The `showlabels` package

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This package helps you keep track of all the labels you define, by putting the name of new labels into the margin whenever the `\label` command is used.

You can do the same thing for other commands (see below). The only one for which this is *obviously* useful is the `\cite` command, but it is also reasonable to do it with, for example, the `\ref` or `\begin` commands.

Invoke this package with the command `\usepackage{showlabels}` in the preamble, and you may give the following options:

outer	[default] all notes are placed in the text's outer margin
inner	. . . inner margin
left	. . . left margin
right	. . . right margin
marginal	[default] put notes in the margin
inline	put notes inline, as much as possible, and ignore any of the margin-placement options above
nolabel	do not insert a marginal note for `\label` commands (see command `\showlabels` below)
draft	[default] does nothing, partner of. . .
final	turns off all the package's functionality

If you don't use the twoside option, then all pages are 'right-hand' pages, and the 'outer margin' is the right hand one.

The package will also work in the presence of the twocolumn option. In this case, the options inner, outer, left and right will be ignored, and the label will be placed in the nearer margin.

Finally, we have the options final and draft. The option final turns off all the functionality of this package. This is included so that if that option is given globally in the `\documentclass` declaration then this package does respect it. The draft option does nothing, and therefore simply continues the default behaviour of this package; it is here to partner the final option.

`\showlabels`   If you wish the package to do its magic with another command `\foo` which takes at least one argument (for example `\cite`), then give the command `\showlabels{foo}`. The default behaviour of the package is to give the command `\showlabels{label}` internally; if you don't want this to happen – perhaps be-

cause you *only* want `\cite` commands highlighted – then give the option nolabel to the `\usepackage` command: `\usepackage[nolabel]{showlabels}`.

You can call `\showlabels{foo}` with commands which have starred forms, `\foo*{arg}`, or optional arguments, `\foo[opt]{arg}`. A technical wrinkle is that, in each case, the `{arg}` is read with all of its characters being catcode 'other'; I can't think of a realistic case where this is a problem, since the commands typically given to `\showlabels` will almost certainly do something equivalent to this anyway, but it is a mild change from the default behaviour of the command `\foo`.

You can do this `\showlabels` step even with commands that you invoke only implicitly. If, for example, you want to label each of the entries in your bibliography, then `\showlabels{bibitem}` will do this for each of the items that appear in the {*thebibliography*} environment, whether it is writen by you or by BIBTEX (if you use the 'biblatex' package, then the corresponding command would be `\makeatletter\showlabels{blx@bibitem}\makeatother`, but notice that this is in principle an undocumented internal of the 'biblatex' package, so may change).

By default, the package displays labels in the margin of the document, but as an alternative, labels can be kept inline as much as possible; this is much more legible when there are multiple labels on a single line. To select this, give the option inline, and to select the default behaviour, use marginal.

`\showlabelsinline` It is sometimes convenient (for example when a document encounters a situation which this package mishandles) to force inline labels temporarily, within a `\showlabelsmarginal` block or environment. Use the `\showlabelsinline` macro to do that. The corresponding `\showlabelsmarginal` command has the opposite effect (included for symmetry; it's less likely to be useful).

1 Formatting

If you want to change the font the labels appear in, redefine the `\showlabelfont` command, which by default expands to `\small\ttfamily`. For example, to have labels in a slanted font, and green, you could include the definition

> `\renewcommand{\showlabelfont}{\small\slshape\color{green}}`

in the preamble of your document (as long as you have loaded the {color} package, of course).

Alternatively, the `\showlabels` command has an optional argument containing formatting commands, which allows you to format `\cite` labels, for example, differently from `\label`. Thus:

> `\showlabels[\color{green}]{cite}`

The optional formatting command can be either a font-changing command, as illustrated here, *or* a command which takes a single argument, such as

> `\showlabels[\fbox]{cite}`

If, finally, you want complete control over the labels, you can instead override `\showlabelsetlabel`, which initially expands to just `\showlabelfont #1`. You can use this mechanism to get a variety of effects. For example, if you say

```
\usepackage{showlabels,rotating}
\renewcommand{\showlabelsetlabel}[1]
    {\begin{turn}{60}\showlabelfont #1\end{turn}}
```

then you end up with your labels at a jaunty angle in the margin.

The command `\showlabeltype` will expand to the current label type (ie, 'label' or 'cite', etc), so it would be possible for `\showlabelsetlabel` to conditionalise on that, if you felt that were necessary.[1]

If instead you want to adjust how inline markings are displayed, you can change the definition of the `\showlabelrefline` rule from its default. For example, defining this to be

```
\color{red}\hrule width 0.1em height 1.5ex depth 0pt
```

produces a fattish red line, and defining it to be

```
\hrule width 0pt height 1.5ex depth 0pt
```

suppresses the line but still positions the text between the lines.

2 Compatibility with other packages, and other problems

The {showlabels} package works by redefining the `\label` command, along with a few internal LaTeX commands. All the other commands it defines are 'hidden' by prefixing them with 'SL@', with the exception of the user commands `\showlabelfont` and `\showlabelsetlabel`. Each of the three redefined commands carefully includes its previous definition. The {showlabels} package should therefore come *last* of the packages you include using `\usepackage`.

In version 1.1, the package was modified to conform to the slightly different mechanism that `amsmath` uses to produce equation numbers. Do note that the `\usepackage{showlabels}` command *must* appear after the `\usepackage{amsmath}` if it is to detect that you are using the {amsmath} package[2].

In version 1.3e, the package became compatible with the {hyperref} package in particular, and in general with other packages which themselves modify the `\label` command. This will work, however, only if the {showlabels} package is loaded after other packages which do this. Notwithstanding Sebastian Rahtz's excellent general advice on this, {showlabels} should be loaded after {hyperref}.

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[1] The support for a one-argument command in `\showlabels`, and the presence of the `\showlabeltype` macro, were added in version 1.9.

[2] Note that AMS-LaTeX and the `amstex` package have been declared 'obsolete' in favour of the `amsmath` package. This package now claims conformance with the `amsmath` package alone, though it will probably work with older versions in fact.

In version 1.7, the package became compatible with the equation-numbering mechanism of the {IEEEtrantools} package. As with {amsmath}, this involves a certain amount of special-casing.

For reasonably obvious reasons, this package will not work at all well with the {multicol} package, and for possibly less obvious reasons, it won't work with the leqno option either (at some point it should be modified to at least recognise and warn of the conflict in either case, though it's not obvious to me how to do that). The package *should* now work with {wrapfig}, though I'm not sure that I've exhausted that package's various clevernesses, and there might be some spacing and layout bugs which manifest themselves in that context. Please report them; in the mean time, using option inline should act as a workaround for any that appear.

When labels appear in the margins, they sometimes appear on the 'wrong' side in twoside mode. This is a fairly inevitable side-effect of the way that TeX builds pages, and a specific symptom of the general problem described in `<http://www.tex.ac.uk/cgi-bin/texfaq2html?label=oddpage>`. As that answer suggests, there are bear-traps involved in the standard solutions. Now, showlabels is (a) permanently teetering on the edge of clashing with everything else that messes around with labels, and (b) a draft-only package rather than anything that would appear in a final document. (a) means that I'm rather nervous about putting too much cleverness in there, and incidentally shy of putting any dependencies on other packages; (b) means that I feel it doesn't really matter enough to be worth removing robustness. So I'm afraid I don't plan to change this, and I simply put up with the occasional slip. Again the inline option is a possible workaround.

The package might still work with LaTeX2.09, but that's neither supported, nor even still tested.

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The canonical home page of the package is `<https://purl.org/nxg/dist/showlabels>`, and it is on CTAN at `<https://www.ctan.org/pkg/showlabels>`. The source is in a repository online: `<https://heptapod.host/nxg/showlabels>`.

3 Other packages

The {showlabels} package has a large overlap in functionality with David Carlisle's {showkeys}, although the latter will only handle `\label` and `\cite` keys. If {showlabels} fails in some particular situation, you might want to try using {showkeys}, but please do mention the problem, typically by email to me.

4 History and Credits

I've received bug reports, fixes, or implementable suggestions from many people, including Andreas Balser, bartgol (on Stackexchange), Francesco Biccari, Francis

M. C. Ching, Sven de Vries, A L Dukeman, Michael Friendly, Guillermo Garza, Tino Görtemöller, Lester L. Helms, Boris Kheyfets, Hagen Kleinert, David R. Leal Valmana, Olivier Michel, Enno Nagel, Sungmo Park, Ignacy Sawicki, Andrei Shelankov, Patrick Sibille, 'Stirling' (on Stackexchange), Mariano Suárez-Alvarez, Jiři Vesely, Elmar Walhorn, Alex Watson, Ben William Carabelli, Roland Winkler. Many thanks to all. If I've missed your name out of this list (or indeed if I've alphabetised you incorrectly), please accept my apologies, and do let me know.

The package was originally released by me on 1991 September 21, under the name `labels.sty`. On 1992 January 29, Darrel Hankerson `<hank@ducvax. auburn.edu>`, made the update to NFSS, and changed the name to 'showlabel.sty'.

4.1   Release notes

1.9.2, 2022 July 18 No code changes from 1.9.2-b1, but the documentation notes a new home repository.

1.9.2-b1, 2022 June 11 ¶Fixed a spacing bug when used with the `wrapfig` package (issue 2[3]). Thanks to Romano Giannetti for the report. ¶Added a `\showlabelsmarginal` command. ¶The code has moved (again) to heptapod.host[4]: the new repository is https://heptapod.host/nxg/showlabels[5]. The issues links in the list below are therefore broken.

1.9.1, 2021 October 27 Commands with optional arguments, such as `\bibitem[P\'olya]{polya_5` are now handled with the correct catcodes. Fixes issue 1[6] (new sequencing for issues). Thanks to Michael Levitin for the report here.

1.9, 2021 October 9 ¶Robustness fix: macros in arguments are now handled, so that (after `\showlabel{index}`), `\index{Poincar\'e}` doesn't cause an error. ¶The `\showlabel[optarg]{command}` optional argument can now take a one-argument command. ¶The macro `\showlabeltype` expands to the current label type, for possible use in `\showlabelsetlabel`.

1.8, 2016 June 9 The `ntheorem` package exposed an apparently long-standing incompleteness in the handling of `amsmath` documents. Fixes issue 9[7].

1.7, 2015 December 8 Release v1.7.

1.7b2, 2015 December 7 Make the combination of amsmath and [inline] mode work (fixes issue 8[8] – thanks to A L Dukeman for the report; what is it about showlabels and 6 December?!).

1.7b1, 2014 December 6 This is a much-delayed bugfix release (by coincidence *exactly* a year after the previous release!).

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[3] `<https://heptapod.host/nxg/showlabels/-/issues/2>`
[4] `<https://heptapod.host>`
[5] `<https://heptapod.host/nxg/showlabels>`
[6] `<https://heptapod.host/nxg/showlabels/-/issues/1>`
[7] `<https://bitbucket.org/nxg/showlabels/issues/9/>`
[8] `<https://bitbucket.org/nxg/showlabels/issue/8/>`

¶ Give `\showlabels` an optional formatting argument (implements issue 1[9] – thanks to Francesco Biccari for the suggestion). ¶ Special-case the IEEE-trantools package (fixes issue 2[10] – thanks to Boris Kheyfets for the report and test case, and to Ben William Carabelli for additional analysis and a draft fix). ¶ The `[final]` option now works with the `{amsmath}` package (fixes issue 3[11] – thanks to Guillermo Garza and Enno Nagel for the report, and to Guillermo for the test case). ¶ Handle the hyperref package's `\ref*{label}` variant (fixes issue 4[12] – thanks to Alex Watson for the report and test case). ¶ Handle the case where a label is in a display, but not in maths mode (fixes issue 5[13] – thanks to 'bartgol' on Stackexchange for the report and test case).

1.6.6, 2013 December 6 ¶ Add configuration interface `\showlabelrefline` and ensure that `\color` works in `\showlabelfont`. ¶ Various documentation tweaks. ¶ Change licence from GPL to LPPL. ¶ Fix link to repository.

1.6.5, 2009 May 27 Fixed a bug in the way that labels including underscores (and other 'exotic' characters) were displayed.

1.6.4, 2008 October 10 Fixed another poor interaction between eqnarray and amsart. Now we get equation labels in eqnarray, and we don't get marginal notes about `\eqref` (which is good; might this finally be fixed?).

1.6.3, 2008 July 24 Release 1.6.2 broke compatibility with the *rest* of amsmath (`eqnarray` became the only thing that worked within amsmath)! Fixed. Doh!

1.6.2, 2008 June 27 The reimplementation of eqnarray within amsart was such that equation labels disappeared in that case. Fixed.

1.6.1, 2007 June 17 Fix an errant test, which mangled equation labels starting with two identical letters.

1.6, 2006 May 26 The `\showlabels` command will now work with commands (such as `\cite` or `\includegraphics`) which take an optional argument.

1.5a, 2005 March 17 Defined `\showlabelfont` using `\ttfamily` rather than `\tt` (I'd avoided doing this before to avoid a seemingly pointless incompatibility with LaTeX 2.09, but (a) I imagine the package is incompatible with that for other reasons, and (b) it's really not worth the hassle...).

1.5, 2004 October 8 Added `\showlabelfont` and `\showlabelsetlabel` commands, allowing customisation of the printed labels. Added and documented options [final], [draft] (the former makes this package do nothing; the latter is the default behaviour).

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[9] <https://bitbucket.org/nxg/showlabels/issue/1/>
[10] <https://bitbucket.org/nxg/showlabels/issue/2/>
[11] <https://bitbucket.org/nxg/showlabels/issue/3/>
[12] <https://bitbucket.org/nxg/showlabels/issue/4/>
[13] <https://bitbucket.org/nxg/showlabels/issue/5/>

1.4a, 2003 January 28 Acquired the [left] and [right] options, and fixed a bug which affected \label commands in captions.

1.4, 2001 July 24 Became (more) compatible with the wrapfig package. Also, I added the \showlabels command, to have the package display references to commands other than \label (\cite and \ref are obvious ones), and an [inline] option to have labels (etc.) displayed inline where possible, rather than always in the margin.

1.3e, 2001 May 30 Became compatible with the hyperref package in particular, and in general with other packages which themselves modify the \label command. This will work, however, only if the showlabels package is loaded after other packages which do this. Notwithstanding Sebastian Rahtz's excellent general advice on this, showlabels should indeed be loaded after hyperref.

1.3e, 2001 May 31 After a long delay, here is an updated version of my showlabels package. It corrects all the reported bugs which I could reproduce, namely:

¶ The package now formats labels correctly when the \label command appears outside either an equation or a \caption (silly of me). ¶ A couple of people reported problems in the interaction with the amsmath package. Either these were confined to that package's earlier incarnations as AMS-LaTeX or the amstex package, or else there's some arcane circumstance I can't reproduce, so I haven't found anything to fix on this matter. Note that the \usepackage{showlabels} command must come *after* the \usepackage{amsmath} command. Bug-sightings here will be warmly appreciated. ¶ I haven't worried too much about the precise formatting of the labels – this is, after all, supposed to be a draft-only package.

1.1, 2001 January 1 Modified to conform to the slightly different mechanism that amsmath uses to produce equation numbers. I don't habitually use amsmath, so I won't discover any bugs or weaknesses with its support here, and I'd consequently be glad to be informed of any that appear. Do note that the \usepackage{showlabels} command *must* appear after the \usepackage{amsmath} if it is to detect that you are using the amsmath package. Note also that, since these additions appeared, AMS-LaTeX and the amstex package seem to have been declared 'obsolete' in favour of the amsmath package. This package now claims conformance with the amsmath package alone, though it will probably work with older versions in fact.

This is the first version of the package to be distributed under the name showlabels.

Updated, 1992 January 29 On 1992 January 29, Darrel Hankerson (hank@ducvax.auburn.edu), made the update to NFSS, and changed the name to showlabel.sty.

Original, 1991 September 21 The package was originally released by me on 1991 September 21, under the name labels.sty.