

globalvals – Resuable variables for use in large projects

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This file is maintained by Charles Baynham.
Bug reports can be opened at
<https://github.com/charlesbaynham/globalvals>.

The `globalvals` package allow the user to declare a variable which can then be used anywhere else in a document, including before it was declared. This can be useful in large projects, where value can be entered once and automatically updated throughout the document, without having to maintain a seperate file full of definitions.

This is done by putting the definitions into the `.aux` files, therefore requiring two runs to get it right.

It implements two commands: `\defVal{<key>}{<value>}` and `\useVal{<key>}`. `\defVal` sets up a global variable and `\useVal` recalls it.

Using `\defVal` twice with the same `<key>` will result in an error. Using `\useVal` for an undefined value will output the text “??”.

1 Defining a value

`\defVal` Defining a macro can be done using the command

```
\defVal{<key>}{<value>}
```

For example, you might call

```
\defVal{software_version}{v1.65}
```

`<value>`s will be expanded, so you can also embed macros within your variables, e.g.:

```
\defVal{fractional_stability}{\SI{10E-16}{\per\sqrt\second}}
```

2 Using a variable

`\useVal` To use a defined variable, use the command

```
\useVal{<key>}
```

For instance, the values saved in section 1 could be recalled using

```
\useVal{software_version}
```

and

```
\useVal{fractional_stability}
```

to give “v1.65” and “ $10 \times 10^{-16} / \sqrt{s}$ ”.

Importantly, values may be used **before they are defined**. This is handy if you e.g. would like to refer to a quantity in your abstract but it’s most sensible defined in a later chapter. Like so:

```
The clock’s fractional accuracy is estimated as
\useVal{an_important_quantity}.
...
\defVal{an_important_quantity}{\num{1E-18}}
```

to give

The clock’s fractional accuracy is estimated as 1×10^{-18} .