

# The namespc package\*

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## Abstract

The `namespc` package adds rudimentary *c++*-like namespace functionality to  $\text{\LaTeX}$ . It may be used to declare local  $\text{\LaTeX}$  commands, which can be made accessible in a later contexts without defining them globally.

## 1 Introduction

This package can be used to declare local  $\text{\LaTeX}$  commands, which may be reused in a later context without polluting the global namespace, as an equivalent to *c++*-like namespaces.

## 2 Usage

<code>\namespace</code>	This command is used to instantiate and reuse a certain namespace. The <code>\namespace</code> command has the following syntax: <code>\namespace{spcname}{before}{body}</code> The first parameter corresponds to the name of the namespace to be started or used. The <i>before</i> arguments of the current call of <code>\namespace</code> are appended to the preamble of namespace <i>spcname</i> , which is processed before the text in <i>body</i> gets processed.
<i>spcname</i>	With the first call of <code>\namespace{spcname}{...}{...}</code> the corresponding environment <i>spcname</i> is defined which processes all <i>before</i> arguments within its preamble.
<code>\namespace*</code>	Essentially the same as the <code>\namespace</code> command but without generation of the corresponding environment.
<code>\usingnamespace</code>	By using <code>\usingnamespace{spcname}</code> one can force $\text{\LaTeX}$ to process the namespace preamble of <i>spcname</i> .

## 3 Implementation

We first make `@` to a character in order to use and define internal commands:

```
1 \makeatletter
```

```
\@defnamespace@ifundef
```

First we define an internal macro which will be used to instantiate the (internal) namespace preamble macro `\@namespace@spcname`

```
2 \def\@defnamespace@ifundef#1{
```

---

\*This document corresponds to `namespc` namespace, dated 2003/10/03.

```

3 \ifundefined{#1}{
4   \long\expandafter\def\csname#1\endcsname{}
5 }{}
6 }

```

`\@n@mesp@cestar` Now we are able to define the internal version of the starred `\namespace` command.

```

7 \newcommand{\@n@mesp@cestar}[3]{
8   \@defnamespace@ifundef{@namespace@#1}
9   \expandafter\g@addto@macro\csname @namespace@#1\endcsname{#2}
10  {
11    \expandafter\relax\csname @namespace@#1\endcsname
12    #3
13  }
14 }

```

`\usingnamespace` The user command `\usingnamespace` just forces initiation and processing of the namespace preamble.

```

15 \newcommand{\usingnamespace}[1]{
16   \@defnamespace@ifundef{@namespace@#1}
17   \csname @namespace@#1\endcsname
18 }

```

`\@provide@namespace@env` This is an internal command which provides the corresponding environment.

```

19 \def\@provide@namespace@env#1{
20   \ifundefined{#1} {
21     \newenvironment{#1}{\usingnamespace{#1}}{}
22   }{}
23 }

```

`\@n@mesp@ce` Next we just add the definition of the respective environment to `\namespace*` in order to obtain the internal version of `\namespace`:

```

24 \newcommand{\@n@mesp@ce}[3]{
25   \@provide@namespace@env{#1}
26   \@n@mesp@cestar{#1}{#2}{#3}
27 }

```

`\namespace` Finally we use the `\@ifstar` macro to define the user commands `\namespace` and `\namespace*`:

```

28 \newcommand*{\namespace}{\@ifstar\@n@mesp@cestar\@n@mesp@ce}

```

@ is made special character again:

```

29 \makeatother

```

## 4 Example

This is example code for the use of the `namespc` package:

```

\namespace{spcname}{
  \newcommand{\spcwidecmd}{\emph{command}\xspace}
} {
  Using \spcwidecmd for the first time.
} % end of namespace

% not defined here: \spcwidecmd

```

```

\namespace{spcname}{ }{
  \spcwidecmd may be used again later.
} % end of namespace

\begin{spcname}
  We can also use \spcwidecmd within the corresponding environment\ldots
\end{spcname}

\usingnamespace{spcname}
\ldots{} or globally: \spcwidecmd.

```

And here's the corresponding L<sup>A</sup>T<sub>E</sub>X output:

Using *command* for the first time.  
*command* may be used again later.  
 We can also use *command* within the corresponding environment...  
 ... or globally: *command*

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