The **termlist** package

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Abstract

The `termlist` package provides environments to indent and label any kind of terms with the `equation` counter, like mathematical terms are indented and labelled inside an `equation` or `eqnarray` environment.

1 Introduction

The LaTeX typesetting system is widely used by mathematicians. A number of constructs, like the `equation` or `eqnarray` environments, fit the specific needs of mathematical texts. The math modes are intrinsic parts of TeX and have left their marks on the whole system.

The `termlist` package is a generalization of the `equation` and `eqnarray` environments, especially for non-mathematical texts. It provides environments to typeset any kind of non-mathematical terms, like propositions, hypotheses, or examples, in the same way mathematical terms are typesetted inside an `equation` or `eqnarray` environment. I. e. the terms are indented and labelled with a continuous number. For consistency with the `equation` and `eqnarray` environments, the same `equation` counter is used for labelling the terms.

The `termlist` package is based on an idea of the `covington` package.

2 Usage

The `termlist` package provides the four new environments `termlist`, `term`, `termlist*`, and `term*`.

termlist The `termlist` environment is the fundamental one of these environments. It is a list of terms, each indented and labelled with the `equation` counter on the left side of the page by default. The default label can be changed by the optional argument of the `\item` command.

For consistency with the `equation` and `eqnarray` environments, the `leqno` package or something similar should be used to print the labels of mathematical terms inside these environments also on the left side of the page.

1

─────────────────────────── termlist ───────────────────────────

(1)   Here is an example of the `termlist` environment.

(2)   Each term is indented and labelled with the `equation` counter.

(2a) The label of the term can be changed by the optional argument of the `\item` command.

(3)   Using the optional argument of the `\item` command does not increment the `equation` counter.

```
\begin{termlist}
\item Here is an example of
  the \verb|termlist|
  environment.
\item\label{second item}
  Each term is indented
  and labelled with the
  \verb|equation| counter.
\item[(\ref{second item}a)]
  The label of the term
  can be changed by the
  optional argument of the
  \verb|\item| command.
\item Using the optional
  argument of the
  \verb|\item| command
  does not increment the
  \verb|equation| counter.
\end{termlist}
```

`term`   The `term` environment is a `termlist` environment with only one list item.

─────────────────────────── term ───────────────────────────

(4)   The `term` environment labels the term with the `equation` counter.

```
\begin{term}
  The \verb|term| environment
  labels the term with the
  \verb|equation| counter.
\end{term}
```

`termlist*`   The `termlist*` environment is the same as the `termlist` environment, but with empty labels.

─────────────────────────── termlist* ───────────────────────────

The `termlist*` environment is a list of terms.

The terms do not have labels.

```
\begin{termlist*}
  \item The \verb|termlist*|
    environment is a list of
    terms.
  \item The terms do not
    have labels.
\end{termlist*}
```

`term*`   The `term*` environment is the same as the `term` environment, but with an empty label.

```
┌──────────────────────────── term* ────────────────────────────┐
│                                                                 │
│         The term*                  \begin{term*}               │
│         environment does not         The \verb|term*|          │
│         label the term.              environment does not      │
│                                      label the term.           │
│                                    \end{term*}                 │
│   (5)   Using the termlist*        \begin{term}                │
│         or term* environment         Using the                 │
│         does not increment the       \verb|termlist*|          │
│         equation counter.            or \verb|term*|           │
│                                      environment does not      │
│                                      increment the             │
│                                      \verb|equation|           │
│                                      counter.                  │
│                                    \end{term}                  │
│                                                                 │
└─────────────────────────────────────────────────────────────────┘
```

The four environments provided by this package can be customized by the three macros \termlabel, \termlabelfont, and \termindent.

\termlabel   The label of each term is defined by the macro \termlabel. For consistency with the equation and eqnarray environments, its default value is (\theequation). Use one of the commands

> \def\termlabel{⟨*labeldescription*⟩} (TEX), or
>
> \renewcommand{\termlabel}{⟨*labeldescription*⟩} (LATEX)

to change its value. Note that even if the value of \termlabel does not contain something like \theequation, the equation counter is incremented with each list item.

\termlabelfont   The label font and label color is defined by the macro \termlabelfont. For consistency with the equation and eqnarray environments, its default value is \normalfont\normalcolor. Use one of the commands

> \def\termlabelfont{⟨*fontdescription*⟩} (TEX), or
>
> \renewcommand{\termlabelfont}{⟨*fontdescription*⟩} (LATEX)

to change its value.

Note that for the equation and eqnarray environments, the whole label, including its font and color, is defined by the macro \@eqnnum. For consistency, \termlabel and \termlabelfont should always have values that match the value of \@eqnnum.

\termindent   The amount of the left indentation of each term is defined by the macro \termindent. Its default value is \leftmargini. This is also the default value of the macro \mathindent, which defines the amount of the left indentation of mathematical terms inside an equation or eqnarray environment, if the fleqn package is used. In this case, \termindent and \mathindent should always have the same values. Use on of the commands

> \termindent⟨*dimension*⟩ (TEX), or
>
> \setlength{\termindent}{⟨*dimension*⟩} (LATEX)

to change the value of \termindent.

3   Implementation

\termlabel   The `termlabel` macro defines the label of each term inside the `termlist` and `term` environments.

```
1 \def\termlabel{(\theequation)}
```

\termlabelfont   The `termlabelfont` macro defines the font and color of the label of each term
\@termlistmklab   inside the `termlist` and `term` environments. The macro `\@termlistmklab` is
used internally in the definition of the `termlist` environment.

```
2 \def\termlabelfont{\normalfont\normalcolor}
3 \def\@termlistmklab#1{\termlabelfont #1\hfil}
```

\termindent   The `termindent` macro defines the amount of the left indentation of each term
inside one of the four environments provided by this package.

```
4 \newdimen\termindent
5 \termindent\leftmargini
```

termlist   The `termlist` environment is implemented as a list. Each list item has a default
label defined by `\termlabel` and `\@termlistmklab` and left and right margins de-
fined by `\termindent` and `\leftmargini`, resp. The indentation `\listparindent`
and the amount of space between two paragraphs `\parsep` inside the list are set to
their corresponding values outside the list, `\parindent` and `\parskip`, resp. The
total amount of space between two list items is the sum of `\parsep` and `\itemsep`.
The extra amount of space `\itemsep` is set to such a value, that the total amount
of space between two list items is the maximum of `\parsep` and the extra amount
of space `\jot` between two lines inside an `eqnarray` environment.

```
6 \newenvironment{termlist}{%
7   \list{\termlabel}{%
8     \@nmbrlisttrue
9     \def\@listctr{equation}%
10    \leftmargin\termindent
11    \rightmargin\leftmargini
12    \labelwidth\leftmargin
13    \advance\labelwidth-\labelsep
14    \listparindent\parindent
15    \parsep\parskip
16    \ifdim\parsep<\jot
17      \itemsep\jot
18      \advance\itemsep-\parsep
19    \else
20      \itemsep\z@skip
21    \fi
22    \let\makelabel\@termlistmklab}}{%
23  \endlist}
```

term   The `term` environment is implemented as a `termlist` environment with only one
list item.

```
24 \newenvironment{term}{%
25   \begin{termlist}\item\relax}{%
26   \end{termlist}}
```

4

termlist* The `termlist*` environment is implemented as a `termlist` environment with empty labels.

```
27 \newenvironment{termlist*}{%
28   \termlist\@nmbrlistfalse\let\termlabel\relax}{%
29   \endlist}
```

term* The `term*` environment is implemented as a `termlist*` environment with only one list item.

```
30 \newenvironment{term*}{%
31   \begin{termlist*}\item\relax}{%
32   \end{termlist*}}
```