A Package to Subnumber LaTeX Counters

Patrick W. Daly

This paper describes package `sublabel`
version 4.5 from 1999/02/23

It is part of the `preprint` collection of packages

Summary

The stripped version of this file contains the following brief description:

```
 % To change a counter foo so that it has sublabels (4a 4b 4c ...)
 % give the command \sublabon{foo}... \sublaboff{foo}
 %
 % The style of the sublabel is given by command \substyle, which takes one
 % argument, a counter. It may be redefined in the document to be whatever
 % style is wanted.
<209> % Default is {\it\alph{#1}}, ie italic lowercase numbers.
<*!209>
 % Default is {\itshape\alph{#1}}, ie italic lowercase numbers.
 %
 % Options for LaTeX2e:
 %   roman   the style of sublabels is small roman letter
 %   italic  the style is small italic letter (default)
</!209>
```


1 Introduction

The macros in this package allow all counters to be subnumbered, as for example 4*a*, 4*b*, 4*c*, simply by bracketting the objects to be so numbered with appropriate on/off commands. These commands specify which counters are to be subnumbered, and they are of global effect. This means that they will work with any user-defined counters too, and that their effect goes beyond any current environment.

2 Invoking the Package

The macros in this package are included in the main document with the `\usepackage` command of LaTeX 2_ε,

```
\documentclass[..]{...}
\usepackage[options]{sublabel}
```

where the possible *options* are:

`italic` to have subnumbers as italic lowercase letters (default);

`roman` to have the subnumbers as Roman lowercase letters, as 4a.

Alternatively, the name of the package is added as an option to the `\documentstyle` command in LaTeX 2.09 compatibility mode, as

```
\documentstyle[..sublabel..]{...}
```

In this case, no options are possible.

3 Usage

`\sublabon` `\sublaboff` In order to number equations, figures, plates, and tables automatically with subnumbers (e.g. $4a$, $4b$, $4c$) use the commands `\sublabon` and `\sublaboff`. These commands take as argument the name of the counter that is to be subnumbered, i.e. `equation`, `figure`, or `table`. The on and off versions bracket the objects that are to be labelled with the same number but different letters. For example,

```
\sublabon{figure}
\begin{figure}
  \caption{Text of Fig. 4a}
\end{figure}
\begin{figure}
  \caption{Text of Fig. 4b}
\end{figure}
\sublaboff{figure}
```

These commands also work for the `equation` environment in the same way. For the `eqnarray` environment, some care must be taken. The `\sublabon` command is to be given *in* the first equation to be bracketted, before the `\label` and `\\` commands, while the `\sublaboff` command is given after the `\\` of the last equation in the group. If necessary, it must come after `\end{eqnarray}`.

```
\begin{eqnarray}
  x & = & a \label{eq:x}\\%--> 1
  \sublabon{equation}
  y & = & b \label{eq:y}\\%--> 2a
  z & = & c \label{eq:z}\\%--> 2b
  \sublaboff{equation}
  w & = & d \label{eq:w}  %--> 3
\end{eqnarray}
```

If two groups appear adjacently, it is only necessary to give `\sublabon` between them.

`\substyle` The style in which the sublabels are written is determined by a command `\substyle`. Its default definition is as italic lowercase letters.[1] If one wishes, this may be changed in the document itself. It must take an argument that is a counter. For example, to change the style of sublabels to be as 5–A, 5–B, 5–C, give

```
\renewcommand{\substyle}[1]{--\Alph{#1}}
```

4 Interference with Other Options

If both `sublabel` and `figcaps` packages are to be used together, then `sublabel` must be input first. This is because `figcaps` makes modifications so that the sublabelling also works on the page of figure captions.

Other packages (like `amsmath`) also modify some of the commands redefined here. As of version 4.4, the redefinitions are delayed until after all packages are loaded, so that this conflict is avoided. For earlier versions, things went wrong if `amsmath` were loaded after `filename`.

[1] In LaTeX 2_ε, if the option `roman` is added to the `\usepackage` command, then the default is upright lowercase letters.