

Demonstration on the usage and configuration of “cleveref-forward”

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1 With the default configuration

1.1 Theorem-like environments

LEMMA 1.1. (Used by **THEOREM 1.2.**)

Some preliminary result (see the equation (2)).

THEOREM 1.2. *Test.*

Proof. Some proof that involves **LEMMA 1.1** and the equations (1), (2) and (3) in the next section. Here, `\restorelabel` makes sure that this proof environment is being recognized as the theorem itself. 

1.2 Equations

By default, the forward referencing information is placed immediately after the equation.

$$e^{i\pi} + 1 = 0. \tag{1}$$

(Used by **THEOREM 1.2** on page 1.)

However, with this method, for multilined equations with multiple references, only the last reference will be shown:

$$1 = 0 + 1 \tag{2}$$

$$2 = 1 + 1 \tag{3}$$

(Used by **THEOREM 1.2.**)

This can be overcome if you are willing to place the text message in the margin, see the section on customization.

1.3 Other types

It can also be used for some other types, such as items in `enumerate` list, as long as `cleveref` is properly configured for that type.

2 Specify a default option

If you wish to apply the mode `used on`, or `used by`, or `used by and on` to all `\cref` (and `\labelcref`, etc.), you can use the package option `default = <mode>`. Then you don't need to write it everywhere. And if you wish to manually change this `<mode>` somewhere, you can still specify it as the command option; and if you don't want the message to display for some references, you may also use the option `no use` on the corresponding `\label` to disable the related messages.

3 Customizations

Here is how you change the appearing text:

```
\SetUsedOnMessageText{Appears on~#1.}
\SetUsedByMessageText{Appears in~#1.}
\SetUsedByAndOnMessageText{Appears in~#1 on~#2.}
```

And here is an example of setting the message style with todonotes:

```
\SetForwardReferenceStyle
{%
  \todo[%
    inline,
    size=\scriptsize,
    color=blue!40,
    backgroundcolor=white,
    textcolor=blue!50!cyan,
    bordercolor=blue!50!cyan,
    noprepend]{%
    \textup{#1}%
  }%
}
\SetForwardReferenceStyleOutsideMath
{%
  \todo[%
    inline,
    size=\scriptsize,
    caption={}, % <-- needed, otherwise there would be errors
    color=blue!40,
    backgroundcolor=white,
    textcolor=blue!50!cyan,
    bordercolor=blue!50!cyan,
    noprepend]{%
    \textup{#1}%
  }%
}
```

We use the same example:

LEMMA 3.1.

Appears in **THEOREM 3.2.**

Some preliminary result (see the equation (5)).

THEOREM 3.2. *Test.*

Proof. Some proof that involves **LEMMA 3.1** and the equations (4), (5) and (6). ■

$$e^{i\pi} + 1 = 0. \tag{4}$$

Appears in **THEOREM 3.2** on page 2.

$$1 = 0 + 1 \tag{5}$$

$$2 = 1 + 1 \tag{6}$$

Appears in **THEOREM 3.2**.

As you might have noticed, `\SetForwardReferenceStyleOutsideMath` is for setting the style of those messages that appear outside the equations.


There is also a `\SetForwardReferenceStyleInsideMath`, which triggers the message immediately at where you placed the label. This way it is only plausible to put the message inside the margin. For example, you may configure:

```
\SetForwardReferenceStyle
{
  \marginnote{\normalfont#1}%
}
\SetForwardReferenceStyleInsideMath
{
  \marginnote{\normalfont#1}%
}
```

The result would be somewhat like the following (assuming that your document has margins set wide enough):

LEMMA 3.3. *Some preliminary result (see the equation (8)).* Appears in **THEOREM 3.4**.

THEOREM 3.4. *Test.*

Proof. Some proof that involves **LEMMA 3.3** and the equations (7), (8) and (9). 

$$e^{i\pi} + 1 = 0. \tag{7} \text{ Appears in } \mathbf{THEOREM 3.4} \text{ on page 3.}$$

$$1 = 0 + 1 \tag{8} \text{ Appears in } \mathbf{LEMMA 3.3} \text{ and } \mathbf{THEOREM 3.4.}$$

$$2 = 1 + 1 \tag{9} \text{ Appears in } \mathbf{THEOREM 3.4.}$$

ATTENTION

Please pay attention to the usage of #1 and #2 in the configurations.

By the way, here is the default setting for the style:

```
\SetForwardReferenceStyle
{%
  \emph{#1} \[.3\baselineskip]%
}
\SetForwardReferenceStyleOutsideMath
{%
  \begin{flushright}%
    \emph{#1}%
  \end{flushright}%
  \vspace{.15\baselineskip}%
}
```
