License distributed from CTAN archives in the directory `macros/latex/base/lppl.txt`, see e. g. [3]; either version 1.2 of the license, or (at your option) any later version.

# 3 Implementation

## 3.1 The L<sup>A</sup>T<sub>E</sub>X Package File

At the beginning of this file, the `\ProvidesPackage` macro was executed. So we only need to state that we need L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>.

```
183 {*package}
184 \NeedsTeXFormat{LaTeX2e}
```

We need `xkeyval` package for some options and `ifthen` for grouping and `tocbasic` for TOC

```
185 \RequirePackage{xkeyval}
186 \RequirePackage{ifthen}
```

```
\if@printeqref We need two switches to decide whether references to equations and pages
\if@printpageref should be printed.
```

```
187 \newif\if@printeqref
188 \newif\if@printpageref
```

```
\if@intoc Another switch to decide whether to add an entry to the TOC.
```

```
189 \newif\if@intoc
```

```
\if@compatibilitymode Another switch to decide whether to run in compatibility mode.
```

```
190 \newif\if@compatibilitymode
```

`\if@nomencl@tocbasic` Whether we are to use `tocbasic`

```

191 \newif\if@nomencl@tocbasic
192 \@nomencl@tocbasictrue

```

And the options to set these switches globally.

```

193 \DeclareOptionX{refeq}{\@printeqreftrue}
194 \DeclareOptionX{norefeq}{\@printeqreffalse}
195 \DeclareOptionX{refpage}{\@printpagereftrue}
196 \DeclareOptionX{norefpage}{\@printpagereffalse}
197 \DeclareOptionX{intoc}{\@intoctrue}
198 \DeclareOptionX{notintoc}{\@intocfalse}
199 \DeclareOptionX{compatible}{\@compatibilitymodetrue}
200 \DeclareOptionX{noncompatible}{\@compatibilitymodelfalse}
201 \DeclareOptionX{tocbasic}{\@nomencl@tocbasictrue}
202 \DeclareOptionX{notocbasic}{\@nomencl@tocbasicfalse}

```

`\nomprefix` It might make sense to add the prefix “a” to every sortkey, see Section 2.5.

```

203 \DeclareOptionX{prefix}{\def\nomprefix{a}}
204 \DeclareOptionX{noprefix}{\def\nomprefix{}}

```

`\if@nomentbl` Whether to use `nomentbl` format

```

205 \newif\if@nomentbl
206 \DeclareOptionX{nomentbl}{\@nomentbltrue}
207 \DeclareOptionX{norefeq}{\@nomentblfalse}

```

`\if@loadcfg` Another switch and the corresponding options to decide whether we should look for a configuration file.

```

208 \newif\if@loadcfg
209 \DeclareOptionX{cfg}[nomencl.cfg]{\@loadcfgtrue\gdef\@cfgfile{#1}}
210 \DeclareOptionX{nocfg}{\@loadcfgfalse}

```

`\if@stdsubgroups` Whether we use standard subgroups

```

211 \newif\if@stdsubgroups
212 \DeclareOptionX{stdsubgroups}{\@stdsubgroupstrue}
213 \DeclareOptionX{nostdsubgroups}{\@stdsubgroupsfalse}

```

`\eqdeclaration` If you can help out with translations for some other languages, let me know.

```

\pagedeclaration 214 \DeclareOptionX{croatian}{%
  \nomname 215 \def\eqdeclaration##1{, vidi jednad\v{z}bu\nobreakspace(##1)}%
  \nomAname 216 \def\pagedeclaration##1{, stranica\nobreakspace##1}%
  \nomGname 217 \def\nomname{Popis simbola}%
  \nomXname 218 \def\nomAname{Latini\v{c}na slova}%
  \nomZname 219 \def\nomGname{Gr\v{c}ka slova}%

```

```

220 \def\nomXname{Exponenats}%
221 \def\nomZname{Indeksi}}
222 \DeclareOptionX{danish}{%
223 \def\eqdeclaration##1{, se ligning\nobreakspace(##1)}%
224 \def\pagedeclaration##1{, side\nobreakspace##1}%
225 \def\nomname{Symbolliste}%
226 \def\nomAname{Romerske bogstaver}%
227 \def\nomGname{Gr{\ae}ske bogstaver}%
228 \def\nomXname{(H{\o}jtstillede) indices}%
229 \def\nomZname{Indices}}
230 \DeclareOptionX{english}{%
231 \def\eqdeclaration##1{, see equation\nobreakspace(##1)}%
232 \def\pagedeclaration##1{, page\nobreakspace##1}%
233 \def\nomname{Nomenclature}%
234 \def\nomAname{Latin Letters}%
235 \def\nomGname{Greek Letters}%
236 \def\nomXname{Superscripts}%
237 \def\nomZname{Subscripts}}
238 \DeclareOptionX{french}{%
239 \def\eqdeclaration##1{, voir \’equation\nobreakspace(##1)}%
240 \def\pagedeclaration##1{, page\nobreakspace##1}%
241 \def\nomname{Liste des symboles}%
242 \def\nomAname{Lettres latines}%
243 \def\nomGname{Lettres grecques}%
244 \def\nomXname{Indices sup{\’e}rieurs}%
245 \def\nomZname{Indices}}
246 \DeclareOptionX{german}{%
247 \def\eqdeclaration##1{, siehe Gleichung\nobreakspace(##1)}%
248 \def\pagedeclaration##1{, Seite\nobreakspace##1}%
249 \def\nomname{Symbolverzeichnis}%
250 \def\nomAname{Lateinische Buchstaben}%
251 \def\nomGname{Griechische Buchstaben}%
252 \def\nomXname{(hochgestellte) Indizes}%
253 \def\nomZname{Indizes}}
254 \DeclareOptionX{italian}{%
255 \def\eqdeclaration##1{, vedi equazione\nobreakspace(##1)}%
256 \def\pagedeclaration##1{, pagina\nobreakspace##1}%
257 \def\nomname{Elenco dei simboli}%
258 \def\nomAname{Lettere latine}%
259 \def\nomGname{Lettere greche}%
260 \def\nomXname{Apici}%
261 \def\nomZname{Indici}}
262 \DeclareOptionX{norwegian-bokmaal}{%
263 \def\eqdeclaration##1{, se ligning\nobreakspace(##1)}%
264 \def\pagedeclaration##1{, side\nobreakspace##1}%

```

```

265 \def\nomname{Nomenklatur}%
266 \def\nomAname{Romerske bokstaver}%
267 \def\nomGname{Greske bokstaver}%
268 \def\nomXname{Hevet skrift}%
269 \def\nomZname{Senket skrift}}
270 \DeclareOptionX{norwegian-nynorsk}{%
271 \def\eqdeclaration##1{, se likning\nobreakspace(##1)}%
272 \def\pagedeclaration##1{, side\nobreakspace##1}%
273 \def\nomname{Nomenklatur}%
274 \def\nomAname{Romarske bokstavar}%
275 \def\nomGname{Greske bokstavar}%
276 \def\nomXname{Hevd skrift}%
277 \def\nomZname{Senka skrift}}
278 \DeclareOptionX{polish}{%
279 \def\eqdeclaration##1{, porownaj rownanie\nobreakspace(##1)}%
280 \def\pagedeclaration##1{, strona\nobreakspace##1}%
281 \def\nomname{Lista symboli}%
282 \def\nomAname{Litery {\l}aci\'nskie}%
283 \def\nomGname{Litery greckie}%
284 \def\nomXname{Indeksy g\'orny}%
285 \def\nomZname{Indeksy dolne}}
286 \DeclareOptionX{portuguese}{%
287 \def\eqdeclaration##1{, veja equa\c{c}\~ao\nobreakspace(##1)}%
288 \def\pagedeclaration##1{, p\'agina\nobreakspace##1}%
289 \def\nomname{Nomenclatura}%
290 \def\nomAname{Letras latinas}%
291 \def\nomGname{Letras gregas}%
292 \def\nomXname{Sobrescritos}%
293 \def\nomZname{Subscritos}}
294 \DeclareOptionX{russian}{%
295 \def\eqdeclaration##1{, \cyrs\cyrm.\nobreakspace(##1)}%
296 \def\pagedeclaration##1{, \cyrs\cyrt\cyrr.\nobreakspace##1}%
297 \def\nomname{\CYRS\cyrp\cyri\cyrs\cyro\cyrk%
298 \ \cyro\cyrb\cyro\cyrz\cyrn\cyra\cyrch\cyre\cyrn\cyri%
299 \cyrishrt}%
300 \def\nomAname{\CYRL\cyra\cyrt\cyri\cyrn\cyrs\cyrk\cyri\cyre\
301 \cyrb\cyru\cyrk\cyrv\cyrery}%
302 \def\nomGname{\CYRG\cyrr\cyre\cyrch\cyre\cyrs\cyrk\cyri\cyre\
303 \cyrb\cyru\cyrk\cyrv\cyrery}%
304 \def\nomXname{\CYRN\cyra\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyrery\cyre\
305 \cyri\cyrn\cyrd\cyre\cyrk\cyrs\cyrery}%
306 \def\nomZname{\CYRP\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyrery\cyre\
307 \cyri\cyrn\cyrd\cyre\cyrk\cyrs\cyrery}}
308 \DeclareOptionX{slovene}{%
309 \def\eqdeclaration##1{, glej ena\v{c}bo\nobreakspace(##1)}%

```

```

310 \def\pagedeclaration##1{, stran\nobreakspace##1}%
311 \def\nomname{Seznam simbolov}%
312 \def\nomAname{Latinske \v{c}rke}%
313 \def\nomGname{Gr\v{s}ke \v{c}rke}%
314 \def\nomXname{EkspONENTI}%
315 \def\nomZname{Indeksi}}
316 \DeclareOptionX{spanish}{%
317 \def\eqdeclaration##1{, v'ease la ecuaci'on\nobreakspace(##1)}%
318 \def\pagedeclaration##1{, p'agina\nobreakspace##1}%
319 \def\nomname{Nomenclatura}%
320 \def\nomAname{Letras latinas}%
321 \def\nomGname{Letras griegas}%
322 \def\nomXname{Super{\'\i}ndices}%
323 \def\nomZname{Sub{\'\i}ndices}}
324 \DeclareOptionX{ukrainian}{%
325 \def\eqdeclaration##1{, \cyrd\cyri\cyrv.\nobreakspace(##1)}%
326 \def\pagedeclaration##1{, \cyrscyrt\cyro\cyrr.\nobreakspace##1}%
327 \def\nomname{\CYRP\cyre\cyrr\cyre\cyrl\cyrii\cyrk%
328 \ \cyrp\cyro\cyrz\cyrn\cyra\cyrch\cyre\cyrn\cyrstsn}%
329 \def\nomAname{\CYRL\cyra\cyrt\cyri\cyrn\cyrscyrstsn\cyrk\cyrii\
330 \cyrl\cyrii\cyrt\cyre\cyrr\cyri}%
331 \def\nomGname{\CYRG\cyrr\cyre\cyrc\cyrstsn\cyrk\cyrii\
332 \cyrl\cyrii\cyrt\cyre\cyrr\cyri}%
333 \def\nomXname{\CYRV\cyre\cyrr\cyrh\cyrn\cyrii\
334 \cyrii\cyrn\cyrd\cyre\cyrk\cyrscyri}%
335 \def\nomZname{\CYRII\cyrn\cyrd\cyre\cyrk\cyrscyri}}

```

Finally set the default options and process everything.

```

336 \ExecuteOptionsX{noncompatible,notintoc,norefeq,norefpage,prefix,cf,english,nostdsu
337 \ProcessOptionsX\relax

```

In the `nomentbl` mode we need a couple more packages

```

338 \if@nomentbl
339 \RequirePackage{array,longtable,siunitx}
340 \fi

```

In `tocbasic` mode we need to load `tocbasic`

```

341 \if@nomencl@tocbasic
342 \RequirePackage{tocbasic}
343 \addtotoclist[nomencl]{nlo}
344 \addtotoclist[nomencl]{nls}
345 \fi

```

Checking whether we need nomenclature in toc

```

346 \if@intoc
347 \if@nomencl@tocbasic

```



```

348     \setuptoc{nls}{totoc}
349     \fi
350 \fi

\@outputfileextension The default file extension for the output and input nomenclature files are
\@inputfileextension .nlo and .nls respectively. In compatibility mode, these are changes to
                    .glo and .gls.
351 \if@compatibilitymode%
352     \def\@outputfileextension{.glo}%
353     \def\@inputfileextension{.gls}%
354 \else%
355     \def\@outputfileextension{.nlo}%
356     \def\@inputfileextension{.nls}%
357 \fi%

\makenomenclature The definition of \makenomenclature is pretty much the same as in the
                    LATEX kernel for \makeglossary, we only use \@nomenclature instead of
                    \glossary.
358 \def\makenomenclature{%
359     \newwrite\@nomenclaturefile
360     \immediate\openout\@nomenclaturefile=\jobname\@outputfileextension
361     \def\@nomenclature{%
362         \@bsphack
363         \begingroup
364         \@sanitize
365         \@ifnextchar[%
366             {\@@nomenclature}{\@@nomenclature[\nomprefix]}}%
367     \PackageInfo{nomenc1}{Writing nomenclature file \jobname\@outputfileextension}%
368     \let\makenomenclature\@empty}

\makeglossary The \makeglossary command has been depreciated, and is only available
               in compatibility mode.
369 \if@compatibilitymode\let\makeglossary\makenomenclature\fi%

\nom@verb The macro \nom@verb, which is copied from [4] and [5, p. 382], makes it
           possible to use \nomenclature in another macro.
370 \def\nom@verb{\expandafter\strip@prefix\meaning}

\nomenclature This macro just protects the “real” \@nomenclature macro. I am not
               sure whether this makes sense because you shouldn’t use \nomenclature
               in something like \section anyway, but it doesn’t hurt.
371 \def\nomenclature{\protect\@nomenclature}

```

`\@nomenclature` Without an executed `\makenomenclature`, `\@nomenclature` will only change some catcodes and call the macro `\@@nomenclature` to gobble its arguments.

```

372 \def\@nomenclature{%
373   \@bsphack
374   \begingroup
375   \@sanitize
376   \@ifnextchar[%
377     {\@nomenclature}{\@nomenclature[\nomprefix]}}
378 \if@nomentbl
379   \def\@@nomenclature[#1]#2#3#4#5{\endgroup\@esphack}
380 \else
381   \def\@@nomenclature[#1]#2#3{\endgroup\@esphack}
382 \fi

```

`\@@@nomenclature` If `\makenomenclature` was already executed, then `\@nomenclature` calls the macro `\@@@nomenclature` which writes to the nomenclature file. It puts the prefix in front of the entry, adds brackets `[]` around the entry (because it will be the argument of an `\item`) and adds possible references at the end of the entry description. A group is started to keep changes to the reference switches local. The arguments are written using `\nom@verb` so they will not be expanded, even when `\nomenclature` is used within another macro. By the way, `\@bsphack` and `\@esphack` makes `\nomenclature` disappear between two spaces; unfortunately this doesn't work if `\nomenclature` is the first thing in a line.

```

383 \if@nomentbl
384   \def\@@@nomenclature[#1]#2#3#4#5{%
385     \def\@tempa{#2}\def\@tempb{#3}%
386     \protected@write\@nomenclaturefile{%
387       {\string\nomenclatureentry{#1\nom@verb\@tempa @&{\nom@verb\@tempa}&%
388         \begingroup\nom@verb\@tempb\endgroup &\begingroup#4\endgroup&%
389         \begingroup#5\endgroup&\begingroup\protect\nomeqref{\theequation}%
390         |nompageref|{\thepage}}}%
391     \endgroup
392     \@esphack}
393 \else
394   \def\@@@nomenclature[#1]#2#3{%
395     \def\@tempa{#2}\def\@tempb{#3}%
396     \protected@write\@nomenclaturefile{%
397       {\string\nomenclatureentry{#1\nom@verb\@tempa @[{\nom@verb\@tempa}]]%
398         \begingroup\nom@verb\@tempb\protect\nomeqref{\theequation}%
399         |nompageref|{\thepage}}}%
400     \endgroup

```

```
401   \@esphack}
402 \fi
```

`\nomgroup` The next macro is executed between each character group in the nomenclature. The argument is the first character of the group.

```
403 \if@stdsubgroups
404   \if@nomentbl
405   \def\nomgroup#1{%
406     \ifthenelse{equal{#1}{A}}{%
407       \item&\multicolumn{5}{@{}1}{\textbf{\nomAname}}}%
408     \ifthenelse{equal{#1}{G}}{%
409       \item&\multicolumn{5}{@{}1}{\textbf{\nomGname}}}%
410     \ifthenelse{equal{#1}{X}}{%
411       \item&\multicolumn{5}{@{}1}{\textbf{\nomXname}}}%
412     \ifthenelse{equal{#1}{Z}}{%
413       \item&\multicolumn{5}{@{}1}{\textbf{\nomZname}}}%
414     {}}}}
415   \else
416     \def\nomgroup#1{%
417       \ifthenelse{equal{#1}{A}}{%
418         \item[\textbf{\nomAname}]}%
419       \ifthenelse{equal{#1}{G}}{%
420         \item[\textbf{\nomGname}]}%
421       \ifthenelse{equal{#1}{X}}{%
422         \item[\textbf{\nomXname}]}%
423       \ifthenelse{equal{#1}{Z}}{%
424         \item[\textbf{\nomZname}]}%
425       {}}}}
426   \fi
427 \else
428   \def\nomgroup#1{}
429 \fi
```

`\nomlabelwidth` This is the default label width for the nomenclature. It can be changed e.g. in the `cfg` file.

```
430 \newdimen\nomlabelwidth
431 \nomlabelwidth1cm\relax
```

`\nom@tempdim` The optional argument is read and assigned to `\nom@tempdim`. Then the `gls` file is read.

```
\printnomenclature
\@printnomenclature 432 \newdimen\nom@tempdim
433 \def\printnomenclature{%
434   \@ifnextchar[%
435     {\@printnomenclature}{\@printnomenclature[\nomlabelwidth]}
```

```

436 \def\@printnomenclature[#1]{%
437   \nom@tempdim#1\relax
438   \@input@{\jobname\@inputfileextension}}

```

`\printglossary` The `\printglossary` command has been deprecated, and is only available in compatibility mode.

```

439 \if@compatibilitymode\let\printglossary\printnomenclature\fi%

```

`\nomlabel` Now some bells and whistles to format the nomenclature: the definition of the label, the preamble, the postamble and the symbol that is added at the end of an entry. The last three are defined to do nothing by default.

```

\nompreable
\nompostamble
\numentryend
440 \def\nomlabel#1{#1\hfil}
441 \def\nompreable{}
442 \def\nompostamble{}
443 \def\numentryend{}

```

`\nomitemsep` The skip between two items is adjustable by changing `\nomitemsep`. It defaults to `\itemsep`.

```

444 \newskip\nomitemsep
445 \nomitemsep\itemsep

```

`\setnomtableformat` The format of the nomenclature table. We insert an empty left column due to the way  $\TeX$  sees `\multicolumn` in `\nomgroup` command.

```

446 \def\setnomtableformat#1{\def\@nomtableformat{1@{ }#1}}
447 \setnomtableformat{lp{0.45\textwidth}sp{0.3\textwidth}@{ }l}

```

`thenomenclature` The `thenomenclature` environment formats its title and optionally inserts an item in the TOC, both are dependant on whether the `\chapter` command is available or not. After printing the preamble, a list is started with the `\labelwidth` being set to the value defined in the optional argument of `\printnomenclature`, unless `nomentbl` is chosen. In the latter case we start a longtable. Note that each row of the table starts with `\item`, so we need to make the first `\item` noop, and all the subsequent ones to produce `\cr`. We also add `\cr` at the end of the table.

```

448 \def\thenomenclature{%
449   \providecommand*{\listofnlsname}{\nomname}%
450   \if@nomencl@tocbasic
451     \let\list@fname\listofnlsname
452     \def\@current{nls}%
453     \tocbasic@listhead{\list@fname}%
454   \else
455     \@ifundefined{chapter}%

```

```

456 {
457   \section*{\nomname}
458   \if@intoc\addcontentsline{toc}{section}{\nomname}\fi%
459 }%
460 {
461   \chapter*{\nomname}
462   \@mkboth{\nomname}{\nomname}%
463   \if@intoc\addcontentsline{toc}{chapter}{\nomname}\fi%
464 }%
465 \fi
466 \nompreamble
467 \if@nomentbl
468   \let\itemOrig=\item
469   \def\item{\gdef\item{\}}%
470   \expandafter\longtable\expandafter{\@nomtableformat}
471 \else
472   \list{}{%
473     \labelwidth\nom@tempdim
474     \leftmargin\labelwidth
475     \advance\leftmargin\labelsep
476     \itemsep\nomitemsep
477     \let\makelabel\nomlabel}%
478 \fi
479 }
480 \def\endthenomenclature{%
481   \if@nomentbl
482     \item\endlongtable
483     \global\let\item=\itemOrig
484   \else
485     \endlist
486   \fi
487   \nompostamble}

```

`\nomrefeq` These are the switches to turn referencing on or off locally for a single entry.

`\refpage` 488 `\def\nomrefeq{\@printeqreftrue}`

`\refeqpage` 489 `\def\nomrefpage{\@printpagereftrue}`

`\norefeq` 490 `\def\nomrefeqpage{\@printeqreftrue\@printpagereftrue}`

`\norefpage` 491 `\def\nomnorefeq{\@printeqreffalse}`

`\norefeqpage` 492 `\def\nomnorefpage{\@printpagereffalse}`

493 `\def\nomnorefeqpage{\@printeqreffalse\@printpagereffalse}`

`\nomeqref` The equation is only referenced if the corresponding switch is true. Since *MakeIndex* tends to insert a line break just before the page number, we have to add `\ignorespaces` at the end.

```

494 \def\nomeqref#1{\if@printeqref\eqdeclaration{#1}\fi\ignorespaces}

```

`\nompageref` The page is also only referenced if requested. Then the end symbol is added and finally the group started in `\@@@nomenclature` is closed.

```
495 \def\nompageref#1{\if@printpageref\pagedeclaration{#1}\fi%
496 \numentryend\endgroup}
```

The commands defined in the `.ist` file

Read the config file if it exists and the corresponding option was given.

```
497 \if@loadcfg
498 \InputIfFileExists{\@cfgfile}{%
499 \PackageInfo{nomencl}{Using the configuration file \@cfgfile}}{}
500 \fi
```

The end.

```
501 </package>
```

### 3.2 The *MakeIndex* Style File

The “magic word” for *MakeIndex* in the input file is `\nomenclatureentry`.

```
502 <*idxstyle>
503 %% ---- for input file ----
504 keyword    "\nomenclatureentry"
505 % We use % as a quote character since " is active in some languages
506 quote    '%'
```

Define what is printed at the beginning and the end of the file and the skip between groups. Since we already write `\nomgroup` between groups, we define `group_skip` to just input an empty line.

```
507 %% ---- for output file ----
508 preamble   "\n\\begin{thenomenclature} \n"%
509 postamble  "\n\n\\end{thenomenclature}\n" group_skip "\n"
```

Since we can't handle multiple pages for an entry anyway, we also don't need any delimiters.

```
510 delim_0    ""
511 delim_1    ""
512 delim_2    ""
```

Now the macro between the groups. Since the flag is positive, the character will be inserted as a capital letter. As the comment states, this will cause some warnings. If someone has a better solution, let me know.

```
513 %% The next lines will produce some warnings when
514 %% running Makeindex as they try to cover two different
515 %% versions of the program:
516 lethead_prefix "\nomgroup{"
517 lethead_suffix "}"
```

```

518 lethead_flag 1
519 heading_prefix "\\nomgroup{"
520 heading_suffix "}"
521 headings_flag 1
522 line_max 1000
523 </idxstyle>

```

## References

- [1] Braams, Johannes; Carlisle, David; Jeffrey, Alan; Lamport, Leslie; Mittelbach, Frank; Rowley, Chris; Schöpf, Rainer (1996). `ltxidxglo.dtx` – 1996/01/20 v1.1e LaTeX Kernel (Index and Glossary). [CTAN/macros/latex/base/ltxidxglo.dtx](http://ctan.org/macros/latex/base/ltxidxglo.dtx).
- [2] Chen, Pehong; Harrison, Michael A. (1987). Automating Index Preparation. Report UCB/CSD 87/347, Computer Science Division, University of California, Berkeley, CA.
- [3] Comprehensive T<sub>E</sub>X Archive Network CTAN. [ftp://ctan.tug.org/tex-archive/](http://ctan.tug.org/tex-archive/).
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- [5] Knuth, Donald E. (1984). *The T<sub>E</sub>Xbook*. Addison-Wesley Publishing Company, Reading, MA.
- [6] Lamport, Leslie (1994). *L<sup>A</sup>T<sub>E</sub>X: A Document Preparation System*. Addison-Wesley Publishing Company, Reading, MA.
- [7] Veytsman, Boris (1996). Package `nomencl`, Version 4.0. <http://sarovar.org/projects/nomencl> (2000/09/15).

## Change History

v2.2 (1996/11/25)	v2.5 (1999/03/13)
General: Last version released by Boris Veytsman . . . . . 1	General: Complete rewrite of the package and the documentation . . . . . 1

v2.5a (1999/03/22)	Sample cfg files for most examples . . . . .	15
\name: Added Danish . . .		21
v2.6 (1999/04/02)	WWW address changed (again) . . . . .	1
\name: Added French . . .		21
Use \nobreakspace instead of ~ in package options . . .		21
General: Use \GetFileInfo . . .		1
v2.6a (1999/04/06)	v3.1a (2000/12/03)	
\name: Added Russian, Spanish, Ukrainian . . . . .	\name: Added Portuguese . . . . .	21
v2.6b (1999/04/10)	v3.1b (2001/09/30)	
\name: Added Polish . . . . .	General: Explain how to get toc entry . . . . .	12
General: Documentation change concerning line breaks between arguments . . . . .	WWW address changed (again) . . . . .	1
v2.7 (1999/05/14)	v3.1c (2001/10/02)	
\@@@nomenclature: More robust by using \name@verb . . . . .	General: Minor documentation changes . . . . .	1
\name@verb: Added macro . . . . .	v4.0 (2005/03/31)	
\@nomenclature: Protected . . . . .	General: Improved compatibility with other Glossary/MakeIndex packages. Added option to insert Nomenclature into toc. Amended documentation accordingly. . . . .	1
General: Mention need to change quote character for German users . . . . .	TOC entries now added with package option . . . . .	12
v2.7a (1999/07/07)	v4.0 (2005/04/07)	
\name: Added Italian . . . . .	\name: Updated Italian option (thanks to Lapo Mori) . . . . .	21
General: Merged licence.txt into README . . . . .	v4.1 (2005/04/27)	
v2.8 (1999/09/09)	General: Improvements to the documentation, including hyperref support . . . . .	1
\name@itemsep: New skip \name@itemsep . . . . .	v5.0	
General: Email changed . . . . .	\@@@nomenclature: Nomentbl option . . . . .	26
v2.9 (1999/11/23)	\@@@nomenclature: Nomentbl option . . . . .	26
\name@tempdim: New temporary dimension . . . . .	\if@loadcfg: Added settable cfg file . . . . .	21
v3.0 (2000/03/05)	\if@nomentbl: New macro . . . . .	21
General: New options cfg/nocfg . . . . .	\if@stdsubgroups: New macro . . . . .	21
WWW address changed . . . . .	\name: Added defaults . . . . .	21
v3.1 (2000/09/15)	\namegroup: Rewrote . . . . .	27
\name: Added Croatian . . . . .	\setnomtableformat: Added macro . . . . .	28
General: Do not read cfg file in documentation . . . . .		
Expansion example added . . . . .		
Kopka example added . . . . .		



General: Added ifthen package	20	Reintroduced macro	21
Moved to xkeyval	20	General: New options: tocbasic,	
Rewrote documentation	1	notocbasic	1
v5.1		thenomenclature: Made	
\nomZname: Changed # to ##		tocbasic optional	28
in options.	21	v5.3	
thenomenclature: Added		\nomZname: Added Slovene	
tocbasic	28	(joder)	21
Changed \markboth to		v5.4	
\@mkboth for chapters	28	\nomZname: Added Norwegian	
v5.2		(wishfort36)	21
\if@nomencl@tocbasic:			

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