

theorem-keys package

version 0.0.0 γ

github.com/mbertucci47/theorem-keys

Matthew Bertucci

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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})

`qed-symbol`=<symbol> (initially \openbox)

Redefines `\qedsymbol` to be <symbol>.

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`= $\langle length \rangle$ (initially `\topsep`)

`bodyfont`= $\langle font\ declarations \rangle$ (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).

<pre> \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} </pre>	<p>Some Name 1 (a note). <i>Some text</i></p> <p>Some Name 2 (a heading). <i>Some more text</i></p> <p>2</p>
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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`.

`parent`= $\langle counter \rangle$ (initially unset)

Aliases `numberwithin` and `within`.

`sibling`= $\langle counter \rangle$ (initially unset)

Aliases `numberlike` and `sharenumber`.

`style`= $\langle style name \rangle$ (initially unset)

`preheadhook`= $\langle code \rangle$ (initially unset)

`postheadhook`= $\langle code \rangle$ (initially unset)

`prefoothook`= $\langle code \rangle$ (initially unset)

`postfoothook`= $\langle code \rangle$ (initially unset)

Details in [section 7](#).

`refname`= $\langle ref name \rangle$ or $\{\langle singular name \rangle, \langle plural name \rangle\}$ (initially $\langle display name \rangle$)

If a single string, then the name used by `hyperref`'s `\autoref` and `cleveref`'s `\cref`. If two strings separated by a comma, then the second string is the plural form used by `\cref`.

`Refname`= $\langle ref name \rangle$ or $\{\langle singular name \rangle, \langle plural name \rangle\}$ (initially $\langle display name \rangle$)

Same as `refname` but for `\Autoref` (not yet implemented!) and `\Cref`.

`qed`= $\langle symbol \rangle$ (default `\openbox`, initially unset)

4.2 Keys added by theorem-keys

`tcolorbox`= $\{\langle tcolorbox options \rangle\}$ (initially unset)

5 Keys available to theorem environments

`label`= $\langle label name \rangle$ (initially unset)

`note`= $\langle text \rangle$ (initially unset)

Alias `name`.

`continues`= $\langle label name \rangle$ (initially unset)

`restate`= $\langle csnam e \rangle$ (initially unset)

Defines a command `\langle csnam e \rangle` that can be used to restate the theorem, including the body text, later in the document.

6 Listing Theorems

`\ListOfThms`[$\langle options \rangle$]

`\ThmKeysListSet`{ $\langle options \rangle$ }

6.1 Keys inherited from thmtools

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

<code>title-code=<code with #1></code>	(initially <code>\section*{#1}</code>)
If <code>\chapter</code> is defined, then initially this is instead <code>\chapter*{#1}</code> .	
<code>no-title</code>	(initially unset)
<code>print-body</code>	(initially unset)
Instead of listing the theorem headings, the theorems are restated with their body text.	

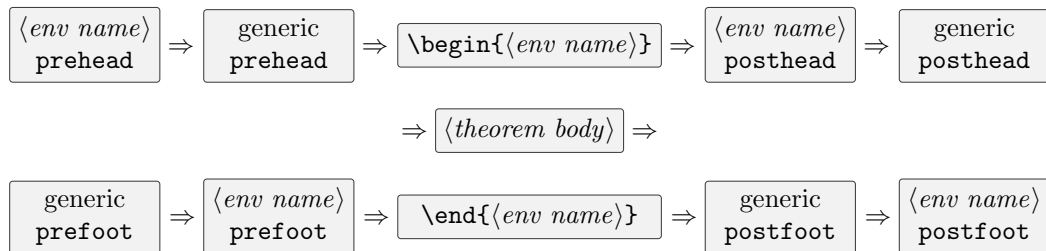
7 Theorem Hooks

```

\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...

Index

\AddToTheoremPostFootHook, 4
 \AddToTheoremPostHeadHook, 4
 \AddToTheoremPreFootHook, 4
 \AddToTheoremPreHeadHook, 4

bodyfont key, 2
 break key, 2

Commands

\AddToTheoremPostFootHook, 4
 \AddToTheoremPostHeadHook, 4
 \AddToTheoremPreFootHook, 4
 \AddToTheoremPreHeadHook, 4
 \declaretheorem, 1
 \declaretheoremstyle, 1
 \listoftheorems, 1
 \ListOfThms, 3
 \NAME, 2
 \NewThm, 2
 \NewThmStyle, 1
 \NOTE, 2
 \NUMBER, 2
 \ThmKeysListSet, 3
 \ThmKeysSet, 1
 continues key, 3
 continues-code key, 1

\declaretheorem, 1
 \declaretheoremstyle, 1
 definition value, 2

Environments

restatable, 1

headfont key, 2
 headindent key, 2
 heading key, 3
 headpunct key, 2
 headstyle key, 2

ignore key, 4
 ignoreall key, 4
 inherit-style key, 2

Keys

bodyfont, 2
 break, 2
 continues, 3
 continues-code, 1
 headfont, 2
 headindent, 2
 heading, 3
 headpunct, 2
 headstyle, 2
 ignore, 4
 ignoreall, 4
 inherit-style, 2
 label, 3
 name, 3
 no-title, 4
 note, 3

notebraces, 2
 notefont, 2
 numbered, 3
 numberlike, 3
 numberwithin, 3
 numwidth, 4
 onlynamed, 4
 overload, 1
 parent, 3
 postfoothook, 3
 postheadhook, 3
 postheadspace, 2
 prefoothook, 3
 preheadhook, 3
 print-body, 4
 qed, 3
 qed-symbol, 1
 Refname, 3
 refname, 3
 restate, 3
 restate-counters, 1
 sharenumber, 3
 show, 4
 showall, 4
 sibling, 3
 spaceabove, 1
 spacebelow, 2
 style, 3
 swapnumber, 4
 tcolorbox, 3
 thmtools-compat, 1
 title, 3, 4
 title-code, 4
 within, 3

label key, 3
 \listoftheorems, 1
 \ListOfThms, 3

margin value, 2

\NAME, 2
 name key, 3
 \NewThm, 2
 \NewThmStyle, 1
 no-title key, 4
 \NOTE, 2
 note key, 3
 notebraces key, 2
 notefont key, 2
 \NUMBER, 2
 numbered key, 3
 numberlike key, 3
 numberwithin key, 3
 numwidth key, 4

onlynamed key, 4
 overload key, 1

parent key, 3
 plain value, 2

- postfoothook key, 3
- postheadhook key, 3
- postheadspace key, 2
- prefoothook key, 3
- preheadhook key, 3
- print-body key, 4

- qed key, 3
- qed-symbol key, 1

- Refname key, 3
- refname key, 3
- remark value, 2
- restatable environment, 1
- restate key, 3
- restate-counters key, 1

- sharenumber key, 3
- show key, 4
- showall key, 4
- sibling key, 3
- spaceabove key, 1
- spacebelow key, 2
- style key, 3
- swapnumber key, 4
- swapnumber value, 2

- tcolorbox key, 3
- \ThmKeysListSet, 3
- \ThmKeysSet, 1
- thmtools-compat key, 1
- title key, 3, 4
- title-code key, 4

- Values
 - definition, 2
 - margin, 2
 - plain, 2
 - remark, 2
 - swapnumber, 2

- within key, 3