

theorem-keys package

version 0.0.0 γ

github.com/mbertucci47/theorem-keys

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Abstract

An expl3-implementation of a key-value interface to `amsthm`, implementing most of the functionality provided by `thmtools`. Full of bugs and incomplete. Don't use it for anything important!

Warning! In addition to being a completely unreliable package, the documentation is just a skeleton! For full details look at the package code.

1 Load-time Options

`overload` (initially unset)

Redefines `\newtheorem` to internally use the `theorem-keys` machinery. The syntax remains the same.

`thmtools-compat` (initially unset)

For compatibility with `thmtools` syntax. Currently defines the `\declaretheoremstyle`, `\declaretheorem`, and `\listoftheorems` commands and the `restatable` environment.

2 Global Options

`\ThmKeysSet{<options>}`

`restate-counters={<comma-list of counters>}` (initially `{equation}`)

The counters whose values are preserved when a theorem is restated.

`continues-code=<code with #1>` (initially continuing from `p.\,``\pageref{#1}`)

3 Theorem Styles

`\NewThmStyle{<name>}{<options>}`

This is `theorem-keys`' version of `thmtools`' `\declaretheoremstyle[<options>]{<name>}`. Since it makes little sense to define a style with no keys, we've made the `<options>` argument mandatory.

3.1 Keys inherited from `thmtools`

The following keys have the same meaning and syntax as the corresponding `thmtools` keys.

`spaceabove=<length>` (initially `\topsep`)

`spacebelow=<length>` (initially `\topsep`)

`bodyfont=` (initially `\itshape`)

`headindent`= $\langle length \rangle$ (initially 0pt)

`headfont`= $\langle font\ declarations \rangle$ (initially `\bfseries`)

`headpunct`= $\langle code \rangle$ (initially `{.}`)

`postheadspace`= $\langle length \rangle$ (initially 5pt plus 1pt minus 1pt)
Do not use this with the `break` key.

`break` (initially unset)
Do not use this with the `postheadspace` key.

`notefont`= $\langle font\ declarations \rangle$ (initially `\fontseries\mddefault\upshape`)

`notebraces`= $\{\langle left\ brace \rangle\}\{\langle right\ brace \rangle\}$ (initially `{\{ }\}`)

`headstyle`=`margin`|`swapnumber`| $\langle code\ using\ \backslash NAME, \backslash NUMBER, and \backslash NOTE \rangle$
Alias `headstyle`. Within $\langle code \rangle$, the commands `\NAME`, `\NUMBER`, and `\NOTE` correspond to the formatted parts of the theorem head.

3.2 Keys added by `theorem-keys`

`inherit-style`= $\langle style\ name \rangle$ (initially unset)
Inherit the keys of any style declared with `\NewThmStyle`^{P.1}. Additionally, the three styles predefined by `amsthm` are possible values: `plain`, `definition`, and `remark`.

4 Declaring Theorems

`\NewThm`{ $\langle env\ name \rangle$ }[$\langle options \rangle$]

Defines a theorem environment $\langle env\ name \rangle$ which itself takes a few options (see [section 5](#)).

```
\NewThm{mytheorem}[
  name=Some Name
]
...
\begin{mytheorem}[a note]
Some text
\end{mytheorem}

\begin{mytheorem}[
  name=a heading,
  label=foo
]
Some more text
\end{mytheorem}

\ref{foo}
```

Some Name 1 (a note). *Some text*

Some Name 2 (a heading). *Some more text*

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4.1 Keys inherited from `thmtools`

`name`= $\langle display\ name \rangle$ (initially title-cased $\langle env\ name \rangle$)
Aliases `title` and `heading`.

`numbered`=`true`|`false` (default `true`, initially `true`)
For compatibility with `thmtools`, also accepts the values `yes` and `no`.

<code>parent</code>	<code>=⟨counter⟩</code>	(initially unset)
Aliases <code>numberwithin</code> and <code>within</code> .		
<code>sibling</code>	<code>=⟨counter⟩</code>	(initially unset)
Aliases <code>numberlike</code> and <code>sharenumber</code> .		
<code>style</code>	<code>=⟨style name⟩</code>	(initially unset)
<code>preheadhook</code>	<code>=⟨code⟩</code>	(initially unset)
<code>postheadhook</code>	<code>=⟨code⟩</code>	(initially unset)
<code>prefoothook</code>	<code>=⟨code⟩</code>	(initially unset)
<code>postfoothook</code>	<code>=⟨code⟩</code>	(initially unset)
Details in section 7.		
<code>refname</code>	<code>=⟨ref name⟩ or {⟨singular name⟩,⟨plural name⟩}</code>	(initially <code>⟨display name⟩</code>)
If a single string, then the name used by <code>hyperref</code> 's <code>\autoref</code> and <code>cleveref</code> 's <code>\cref</code> . If two strings separated by a comma, then the second string is the plural form used by <code>\cref</code> .		
<code>Refname</code>	<code>=⟨ref name⟩ or {⟨singular name⟩,⟨plural name⟩}</code>	(initially <code>⟨display name⟩</code>)
Same as <code>refname</code> but for <code>\Autoref</code> (not yet implemented!) and <code>\Cref</code> .		
<code>qed</code>	<code>=⟨symbol⟩</code>	(default <code>\openbox</code> , initially unset)

4.2 Keys added by `theorem-keys`

<code>tcolorbox</code>	<code>={⟨tcolorbox options⟩}</code>	(initially unset)
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5 Keys available to theorem environments

<code>label</code>	<code>=⟨label name⟩</code>	(initially unset)
<code>note</code>	<code>=⟨text⟩</code>	(initially unset)
Alias <code>name</code> .		
<code>continues</code>	<code>=⟨label name⟩</code>	(initially unset)
<code>restate</code>	<code>=⟨csize⟩</code>	(initially unset)
Defines a command <code>\⟨csize⟩</code> that can be used to restate the theorem, including the body text, later in the document.		

6 Listing Theorems

`\ListOfThms[⟨options⟩]`

`\ThmKeysListSet{⟨options⟩}`

6.1 Keys inherited from `thmtools`

<code>numwidth</code>	<code>=⟨length⟩</code>	(initially 2.3em)
<code>ignore</code>	<code>={⟨comma-list of env names⟩}</code>	(initially unset)
<code>show</code>	<code>={⟨comma-list of env names⟩}</code>	(initially all theorems)
<code>onlynamed</code>	<code>={⟨comma-list of env names⟩}</code>	(initially unset)

<code>ignoreall</code>	(initially unset)
<code>showall</code>	(initially set)
<code>title=<text></code>	(initially List of Theorems)
<code>swapnumber=true false</code>	(initially false)

6.2 Keys added by theorem-keys

`title-code=<code with #1>` (initially `\section*{#1}`)

If `\chapter` is defined, then initially this is instead `\chapter*{#1}`.

`no-title` (initially unset)

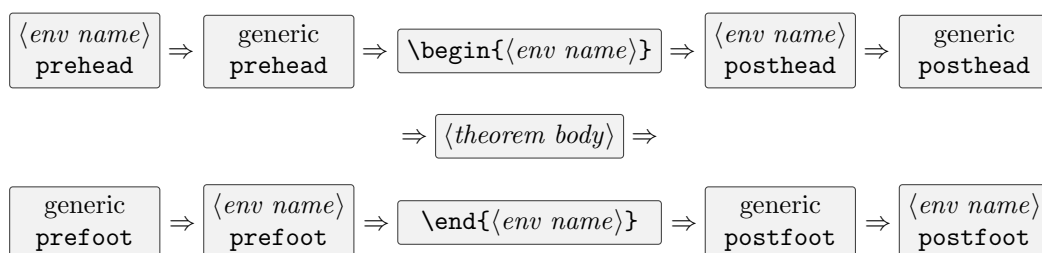
`print-body` (initially unset)

Instead of listing the theorem headings, the theorems are restated with their body text.

7 Theorem Hooks

```
\AddToTheoremPreHeadHook[<env name>]{<code>}
\AddToTheoremPostHeadHook[<env name>]{<code>}
\AddToTheoremPreFootHook[<env name>]{<code>}
\AddToTheoremPostFootHook[<env name>]{<code>}
```

As in thmtools, the order of hooks is as follows:



In thmtools, the `prefoot` and `postfoot` hooks always prepend code, i.e. the code

```
\addtotheorempostfoothook{A}
\addtotheorempostfoothook{B}
```

results in BA after the theorem. With `theorem-keys`, code is added in the order declared, meaning

```
\AddToTheoremPostFootHook{A}
\AddToTheoremPostFootHook{B}
```

results in AB after the theorem. This is the behavior of the L^AT_EX kernel hooks that `theorem-keys` uses under the hood.

Right now, code added using the hook keys `preheadhook`^{→P.3}, etc. is outermost, meaning executed first in `prehead` and `posthead` and last in `prefoot` and `postfoot`. This may change if I think of good reasons to do so...

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