The WTRef Package (v1.0.0)

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Abstract

Package WTRef is a small extension for LaTeX 2ε's cross-referencing. It enables you to divide namespace and scope. It also provides a few ways to customise referencing formats. LaTeX 2ε on any kind of TeX engine is supported. The package requires Package xparse and xkeyval.

1 System requirements

WTRef requires the following.

- TeX engine: any engine
- TeX format: LaTeX 2ε
- Document class: any class
- Required packages: xparse and xkeyval

2 Loading the package

The package should be loaded in the usual LaTeX 2ε way. No package option is available.

```
\usepackage{wtref}
```

3 Cross-reference commands

3.1 Declaring new cross-reference commands

The `\newref` command creates a pair of cross-reference commands. This command can be used in preamble only.

`\newref[`⟨*options*⟩`]{`⟨*ref types*⟩`}`

Herein, ⟨*ref types*⟩ is a comma-separated list of ⟨*ref type*⟩. All characters consisting of ⟨*ref type*⟩ must be 'letter' so that they can be used for control sequences (recommended to use ASCII alphabets only) and may not be empty. Notice that leading and trailing spaces and successive spaces around commas are ignored.

The `\newref` command defines pairs of cross-referencing commands, `\`⟨*ref type*⟩`label` and `\`⟨*ref type*⟩`ref` for each given ⟨*ref type*⟩. In this document,

we call the former *label commands* and the latter *reference commands*. Notice that the `\newref` command may overwrites existing commands (with warning messages), so ⟨*ref name*⟩ should be decided carefully.

In ⟨*options*⟩, you can set the following parameters with key-value list:

`namespace=`⟨*string*⟩ sets ⟨*namespace*⟩ to "⟨*string*⟩:". In case neither `namespace` nor `nonamespace` is specified, or ⟨*string*⟩ of `namespace` is empty, the ⟨*namespace*⟩ parts in labels are set to "⟨*ref type*⟩:".

`nonamespace` sets ⟨*namespace*⟩ to empty. That is to say, the namespace function for the package is disabled. You can give a value for the `nonamespace` key without any error, but the value will be simply ignored.

`scope=`⟨*counter*⟩ sets counter which used as scope. Though you can specify arbitrary LaTeX counter for ⟨*counter*⟩, normally those which have uniqueness in a document are useful. The ⟨*scope*⟩ parts in labels are set to "`\the`⟨*counter*⟩:".

These optional settings apply to all pairs of cross-reference commands corresponding to ⟨*ref type*⟩s in specified ⟨*ref types*⟩.

Identically, if any keys do not specified in ⟨*options*⟩, ⟨*namespace*⟩ is set to "⟨*ref type*⟩", and ⟨*scope*⟩ is set to empty. In other words, while the namespace function is enabled by default, the scope function is not.

3.2 Label commands

Label commands are used for making new labels. The usage of them are the same as the standard `\label` command of LaTeX 2ε, e.g.,

`\exlabel{`⟨*label*⟩`}`

The label commands are equivalent to the following after a full-expansion:

`\label{`⟨*namespace*⟩⟨*scope*⟩⟨*label*⟩`}`

3.3 Reference commands

Reference commands print contents of counters which labeled by label commands in specified formats. The following is the syntax of an example reference command `\exref`:

`\exref[`⟨*the scope*⟩`]{`⟨*label list*⟩`}`

The option argument ⟨*the scope*⟩ can be omitted when the specified label exists in the same scope. You can refer to labels outside a scope by specifying the target scope explicitly, that is the output of proper `\the`⟨*counter*⟩, in the option argument. Notice that if the function of scope is inactive (i.e., in case `scope` key does not specified in ⟨*options*⟩ of `\newref`), this argument is always unnecessary, and it will be ignored all the time.

In argument ⟨*label list*⟩, you can specify multiple labels in a form of comma-separated list. Note that leading and trailing spaces and successive spaces around commas are ignored. In the case, pertinent counters should be printed in comma-separate form by default. You can change this format flexibly with the `\setrefstyle` command.

4 Setting referencing style

The output format of reference commands can be customised with the `\setrefstyle` command. The syntax of the command is as follows:

`\setrefstyle{`⟨*ref types*⟩`}{`⟨*options*⟩`}`

The `\setrefstyle` command can be used anywhere in LaTeX documents, not limited to preambles, and sets the reference format locally.

In ⟨*options*⟩, you can set the following parameters with a key-value list:

`refcmd=`⟨*ref command*⟩ sets the ⟨*ref command*⟩ to used for actual referencing functionality. Herein, `#1` in the ⟨*command*⟩ may be replaced into suitable label name. The default value is `\ref{#1}`. The ⟨*command*⟩ may be used repeatedly for the number of labels in the given ⟨*label list*⟩.

`sep=`⟨*separator*⟩ sets the ⟨*separator*⟩, which used between each ⟨*ref command*⟩, in case more than three labels are given for a ⟨*label list*⟩. Notice that last one separator is set by `last sep`. The default value is `{,\space}`.

`last sep`(`=`⟨*last separator*⟩) sets ⟨*last separator*⟩ to used for the last separator between the ⟨*ref command*⟩s, in case multiple labels are given in ⟨*label list*⟩. The part after `=` can be omitted. In that case, `last sep` is set to identical value of `sep`, and this is the default behavior.

`prefix=`⟨*prefix*⟩ sets ⟨*prefix*⟩ to be put in front of the first ⟨*ref command*⟩ when the reference commands are used. The default value is `{}`.

`suffix=`⟨*suffix*⟩ sets ⟨*suffix*⟩ to be put behind the last ⟨*ref command*⟩ when reference commands are used. The default value is `{}`.

Values of the keys which do not set explicitly in the ⟨*options*⟩ are left unchanged.