latexindent.pl

Version 3.0

Chris Hughes *

January 23, 2017

Abstract

latexindent.pl is a Perl script that indents .tex (and other) files according to an indentation scheme that the user can modify to suit their taste. Environments, including those with alignment delimiters (such as tabular), and commands, including those that can split braces and brackets across lines, are *usually* handled correctly by the script. Options for verbatim-like environments and indentation after headings (such as chapter, section, etc) are also available. The script also has the ability to modifiy line breaks, and add comment symbols.

Contents

*and contributors! (See Section 7.2 on page 38.) For all communication, please visit [6].

Listings

1 Introduction

1.1 Thanks

I first created `latexindent.pl` to help me format chapter files in a big project. After I blogged about it on the TEX stack exchange [1] I received some positive feedback and follow-up feature requests. A big thank you to Harish Kumar who helped to develop and test the initial versions of the script.

The yaml-based interface of latexindent.pl was inspired by the wonderful arara tool; any similarities are deliberate, and I hope that it is perceived as the compliment that it is. Thank you to Paulo Cereda and the team for releasing this awesome tool; I initially worried that I was going to have to make a GUI for latexindent.pl, but the release of arara has meant there is no need.

There have been several contributors to the project so far (and hopefully more in the future!); thank you very much to the people detailed in Section 7.2 on page 38 for their valued contributions.

1.2 License

latexindent.pl is free and open source, and it always will be. Before you start using it on any important files, bear in mind that latexindent.pl has the option to overwrite your .tex files. It will always make at least one backup (you can choose how many it makes, see page 10) but you should still be careful when using it. The script has been tested on many files, but there are some known limitations (see **??**). You, the user, are responsible for ensuring that you maintain backups of your files before running latexindent.pl on them. I think it is important at this stage to restate an important part of the license here:

> *This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.*

There is certainly no malicious intent in releasing this script, and I do hope that it works as you expect it to; if it does not, please first of all make sure that you have the correct settings, and then feel free to let me know ([6]) with a complete minimum working example as I would like to improve the code as much as possible.

Before you try the script on anything important (like your thesis), test it out on the sample files in the test-case directory ([6]).

If you have used any version 2. of latexindent.pl, there are a few changes to the interface; see* **??** *on page ?? and the comments throughout this document for details*

2 Demonstration: before and after

Let's give a demonstration of some before and after code–after all, you probably won't want to try the script if you don't much like the results. You might also like to watch the video demonstration I made on youtube [10]

As you look at Listings 1 to 6, remember that latexindent.pl is just following its rules, and there is nothing particular about these code snippets. All of the rules can be modified so that each user can personalize their indentation scheme.

FIX

In each of the samples given in Listings 1 to 6 the 'before' case is a 'worst case scenario' with no effort to make indentation. The 'after' result would be the same, regardless of the leading white space at the beginning of each line which is stripped by latexindent.pl (unless a verbatim-like environment or noIndentBlock is specified – more on this in Section 4).

LISTING 1: filecontents before

```
\begin{filecontents}{mybib.bib}
@online{strawberryperl,
title="Strawberry Perl",
url="http://strawberryperl.com/"}
@online{cmhblog,
title="A Perl script ...
url="...
}
\end{filecontents}
```

LISTING 2: filecontents after

```
\begin{filecontents}{mybib.bib}
  @online{strawberryperl,
    title="Strawberry Perl",
    url="http://strawberryperl.com/"}
  @online{cmhblog,
    title="A Perl script ...
    url="...
  }
\end{filecontents}
```

LISTING 3: tikzset before

```
\tikzset{
shrink inner sep/.code={
\pgfkeysgetvalue...
\pgfkeysgetvalue...
}
}
```

LISTING 4: tikzset after

```
\tikzset{
  shrink inner sep/.code={
      \pgfkeysgetvalue...
      \pgfkeysgetvalue...
    }
}
```

LISTING 5: pstricks before

```
\def\Picture#1{%
\def\stripH{#1}%
\begin{pspicture}[showgrid...
\psforeach{\row}{%
{{3,2.8,2.7,3,3.1}},%
{2.8,1,1.2,2,3},%
...
}{%
\expandafter...
}
\end{pspicture}}
```

LISTING 6: pstricks after

```
\def\Picture#1{%
  \def\stripH{#1}%
  \begin{pspicture}[showgrid...
    \psforeach{\row}{%
        {{3,2.8,2.7,3,3.1}},%
        {2.8,1,1.2,2,3},%
      ...
    }{%
      \expandafter...
    }
  \end{pspicture}}
```

3 How to use the script

`latexindent.pl` ships as part of the TEXLive distribution for Linux and Mac users; `latexindent.exe` ships as part of the TEXLive and MiKTEXdistributions for Windows users. These files are also available from github [6] should you wish to use them without a TEX distribution; in this case, you may like to read appendix C on page 40 which details how the `path` variable can be updated.

In what follows, we will always refer to `latexindent.pl`, but depending on your operating system and preference, you might substitute `latexindent.exe` or simply `latexindent`.

There are two ways to use `latexindent.pl`: from the command line, and using `arara`; we discuss these in Section 3.1 and Section 3.2 respectively. We will discuss how to change the settings and behaviour of the script in Section 4 on page 9.

`latexindent.pl` ships with `latexindent.exe` for Windows users, so that you can use the script with or without a Perl distribution. If you plan to use `latexindent.pl` (i.e, the original Perl script) then you will need a few standard Perl modules–see appendix A on page 39 for details.

3.1 From the command line

`latexindent.pl` has a number of different switches/flags/options, which can be combined in any way that you like, either in short or long form as detailed below. `latexindent.pl` produces a `.log` file, `indent.log` every time it is run; the name of the log file can be customised, but we will refer to the log file as `indent.log` throughout this document. There is a base of information that is written to `indent.log`, but other additional information will be written depending on which of the following options are used.

```
cmh:~$ latexindent.pl
```

This will output a welcome message to the terminal, including the version number and available options.

`-h, -help`

```
cmh:~$ latexindent.pl -h
```

As above this will output a welcome message to the terminal, including the version number and available options.

FIX

```
cmh:~$ latexindent.pl myfile.tex
```

This will operate on `myfile.tex`, but will simply output to your terminal; `myfile.tex` will not be changed in any way using this command.

`-w, -overwrite`

```
cmh:~$ latexindent.pl -w myfile.tex
cmh:~$ latexindent.pl --overwrite myfile.tex
cmh:~$ latexindent.pl myfile.tex --overwrite
```

This *will* overwrite `myfile.tex`, but it will make a copy of `myfile.tex` first. You can control the name of the extension (default is `.bak`), and how many different backups are made – more on this in Section 4, and in particular see `backupExtension` and `onlyOneBackUp`.

Note that if `latexindent.pl` can not create the backup, then it will exit without touching your original file; an error message will be given asking you to check the permissions of the backup file.

`-o=output.tex,-outputfile=output.tex`

```
cmh:~$ latexindent.pl -o=output.tex myfile.tex
cmh:~$ latexindent.pl myfile.tex -o=output.tex
cmh:~$ latexindent.pl --outputfile=output.tex myfile.tex
cmh:~$ latexindent.pl --outputfile output.tex myfile.tex
```

This will indent `myfile.tex` and output it to `output.tex`, overwriting it (`output.tex`) if it already exists[1]. Note that if `latexindent.pl` is called with both the `-w` and `-o` switches, then `-w` will be ignored and `-o` will take priority (this seems safer than the other way round).

Note that using `-o` is equivalent to using

```
cmh:~$ latexindent.pl myfile.tex > output.tex
```

See appendix D on page 41 for details of how the interface has changed from Version 2.1 to Version 3.0 for this flag.

`-s, -silent`

```
cmh:~$ latexindent.pl -s myfile.tex
cmh:~$ latexindent.pl myfile.tex -s
```

Silent mode: no output will be given to the terminal.

`-t, -trace`

```
cmh:~$ latexindent.pl -t myfile.tex
cmh:~$ latexindent.pl myfile.tex -t
```

Tracing mode: verbose output will be given to `indent.log`. This is useful if `latexindent.pl` has made a mistake and you're trying to find out where and why. You might also be interested in learning about `latexindent.pl`'s thought process – if so, this switch is for you although it should be noted that, especially for large files, this does affect performance of the script.

`-tt, -ttrace`

[1] Users of version 2.* should note the subtle change in syntax

```
cmh:~$ latexindent.pl -tt myfile.tex
cmh:~$ latexindent.pl myfile.tex -tt
```

More detailed tracing mode: this option gives more details to `indent.log` than the standard `trace` option (note that, even more so than with `-t`, especially for large files, performance of the script will be affected).

`-l, -local[=myyaml.yaml,other.yaml,...]`

```
cmh:~$ latexindent.pl -l myfile.tex
cmh:~$ latexindent.pl -l=myyaml.yaml myfile.tex
cmh:~$ latexindent.pl -l myyaml.yaml myfile.tex
cmh:~$ latexindent.pl -l first.yaml,second.yaml,third.yaml myfile.tex
cmh:~$ latexindent.pl -l=first.yaml,second.yaml,third.yaml myfile.tex
cmh:~$ latexindent.pl myfile.tex -l=first.yaml,second.yaml,third.yaml
```

Local settings: you might like to read Section 4 before using this switch. `latexindent.pl` will always load `defaultSettings.yaml` and if it is called with the `-l` switch and it finds `localSettings.yaml` in the same directory as `myfile.tex` then these settings will be added to the indentation scheme. Information will be given in `indent.log` on the success or failure of loading `localSettings.yaml`.

The `-l` flag can take an *optional* parameter which details the name (or names separated by commas) of a `yaml` file(s) that resides in the same directory as `myfile.tex`; you can use this option if you would like to load a settings file in the current working directory that is *not* called `localSettings.yaml`.

FIX

`-d, -onlydefault`

```
cmh:~$ latexindent.pl -d myfile.tex
```

Only `defaultSettings.yaml`: you might like to read Section 4 before using this switch. By default, `latexindent.pl` will always search for `indentconfig.yaml` or `.indentconfig.yaml` in your home directory. If you would prefer it not to do so then (instead of deleting or renaming `indentconfig.yaml`/`.indentconfig.yaml`) you can simply call the script with the `-d` switch; note that this will also tell the script to ignore `localSettings.yaml` even if it has been called with the `-l` switch.

`-c, -cruft=<directory>`

```
cmh:~$ latexindent.pl -c=/path/to/directory/ myfile.tex
```

If you wish to have backup files and `indent.log` written to a directory other than the current working directory, then you can send these 'cruft' files to another directory.

`-g, -logfile`

```
cmh:~$ latexindent.pl -g=other.log myfile.tex
cmh:~$ latexindent.pl -g other.log myfile.tex
cmh:~$ latexindent.pl --logfile other.log myfile.tex
cmh:~$ latexindent.pl myfile.tex -g other.log
```

By default, `latexindent.pl` reports information to `indent.log`, but if you wish to change this, simply call the script with your chosen name after the `-g` switch.

`-m, -modifylinebreaks`

```
cmh:~$ latexindent.pl -m myfile.tex
cmh:~$ latexindent.pl -modifylinebreaks myfile.tex
```

One of the most exciting developments in Version 3.0 is the ability to modify line breaks; for full details see Section 5 on page 28

`latexindent.pl` can also be called on a file without the file extension, for example `latexindent.pl myfile` and in which case, you can specify the order in which extensions are searched for; see Listing 8 on the following page for full details.

3.2 From `arara`

Using `latexindent.pl` from the command line is fine for some folks, but others may find it easier to use from `arara`. `latexindent.pl` ships with an `arara` rule, `indent.yaml`, which can be copied to the directory of your other `arara` rules; otherwise you can add the directory in which `latexindent.pl` resides to your `araraconfig.yaml` file.

Once you have told `arara` where to find your `indent` rule, you can use it any of the ways described in Listing 7 (or combinations thereof). In fact, `arara` allows yet greater flexibility–you can use `yes/no`, `true/false`, or `on/off` to toggle the various options.

LISTING 7: `arara` sample usage

```
% arara: indent
% arara: indent: {overwrite: yes}
% arara: indent: {output: myfile.tex}
% arara: indent: {silent: yes}
% arara: indent: {trace: yes}
% arara: indent: {localSettings: yes}
% arara: indent: {onlyDefault: on}
% arara: indent: { cruft: /home/cmhughes/Desktop }
% arara: indent: { modifylinebreaks: yes }
\documentclass{article}
...
```

FIX

Hopefully the use of these rules is fairly self-explanatory, but for completeness Table 1 shows the relationship between `arara` directive arguments and the switches given in Section 3.1.

TABLE 1: `arara` directive arguments and corresponding switches

`arara` directive argument	switch
`overwrite`	`-w`
`output`	`-o`
`silent`	`-s`
`trace`	`-t`
`localSettings`	`-l`
`onlyDefault`	`-d`
`cruft`	`-c`
`modifylinebreaks`	`-m`

The `cruft` directive does not work well when used with directories that contain spaces.

4 default, user, and local settings

`latexindent.pl` loads its settings from `defaultSettings.yaml` (rhymes with camel). The idea is to separate the behaviour of the script from the internal working – this is very similar to the way that we separate content from form when writing our documents in LaTeX.

4.1 defaultSettings.yaml

If you look in `defaultSettings.yaml` you'll find the switches that govern the behaviour of `latexindent.pl`. If you're not sure where `defaultSettings.yaml` resides on your computer, don't worry as `indent.log` will tell you where to find it. `defaultSettings.yaml` is commented, but here is a description of what each switch is designed to do. The default value is given in each case; whenever you see *integer* in *this* section, assume that it must be greater than or equal to `0` unless otherwise stated.

You can certainly feel free to edit `defaultSettings.yaml`, but this is not ideal as it may be overwritten when you update your TEX distribution – all of your hard work tweaking the script would be undone! Don't worry, there's a solution, feel free to peek ahead to Section 6 if you like.

`fileExtensionPreference`: ⟨*fields*⟩

`latexindent.pl` can be called to act on a file without specifying the file extension. For example we can call

```
cmh:~$ latexindent.pl myfile
```

in which case the script will look for `myfile` with the extensions specified in `fileExtensionPreference` in their numeric order. If no match is found, the script will exit. As with all of the fields, you should change and/or add to this as necessary.

Calling `latexindent.pl myfile` with the (default) settings specified in Listing 8 means that the script will first look for `myfile.tex`, then `myfile.sty`, `myfile.cls`, and finally `myfile.bib` in order.

LISTING 8: `fileExtensionPreference`

```
22 fileExtensionPreference:
23     .tex: 1
24     .sty: 2
25     .cls: 3
26     .bib: 4
```

`backupExtension`: ⟨*extension name*⟩

If you call `latexindent.pl` with the `-w` switch (to overwrite `myfile.tex`) then it will create a backup file before doing any indentation; the default extension is `.bak`, so, for example, `myfile.bak0` would be created when calling `latexindent.pl myfile.tex`.

By default, every time you subsequently call `latexindent.pl` with the `-w` to act upon `myfile.tex`, it will create successive back up files: `myfile.bak1`, `myfile.bak2`, etc.

`onlyOneBackUp`: ⟨*integer*⟩

If you don't want a backup for every time that you call `latexindent.pl` (so you don't want `myfile.bak1`, `myfile.bak2`, etc) and you simply want `myfile.bak` (or whatever you chose `backupExtension` to be) then change `onlyOneBackUp` to `1`; the default value of `onlyOneBackUp` is `0`.

`maxNumberOfBackUps`: ⟨*integer*⟩

Some users may only want a finite number of backup files, say at most 3, in which case, they can change this switch. The smallest value of `maxNumberOfBackUps` is 0 which will *not* prevent backup files being made; in this case, the behaviour will be dictated entirely by `onlyOneBackUp`. The default value of `maxNumberOfBackUps` is `0`.

`cycleThroughBackUps`: ⟨*integer*⟩

Some users may wish to cycle through backup files, by deleting the oldest backup file and keeping only the most recent; for example, with `maxNumberOfBackUps: 4`, and `cycleThroughBackUps` set to `1` then the `copy` procedure given below would be obeyed.

```
cmh:~$ copy myfile.bak1 to myfile.bak0
cmh:~$ copy myfile.bak2 to myfile.bak1
cmh:~$ copy myfile.bak3 to myfile.bak2
cmh:~$ copy myfile.bak4 to myfile.bak3
```

The default value of `cycleThroughBackUps` is `0`.

`verbatimEnvironments`: ⟨*fields*⟩

A field that contains a list of environments that you would like left completely alone – no indentation will be performed on environments that you have specified in this field, see Listing 9.

Note that if you put an environment in `verbatimEnvironments` and in other fields such as `lookForAlignDelims` or `noAdditionalIndent` then `latexindent.pl` will *always* prioritize `verbatimEnvironments`.

LISTING 9: verbatimEnvironments

```
64 verbatimEnvironments:
65     verbatim: 1
66     lstlisting: 1
```

`verbatimCommands`: ⟨*fields*⟩

A field that contains a list of commands that are verbatim commands, for example `\lstinline`; any commands populated in this field are protected from line breaking routines (only relevant if the `-m` is active, see **??** on page ??).

LISTING 10: verbatimCommands

```
69 verbatimCommands:
70     verb: 1
71     lstinline: 1
```

`noIndentBlock`: ⟨*fields*⟩

If you have a block of code that you don't want `latexindent.pl` to touch (even if it is *not* a verbatim-like environment) then you can wrap it in an environment from `noIndentBlock`; you can use any name you like for this, provided you populate it as demonstrate in Listing 11.

LISTING 11: noIndentBlock

```
77 noIndentBlock:
78     noindent: 1
79     cmhtest: 1
```

Of course, you don't want to have to specify these as null environments in your code, so you use them with a comment symbol, %, followed by as many spaces (possibly none) as you like; see Listing 12 for example.

LISTING 12: noIndentBlock demonstration

```
% \begin{noindent}
        this code
                won't
    be touched
                    by
            latexindent.pl!
%\end{noindent}
```

`removeTrailingWhitespace`: ⟨*fields*⟩

Trailing white space can be removed both *before* and *after* processing the document, as detailed in Listing 13; each of the fields can take the values `0` or `1`. See Listings 147 to 149 on page 33 and on page 34 for before and after results. Thanks to [11] for providing this feature.

LISTING 13: removeTrailingWhitespace

```
82 removeTrailingWhitespace:
83     beforeProcessing: 0
84     afterProcessing: 1
```

`fileContentsEnvironments`: ⟨*field*⟩

Before `latexindent.pl` determines the difference between preamble (if any) and the main document, it first searches for any of the environments specified in `fileContentsEnvironments`, see Listing 14. The behaviour of `latexindent.pl` on these environments is determined by their location (preamble or not), and the value `indentPreamble`, discussed next.

`indentPreamble`: **0**|**1**

The preamble of a document can sometimes contain some trickier code for `latexindent.pl` to operate upon. By default, `latexindent.pl` won't try to operate on the preamble (as `indentPreamble` is set to 0, by default), but if you'd like `latexindent.pl` to try then change `indentPreamble` to 1.

`lookForPreamble`: ⟨*fields*⟩

Not all files contain preamble; for example, `sty`, `cls` and `bib` files typically do *not*. Referencing Listing 15, if you set, for example, `.tex` to 0, then regardless of the setting of the value of `indentPreamble`, preamble will not be assumed when operating upon `.tex` files.

LISTING 15: lookForPreamble

```
96  lookForPreamble:
97      .tex: 1
98      .sty: 0
99      .cls: 0
100     .bib: 0
```

`preambleCommandsBeforeEnvironments`: **0**|**1**

Assuming that `latexindent.pl` is asked to operate upon the preamble of a document, when this switch is set to 0 then environment code blocks will be sought first, and then command code blocks. When this switch is set to 1, commands will be sought first. The example that first motivated this switch contained the code given in Listing 16.

LISTING 16: Motivating `preambleCommandsBeforeEnvironments`

```
...
preheadhook={\begin{mdframed}[style=myframedstyle]},
postfoothook=\end{mdframed},
...
```

`defaultIndent`: ⟨*horizontal space*⟩

This is the default indentation (`\t` means a tab, and is the default value) used in the absence of other details for the command or environment we are working with; see `indentRules` for more details (**??**).

If you're interested in experimenting with `latexindent.pl` then you can *remove* all indentation by setting `defaultIndent:  ""`

`lookForAlignDelims`: ⟨*fields*⟩

This contains a list of environments and/or commands that are operated upon in a special way by `latexindent.pl` (see Listing 17). In fact, the fields in `lookForAlignDelims` can actually take two different forms: the *basic* version is shown in Listing 17

LISTING 17: lookForAlignDelims (basic)

```
lookForAlignDelims:
   tabular: 1
   tabularx: 1
```

and the *advanced* version in Listing 20; we will discuss each in turn.

The environments specified in this field will be operated on in a special way by `latexindent.pl`. In particular, it will try and align each column by its alignment tabs. It does have some limitations (discussed further in **??**), but in many cases it will produce results such as those in Listings 18 and 19.

If you find that `latexindent.pl` does not perform satisfactorily on such environments then you can set the relevant key to 0, for example `tabular: 0`; alternatively, if you just want to ignore *specific* instances of the environment, you could wrap them in something from `noIndentBlock` (see Listing 11).

LISTING 18: `tabular` before

```
\begin{tabular}{cccc}
1&  2 &3       &4\\
5& &6       &\\
\end{tabular}
```

LISTING 19: `tabular` after (basic)

```
\begin{tabular}{cccc}
  1 & 2 & 3 & 4 \\
  5 &   & 6 &   \\
\end{tabular}
```

If you wish to remove the alignment of the \\ within a delimiter-aligned block, then the advanced form of `lookForAlignDelims` shown in Listing 20 is for you.

LISTING 20: `lookForAlignDelims` (advanced)

```
114 lookForAlignDelims:
115    tabular:
116       delims: 1
117       alignDoubleBackSlash: 1
118       spacesBeforeDoubleBackSlash: 2
119    tabularx:
120       delims: 1
121    longtable: 1
```

Note that you can use a mixture of the basic and advanced form: in Listing 20 `tabular` and `tabularx` are advanced and `longtable` is basic. When using the advanced form, each field should receive at least 1 sub-field, and *can* (but does not have to) receive up to 3 fields:

- `delims`: switch equivalent to simply specifying, for example, `tabular: 1` in the basic version shown in Listing 17 (default: 1);
- `alignDoubleBackSlash`: switch to determine if \\ should be aligned (default: 1);
- `spacesBeforeDoubleBackSlash`: optionally, specifies the number of spaces to be inserted before (non-aligned) \\. In order to use this field, `alignDoubleBackSlash` needs to be set to 0 (default: 0).

Assuming that you have the settings in Listing 20 saved in `mysettings.yaml`, and the code from Listing 18 in `myfile.tex` and you run

```
cmh:~$ latexindent.pl -l mysettings.yaml myfile.tex
```

then you should receive the before-and-after results shown in Listings 21 and 22; note that the ampersands have been aligned, but the \\ have not (compare the alignment of \\ in Listings 19 and 22).

LISTING 21: `tabular` before

```
\begin{tabular}{cccc}
1&  2 &3       &4\\
5& &6       &\\
\end{tabular}
```

LISTING 22: `tabular` after (advanced)

```
\begin{tabular}{cccc}
  1 & 2 & 3 & 4\\
  5 &   & 6 &\\
\end{tabular}
```

Using `spacesBeforeDoubleBackSlash: 3` gives Listings 23 and 24, note the spacing before the \\ in Listing 24.

LISTING 23: `tabular` before

```
\begin{tabular}{cccc}
1&  2 &3       &4\\
5& &6       &\\
\end{tabular}
```

LISTING 24: `tabular` after (spacing)

```
\begin{tabular}{cccc}
  1 & 2 & 3 & 4   \\
  5 &   & 6 &   \\
\end{tabular}
```

As of Version 3.0, the alignment routine works on mandatory and optional arguments within commands, and also within 'special' code blocks (see); for example, assuming that you have a command called `\matrix` and that it is populated within `lookForAlignDelims` (which it is, by default), then the before-and-after results shown in Listings 25 and 26 are achievable by default.

FIX

LISTING 25: `matrix` before

```
\matrix [
  1&2   &3
4&5&6]{
7&8   &9
10&11&12
}
```

LISTING 26: `matrix` after

```
\matrix [
  1 & 2 & 3
  4 & 5 & 6
]{
  7  & 8  & 9
  10 & 11 & 12
}
```

FIX

FIX

`indentAfterItems`: ⟨*fields*⟩

The environments specified in `indentAfterItems` tell `latexindent.pl` to look for `\item` commands; if these switches are set to 1 then indentation will be performed so as indent the code after each `item`. A demonstration is given in Listings 28 and 29

LISTING 27: `indentAfterItems`

```
148 indentAfterItems:
149     itemize: 1
150     enumerate: 1
151     list: 1
```

LISTING 28: `items` before

```
\begin{itemize}
\item some text here
some more text here
some more text here
\item another item
some more text here
\end{itemize}
```

LISTING 29: `items` after

```
\begin{itemize}
  \item some text here
        some more text here
        some more text here
  \item another item
        some more text here
\end{itemize}
```

`itemNames`: ⟨*fields*⟩

If you have your own `item` commands (perhaps you prefer to use `myitem`, for example) then you can put populate them in `itemNames`. For example, users of the `exam` document class might like to add `parts` to `indentAfterItems` and `part` to `itemNames` to their user settings–see Section 6 on page 36 for details of how to configure user settings, and Listing 164 on page 37 in particular.

LISTING 30: `itemNames`

```
157 itemNames:
158     item: 1
159     myitem: 1
```

`specialBeginEnd`: ⟨*fields*⟩

The fields specified in `specialBeginEnd` are, in their default state, focused on math mode begin and end statements, but there is no requirement for this to be the case; Listing 31 shows the default settings of `specialBeginEnd`.

LISTING 31: specialBeginEnd

```
specialBeginEnd:
    displayMath:
        begin: '\\\['
        end: '\\\]'
        lookForThis: 1
    inlineMath:
        begin: '(?<!\$)(?<!\\)\$(?!\$)'
        end: '(?<!\\)\$(?!\$)'
        lookForThis: 1
    displayMathTeX:
        begin: '\$\$'
        end: '\$\$'
        lookForThis: 1
```

The field `displayMath` represents `\[...\]`, `inlineMath` represents `$...$` and `displayMathTex` represents `$$...$$`. You can, of course, rename these in your own YAML files (see Section 6.1 on page 37); indeed, you might like to set up your own specil begin and end statements.

A demonstration of the before-and-after results are shown in Listings 32 and 33.

LISTING 32: special1.tex before

```
The function $ f $ has formula
\[
f(x)=x^2.
\]
If you like splitting dollars,
$
g(x)=f(2x)
$
```

LISTING 33: special1.tex after

```
The function $ f $ has formula
\[
  f(x)=x^2.
\]
If you like splitting dollars,
$
  g(x)=f(2x)
$
```

For each field, the `lookForThis` is set to `1` by default, which means that `latexindent.pl` will look for this pattern; you can tell `latexindent.pl` not to look for the pattern, by setting `lookForThis` to `0`.

`indentAfterHeadings`: ⟨*fields*⟩

This field enables the user to specify indentation rules that take effect after heading commands such as `\part`, `\chapter`, `\section`, `\subsection*`, or indeed any user-specified command written in this field.[2]

LISTING 34: indentAfterHeadings

```
indentAfterHeadings:
    part:
       indentAfterThisHeading: 0
       level: 1
    chapter:
       indentAfterThisHeading: 0
       level: 2
    section:
       indentAfterThisHeading: 0
       level: 3
```

This field is slightly different from most of the fields that we have considered previously, because each element is itself a field which has two elements: `indent` and `level`. (Similar in structure to the advanced form of `lookForAlignDelims` in Listing 20.)

The default settings do *not* place indentation after a heading, but you can easily switch them on by changing `indentAfterThisHeading: 0` to `indentAfterThisHeading: 1`. The

[2] There is a slight difference in interface for this field when comparing Version 2.2 to Version 3.0; see appendix D on page 41 for details.

`level` field tells `latexindent.pl` the hierarchy of the heading structure in your document. You might, for example, like to have both `section` and `subsection` set with `level: 3` because you do not want the indentation to go too deep.

You can add any of your own custom heading commands to this field, specifying the `level` as appropriate. You can also specify your own indentation in `indentRules` ; you will find the default `indentRules` contains `chapter: " "` which tells `latexindent.pl` simply to use a space character after headings (once `indent` is set to 1 for `chapter`).

FIX

For example, assuming that you have read Section 6.1 on page 37, say that you have the code in Listing 36 saved into `headings1.yaml`, and that you have the text from Listing 36 saved into `headings1.tex`.

LISTING 35: `headings1.yaml`

```
indentAfterHeadings:
    subsection:
       indentAfterThisHeading: 1
       level: 1
    paragraph:
       indentAfterThisHeading: 1
       level: 2
```

LISTING 36: `headings1.tex`

```
\subsection{subsection title}
subsection text
subsection text
\paragraph{paragraph title}
paragraph text
paragraph text
\paragraph{paragraph title}
paragraph text
paragraph text
```

If you run the command

```
cmh:~$ latexindent.pl headings1.tex -l=headings1.yaml
```

then you should receive the output given in Listing 37.

LISTING 37: `headings1.tex` first modification

```
\subsection{subsection title}
  subsection text
  subsection text
  \paragraph{paragraph title}
    paragraph text
    paragraph text
  \paragraph{paragraph title}
    paragraph text
    paragraph text
```

LISTING 38: `headings1.tex` second modification

```
\subsection{subsection title}
  subsection text
  subsection text
\paragraph{paragraph title}
  paragraph text
  paragraph text
\paragraph{paragraph title}
  paragraph text
  paragraph text
```

Now say that you modify the YAML from Listing 36 so that the `paragraph` `level` is 1; after running

```
cmh:~$ latexindent.pl headings1.tex -l=headings1.yaml
```

you should now receive the code given in Listing 38; notice that the `paragraph` and `subsection` are at the same indentation level.

4.2 `noAdditionalIndent` and `indentRules`

`latexindent.pl` searches YAML fields for information in the following order:

1. `noAdditionalIndent` for the *name* of the current ⟨*thing*⟩;
2. `indentRules` for the *name* of the current ⟨*thing*⟩;
3. `noAdditionalIndentGlobal` for the *type* of the current ⟨*thing*⟩;
4. `indentRulesGlobal` for the *type* of the current ⟨*thing*⟩.

Using the above list, the first piece of information to be found will be used; failing that, the value of `defaultIndent` is used. If information is found in multiple fields, the first one according to the list above will be used; for example, if information is present in both `indentRules` and in `noAdditionalIndentGlobal`, then the information from `indentRules` takes priority.

We now present details for the different type of code blocks known to `latexindent.pl`.

FIX

4.2.1 Environments and their arguments

There are a few different YAML switches governing the indentation of environments; let's start with the simple sample code shown in Listing 39.

LISTING 39: `myenv.tex`

```
\begin{outer}
\begin{myenv}
  body of environment
body of environment
     body of environment
\end{myenv}
\end{outer}
```

`noAdditionalIndent`: ⟨*fields*⟩

If we do not wish `myenv` to receive any additional indentation, we have a few choices available to us, as demonstrated in Listings 40 and 41.

LISTING 40: `myenv-noAdd1.yaml`

```
noAdditionalIndent:
    myenv: 1
```

LISTING 41: `myenv-noAdd2.yaml`

```
noAdditionalIndent:
    myenv:
        body: 1
```

On applying either of the following commands,

```
cmh:~$ latexindent.pl myenv.tex -l myenv-noAdd1.yaml
cmh:~$ latexindent.pl myenv.tex -l myenv-noAdd2.yaml
```

we obtain the output given in Listing 42; note in particular that the environment `myenv` has not received any *additional* indentation, but that the `outer` environment *has* still received indentation.

LISTING 42: `myenv.tex` output (using either Listings 40 and 41)

```
\begin{outer}
  \begin{myenv}
  body of environment
  body of environment
  body of environment
  \end{myenv}
\end{outer}
```

Upon changing the YAML files to those shown in Listings 43 and 44, and running either

```
cmh:~$ latexindent.pl myenv.tex -l myenv-noAdd3.yaml
cmh:~$ latexindent.pl myenv.tex -l myenv-noAdd4.yaml
```

we obtain the output given in Listing 45.

LISTING 43: myenv-noAdd3.yaml

```
noAdditionalIndent:
    myenv: 0
```

LISTING 44: myenv-noAdd4.yaml

```
noAdditionalIndent:
    myenv:
        body: 0
```

LISTING 45: myenv.tex output (using either Listings 43 and 44)

```
\begin{outer}
  \begin{myenv}
    body of environment
    body of environment
    body of environment
  \end{myenv}
\end{outer}
```

Let's now allow myenv to have some optional and mandatory arguments, as in Listing 46.

LISTING 46: myenv-args.tex

```
\begin{outer}
\begin{myenv}[%
  optional argument text
        optional argument text]%
  { mandatory argument text
 mandatory argument text}
  body of environment
body of environment
     body of environment
\end{myenv}
\end{outer}
```

Upon running

```
cmh:~$ latexindent.pl -l=myenv-noAdd1.yaml myenv-args.tex
```

we obtain the output shown in Listing 47; note that the optional argument, mandatory argument and body *all* have received no additional indent. This is because, when noAdditionalIndent is specified in 'scalar' form (as in Listing 40), then *all* parts of the environment (body, optional and mandatory arguments) are assumed to want no additional indent.

LISTING 47: myenv-args.tex using Listing 40

```
\begin{outer}
  \begin{myenv}[%
  optional argument text
  optional argument text]%
  { mandatory argument text
  mandatory argument text}
  body of environment
  body of environment
  body of environment
  \end{myenv}
\end{outer}
```

We may customise noAdditionalIndent for optional and mandatory arguments of the myenv environment, as shown in, for example, Listings 48 and 49.

LISTING 48: myenv-noAdd5.yaml

```
noAdditionalIndent:
    myenv:
        body: 0
        optionalArguments: 1
        mandatoryArguments: 0
```

LISTING 49: myenv-noAdd6.yaml

```
noAdditionalIndent:
    myenv:
        body: 0
        optionalArguments: 0
        mandatoryArguments: 1
```

Upon running

```
cmh:~$ latexindent.pl myenv.tex -l myenv-noAdd5.yaml
cmh:~$ latexindent.pl myenv.tex -l myenv-noAdd6.yaml
```

we obtain the respective outputs given in Listings 50 and 51. Note that in Listing 50 the text for the *optional* argument has not received any additional indentation, and that in Listing 51 the *mandatory* argument has not received any additional indentation; in both cases, the *body* has not received any additional indentation.

LISTING 50: myenv-args.tex using Listing 48

```
\begin{outer}
  \begin{myenv}[%
    optional argument text
    optional argument text]%
    { mandatory argument text
      mandatory argument text}
    body of environment
    body of environment
    body of environment
  \end{myenv}
\end{outer}
```

LISTING 51: myenv-args.tex using Listing 49

```
\begin{outer}
  \begin{myenv}[%
      optional argument text
      optional argument text]%
    { mandatory argument text
    mandatory argument text}
    body of environment
    body of environment
    body of environment
  \end{myenv}
\end{outer}
```

indentRules: ⟨*fields*⟩

We may also specify indentation rules for environment code blocks using the indentRules field; see, for example, Listings 52 and 53.

LISTING 52: myenv-rules1.yaml

```
indentRules:
    myenv: "    "
```

LISTING 53: myenv-rules2.yaml

```
indentRules:
    myenv:
        body: "    "
```

On applying either of the following commands,

```
cmh:~$ latexindent.pl myenv.tex -l myenv-rules1.yaml
cmh:~$ latexindent.pl myenv.tex -l myenv-rules2.yaml
```

we obtain the output given in Listing 54; note in particular that the environment myenv has not received any *additional* indentation, but that the outer environment *has* still received indentation.

LISTING 54: myenv.tex output (using either Listings 52 and 53)

```
\begin{outer}
  \begin{myenv}
     body of environment
     body of environment
     body of environment
  \end{myenv}
\end{outer}
```

If you specify a field in `indentRules` using anything other than horizontal space, it will be ignored.

Let's now return to the example in Listing 46 that contains optional and mandatory arguments. Upon using Listing 52 as in

```
cmh:~$ latexindent.pl myenv-args.tex -l=myenv-rules1.yaml
```

we obtain the output in Listing 55; note that the body, optional argument and mandatory argument have *all* received the same customised indentation.

LISTING 55: myenv-args.tex using Listing 52

```
\begin{outer}
  \begin{myenv}[%
        optional argument text
        optional argument text]%
     { mandatory argument text
        mandatory argument text}
     body of environment
     body of environment
     body of environment
  \end{myenv}
\end{outer}
```

You can specify different indentation rules for the different features using, for example, Listings 56 and 57

LISTING 56: myenv-rules3.yaml

```
indentRules:
    myenv:
        body: "    "
        optionalArguments: " "
```

LISTING 57: myenv-rules4.yaml

```
indentRules:
    myenv:
        body: "    "
        mandatoryArguments: "\t\t"
```

After running

```
cmh:~$ latexindent.pl myenv-args.tex -l myenv-rules3.yaml
cmh:~$ latexindent.pl myenv-args.tex -l myenv-rules4.yaml
```

then we obtain the respective outputs given in Listings 58 and 59.

LISTING 58: myenv-args.tex using Listing 56

```
\begin{outer}
  \begin{myenv}[%
      optional argument text
      optional argument text]%
     { mandatory argument text
       mandatory argument text}
     body of environment
     body of environment
     body of environment
  \end{myenv}
\end{outer}
```

LISTING 59: myenv-args.tex using Listing 57

```
\begin{outer}
  \begin{myenv}[%
       optional argument text
       optional argument text]%
    { mandatory argument text
        mandatory argument text}
    body of environment
    body of environment
    body of environment
  \end{myenv}
\end{outer}
```

Note that in Listing 58, the optional argument has only received a single space of indentation, while the mandatory argument has received the default (tab) indentation; the environment body has received three spaces of indentation.

In Listing 59, the optional argument has received the default (tab) indentation, the mandatory argument has received two tabs of indentation, and the body has received three spaces of indentation.

`noAdditionalIndentGlobal`: ⟨*fields*⟩

Assuming that your environment name is not found within neither `noAdditionalIndent` nor `indentRules`, the next place that `latexindent.pl` will look is `noAdditionalIndentGlobal`, and in particular *for the environments* key (see Listing 60). Let's say that you change the value of `environments` to 1 in Listing 60, and that you run

LISTING 60: env-noAdditionalGlobal.yaml

```
noAdditionalIndentGlobal:
    environments: 0
```

```
cmh:~$ latexindent.pl myenv-args.tex -l env-noAdditionalGlobal.yaml
cmh:~$ latexindent.pl myenv-args.tex -l myenv-rules1.yaml,env-noAdditionalGlobal.yaml
```

The respective output from these two commands are in Listings 61 and 62; in Listing 61 notice that *both* environments receive no additional indentation but that the arguments of `myenv` still *do* receive indentation. In Listing 62 notice that the *outer* environment does not receive additional indentation, but because of the settings from `myenv-rules1.yaml` (in Listing 52 on page 19), the `myenv` environment still *does* receive indentation.

LISTING 61: myenv-args.tex using Listing 60

```
\begin{outer}
\begin{myenv}[%
  optional argument text
  optional argument text]%
{ mandatory argument text
  mandatory argument text}
body of environment
body of environment
body of environment
\end{myenv}
\end{outer}
```

LISTING 62: myenv-args.tex using Listings 52 and 60

```
\begin{outer}
\begin{myenv}[%
      optional argument text
      optional argument text]%
   { mandatory argument text
      mandatory argument text}
   body of environment
   body of environment
   body of environment
\end{myenv}
\end{outer}
```

In fact, `noAdditionalIndentGlobal` also contains keys that control the indentation of optional and mandatory arguments; on referencing Listings 63 and 64

LISTING 63: opt-args-no-add-glob.yaml

```
noAdditionalIndentGlobal:
    optionalArguments: 1
```

LISTING 64: mand-args-no-add-glob.yaml

```
noAdditionalIndentGlobal:
    mandatoryArguments: 1
```

we may run the commands

```
cmh:~$ latexindent.pl  myenv-args.tex -local opt-args-no-add-glob.yaml
cmh:~$ latexindent.pl  myenv-args.tex -local mand-args-no-add-glob.yaml
```

which produces the respective outputs given in Listings 65 and 66. Notice that in Listing 65 the *optional* argument has not received any additional indentation, and in Listing 66 the *mandatory* argument has not received any additional indentation.

LISTING 65: myenv-args.tex using Listing 63

```
\begin{outer}
  \begin{myenv}[%
    optional argument text
    optional argument text]%
    { mandatory argument text
      mandatory argument text}
    body of environment
    body of environment
    body of environment
  \end{myenv}
\end{outer}
```

LISTING 66: myenv-args.tex using Listing 64

```
\begin{outer}
  \begin{myenv}[%
      optional argument text
      optional argument text]%
    { mandatory argument text
    mandatory argument text}
    body of environment
    body of environment
    body of environment
  \end{myenv}
\end{outer}
```

indentRulesGlobal: ⟨*fields*⟩

The final check that `latexindent.pl` will make is to look for `indentRules` as detailed in Listing 67; if you change the `environments` field to anything involving horizontal space, say `" "`, and then run the following commands

LISTING 67: env-indentRulesGlobal.yaml

```
indentRulesGlobal:
    environments: 0
```

```
cmh:~$ latexindent.pl  myenv-args.tex -l env-indentRules.yaml
cmh:~$ latexindent.pl  myenv-args.tex -l myenv-rules1.yaml,env-indentRules.yaml
```

then the respective output is shown in Listings 68 and 69. Note that in Listing 68, both the environment blocks have received a single-space indentation, whereas in Listing 69 the `outer` environment has received single-space indentation (specified by `indentRulesGlobal`), but `myenv` has received `"  "`, as specified by the particular `indentRules` for `myenv` Listing 52 on page 19.

LISTING 68: myenv-args.tex using Listing 67

```
\begin{outer}
 \begin{myenv}[%
    optional argument text
    optional argument text]%
  { mandatory argument text
    mandatory argument text}
  body of environment
  body of environment
  body of environment
 \end{myenv}
\end{outer}
```

LISTING 69: myenv-args.tex using Listings 52 and 67

```
\begin{outer}
 \begin{myenv}[%
      optional argument text
      optional argument text]%
   { mandatory argument text
     mandatory argument text}
   body of environment
   body of environment
   body of environment
 \end{myenv}
\end{outer}
```

You can specify `indentRulesGlobal` for both optional and mandatory arguments, as detailed in Listings 70 and 71

LISTING 70: opt-args-indent-rules-glob.yaml

```
indentRulesGlobal:
    optionalArguments: "\t\t"
```

LISTING 71: mand-args-indent-rules-glob.yaml

```
indentRulesGlobal:
    mandatoryArguments: "\t\t"
```

Upon running the following commands

```
cmh:~$ latexindent.pl  myenv-args.tex -local opt-args-indent-rules-glob.yaml
cmh:~$ latexindent.pl  myenv-args.tex -local mand-args-indent-rules-glob.yaml
```

we obtain the respective outputs in Listings 72 and 73. Note that the *optional* argument in Listing 72 has received two tabs worth of indentation, while the *mandatory* argument has done so in Listing 73.

LISTING 72: myenv-args.tex using Listing 70

```
\begin{outer}
  \begin{myenv}[%
        optional argument text
        optional argument text]%
    { mandatory argument text
      mandatory argument text}
    body of environment
    body of environment
    body of environment
  \end{myenv}
\end{outer}
```

LISTING 73: myenv-args.tex using Listing 71

```
\begin{outer}
  \begin{myenv}[%
      optional argument text
      optional argument text]%
    { mandatory argument text
        mandatory argument text}
    body of environment
    body of environment
    body of environment
  \end{myenv}
\end{outer}
```

4.2.2 Environments with items

With reference to Listings 27 and 30 on page 14, some commands may contain `item` commands; for the purposes of this discussion, we will use the code from Listing 28 on page 14.

Assuming that you've populated `itemNames` with the name of your `item`, you can put the item name into `noAdditionalIndent` as in Listing 74, although a more efficient approach may be to change the relevant field in `itemNames` to `0`. Similarly, you can customise the indentation that your `item` receives using `indentRules`, as in Listing 75

LISTING 74: item-noAdd1.yaml

```
noAdditionalIndent:
    item: 1
# itemNames:
#   item: 0
```

LISTING 75: item-rules1.yaml

```
indentRules:
    item: " "
```

Upon running the following commands

```
cmh:~$ latexindent.pl items1.tex -local item-noAdd1.yaml
cmh:~$ latexindent.pl items1.tex -local item-rules1.yaml
```

the respective outputs are given in Listings 76 and 77; note that in Listing 76 that the text after each `item` has not received any additional identation, and in Listing 77, the text after each `item` has received a single space of indentation, specified by Listing 75.

LISTING 76: items1.tex using Listing 74

```
\begin{itemize}
  \item some text here
  some more text here
  some more text here
  \item another item
  some more text here
\end{itemize}
```

LISTING 77: items1.tex using Listing 75

```
\begin{itemize}
  \item some text here
   some more text here
   some more text here
  \item another item
   some more text here
\end{itemize}
```

Alternatively, you might like to populate `noAdditionalIndentGlobal` or `indentRulesGlobal` using the `items` key, as demonstrated in Listings 78 and 79. Note that there is a need to 'reset/remove' the `item` field from `indentRules` in both cases (see the hierarchy description given on page 16) as the `item` command is a member of `indentRules` by default.

LISTING 78: items-noAdditionalGlobal.yaml

```
indentRules:
    item: 0
noAdditionalIndentGlobal:
    items: 1
```

LISTING 79: items-indentRulesGlobal.yaml

```
indentRules:
    item: 0
indentRulesGlobal:
    items: " "
```

Upon running the following commands,

```
cmh:~$ latexindent.pl items1.tex -local items-noAdditionalGlobal.yaml
cmh:~$ latexindent.pl items1.tex -local items-indentRulesGlobal.yaml
```

the respective outputs from Listings 76 and 77 are obtained; note, however, that *all* such `item` commands without their own individual `noAdditionalIndent` or `indentRules` settings would behave as in these listings.

4.2.3 Commands with arguments

Let's begin with the simple example Listing 80; when `latexindent.pl` operates on this file, the default output is shown in Listing 81.

LISTING 80: mycommand.tex

```
\mycommand
{
mand arg text
mand arg text}
[
opt arg text
opt arg text
]
```

LISTING 81: mycommand.tex default output

```
\mycommand
{
  mand arg text
  mand arg text}
[
  opt arg text
  opt arg text
]
```

As in the environment-based case (see Listings 40 and 41 on page 17) we may specify `noAdditionalIndent` either in 'scalar' form, or in 'field' form, as shown in Listings 82 and 83

LISTING 82: mycommand-noAdd1.yaml

```
noAdditionalIndent:
    mycommand: 1
```

LISTING 83: mycommand-noAdd2.yaml

```
noAdditionalIndent:
    mycommand:
        body: 1
```

After running the following commands,

```
cmh:~$ latexindent.pl mycommand.tex -l mycommand-noAdd1.yaml
cmh:~$ latexindent.pl mycommand.tex -l mycommand-noAdd2.yaml
```

we receive the respective output given in Listings 84 and 85

LISTING 84: mycommand.tex using Listing 82

```
\mycommand
{
mand arg text
mand arg text}
[
opt arg text
opt arg text
]
```

LISTING 85: mycommand.tex using Listing 83

```
\mycommand
{
  mand arg text
  mand arg text}
[
  opt arg text
  opt arg text
]
```

Note that in Listing 84 that the 'body', optional argument *and* mandatory argument have *all* received no additional indentation, while in Listing 85, only the 'body' has not received any additional indentation. We define the 'body' of a command as any lines following the command name that include its optional or mandatory arguments.

We may further customise *noAdditionalIndent* for `mycommand` as we did in Listings 48 and 49 on page 19; explicit examples are given in Listings 86 and 87.

LISTING 86: mycommand-noAdd3.yaml

```
noAdditionalIndent:
    mycommand:
        body: 0
        optionalArguments: 1
        mandatoryArguments: 0
```

LISTING 87: mycommand-noAdd4.yaml

```
noAdditionalIndent:
    mycommand:
        body: 0
        optionalArguments: 0
        mandatoryArguments: 1
```

After running the following commands,

```
cmh:~$ latexindent.pl mycommand.tex -l mycommand-noAdd3.yaml
cmh:~$ latexindent.pl mycommand.tex -l mycommand-noAdd4.yaml
```

we receive the respective output given in Listings 88 and 89.

LISTING 88: mycommand.tex using Listing 86

```
\mycommand
{
  mand arg text
  mand arg text}
[
opt arg text
opt arg text
]
```

LISTING 89: mycommand.tex using Listing 87

```
\mycommand
{
mand arg text
mand arg text}
[
  opt arg text
  opt arg text
]
```

Attentive readers will note that the body of `mycommand` in both Listings 88 and 89 has received no additional indent, even though `body` is explicitly set to `0` in both Listings 86 and 87. This is because, by default, `noAdditionalIndentGlobal` for `commands` is set to `1` by default; this can be easily fixed as in Listings 90 and 91.

LISTING 90: mycommand-noAdd5.yaml

```
noAdditionalIndent:
    mycommand:
        body: 0
        optionalArguments: 1
        mandatoryArguments: 0
noAdditionalIndentGlobal:
    commands: 0
```

LISTING 91: mycommand-noAdd6.yaml

```
noAdditionalIndent:
    mycommand:
        body: 0
        optionalArguments: 0
        mandatoryArguments: 1
noAdditionalIndentGlobal:
    commands: 0
```

After running the following commands,

```
cmh:~$ latexindent.pl mycommand.tex -l mycommand-noAdd5.yaml
cmh:~$ latexindent.pl mycommand.tex -l mycommand-noAdd6.yaml
```

we receive the respective output given in Listings 92 and 93.

LISTING 92: mycommand.tex using Listing 90

```
\mycommand
  {
    mand arg text
    mand arg text}
  [
  opt arg text
  opt arg text
  ]
```

LISTING 93: mycommand.tex using Listing 91

```
\mycommand
  {
  mand arg text
  mand arg text}
  [
    opt arg text
    opt arg text
  ]
```

Both `indentRules` and `indentRulesGlobal` can be adjusted as they were for *environment* code blocks, as in Listings 56 and 57 on page 20 and Listings 67, 70 and 71 on page 22 and on page 23.

4.2.4 ifelsefi code blocks

Let's use the simple example shown in Listing 94; when `latexindent.pl` operates on this file, the output as in Listing 95; note that the body of each of the `\if` statements have been indented, and that the `\else` statement has been accounted for correctly.

LISTING 94: ifelsefi1.tex

```
\ifodd\radius
\ifnum\radius<14
\pgfmathparse{100-(\radius)*4};
\else
\pgfmathparse{200-(\radius)*3};
\fi\fi
```

LISTING 95: ifelsefi1.tex default output

```
\ifodd\radius
  \ifnum\radius<14
    \pgfmathparse{100-(\radius)*4};
  \else
    \pgfmathparse{200-(\radius)*3};
  \fi\fi
```

It is recommended to specify `noAdditionalIndent` and `indentRules` in the 'scalar' form only for these type of code blocks, although the 'field' form would work, assuming that `body` was specified. Examples are shown in Listings 96 and 97.

LISTING 96: ifnum-noAdd.yaml

```
noAdditionalIndent:
    ifnum: 1
```

LISTING 97: ifnum-indent-rules.yaml

```
indentRules:
    ifnum: "\t\t\t"
```

After running the following commands,

```
cmh:~$ latexindent.pl ifelsefi1.tex -local ifnum-noAdd.yaml
cmh:~$ latexindent.pl ifelsefi1.tex -l ifnum-indent-rules.yaml
```

we receive the respective output given in Listings 98 and 99; note that in Listing 98, the `ifnum` code block has *not* received any additional indentation, while in Listing 99, the `ifnum` code block has received three tabs worth of indentation.

LISTING 98: `ifelsefi1.tex` using Listing 96

```
\ifodd\radius
  \ifnum\radius<14
  \pgfmathparse{100-(\radius)*4};
  \else
  \pgfmathparse{200-(\radius)*3};
  \fi\fi
```

LISTING 99: `ifelsefi1.tex` using Listing 97

```
\ifodd\radius
  \ifnum\radius<14
        \pgfmathparse{100-(\radius)*4};
  \else
        \pgfmathparse{200-(\radius)*3};
  \fi\fi
```

We may specify `noAdditionalIndentGlobal` and `indentRulesGlobal` as in Listings 100 and 101.

LISTING 100: `ifelsefi-noAdd-glob.yaml`

```
noAdditionalIndentGlobal:
    ifElseFi: 1
```

LISTING 101: `ifelsefi-indent-rules-global.yaml`

```
indentRulesGlobal:
    ifElseFi: " "
```

Upon running the following commands

```
cmh:~$ latexindent.pl ifelsefi1.tex -local ifelsefi-noAdd-glob.yaml
cmh:~$ latexindent.pl ifelsefi1.tex -l ifelsefi-indent-rules-global.yaml
```

we receive the outputs in Listings 102 and 103; notice that in Listing 102 neither of the `ifelsefi` code blocks have received indentation, while in Listing 103 both code blocks have received a single space of indentation.

LISTING 102: `ifelsefi1.tex` using Listing 100

```
\ifodd\radius
\ifnum\radius<14
\pgfmathparse{100-(\radius)*4};
\else
\pgfmathparse{200-(\radius)*3};
\fi\fi
```

LISTING 103: `ifelsefi1.tex` using Listing 101

```
\ifodd\radius
 \ifnum\radius<14
  \pgfmathparse{100-(\radius)*4};
 \else
  \pgfmathparse{200-(\radius)*3};
 \fi\fi
```

4.2.5 special code blocks

Let's use the example from Listing 32 on page 15 which has default output shown in Listing 33 on page 15.

It is recommended to specify `noAdditionalIndent` and `indentRules` in the 'scalar' form only for these type of code blocks, although the 'field' form would work, assuming that `body` was specified. Examples are shown in Listings 104 and 105.

LISTING 104: `displayMath-noAdd.yaml`

```
noAdditionalIndent:
    displayMath: 1
```

LISTING 105: `displayMath-indent-rules.yaml`

```
indentRules:
    displayMath: "\t\t\t"
```

After running the following commands,

```
cmh:~$ latexindent.pl special1.tex -local displayMath-noAdd.yaml
cmh:~$ latexindent.pl special1.tex -l displayMath-indent-rules.yaml
```

we receive the respective output given in Listings 106 and 107; note that in Listing 106, the `displayMath` code block has *not* received any additional indentation, while in Listing 107, the `displayMath` code block has received three tabs worth of indentation.

LISTING 106: `special1.tex` using Listing 104

```
The function $ f $ has formula
\[
f(x)=x^2.
\]
If you like splitting dollars,
$
  g(x)=f(2x)
$
```

LISTING 107: `special1.tex` using Listing 105

```
The function $ f $ has formula
\[
    f(x)=x^2.
\]
If you like splitting dollars,
$
  g(x)=f(2x)
$
```

We may specify `noAdditionalIndentGlobal` and `indentRulesGlobal` as in Listings 108 and 109.

LISTING 108: `special-noAdd-glob.yaml`

```
noAdditionalIndentGlobal:
    specialBeginEnd: 1
```

LISTING 109: `special-indent-rules-global.yaml`

```
indentRulesGlobal:
    specialBeginEnd: " "
```

Upon running the following commands

```
cmh:~$ latexindent.pl special1.tex -local special-noAdd-glob.yaml
cmh:~$ latexindent.pl special1.tex -l special-indent-rules-global.yaml
```

we receive the outputs in Listings 110 and 111; notice that in Listing 110 neither of the `special` code blocks have received indentation, while in Listing 111 both code blocks have received a single space of indentation.

LISTING 110: `special1.tex` using Listing 108

```
The function $ f $ has formula
\[
f(x)=x^2.
\]
If you like splitting dollars,
$
g(x)=f(2x)
$
```

LISTING 111: `special1.tex` using Listing 109

```
The function $ f $ has formula
\[
 f(x)=x^2.
\]
If you like splitting dollars,
$
 g(x)=f(2x)
$
```

5 The `-m` (`modifylinebreaks`) switch

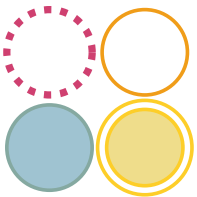
All features described in this section will only be relevant if the `-m` switch is used.

`modifylinebreaks`: ⟨*fields*⟩

One of the most exciting features of Version 3.0 is the `-m` switch, which permits `latexindent.pl` to modify line breaks, according to the specifications in the `modifyLineBreaks` field. *The settings in this field will only be considered if the `-m`*

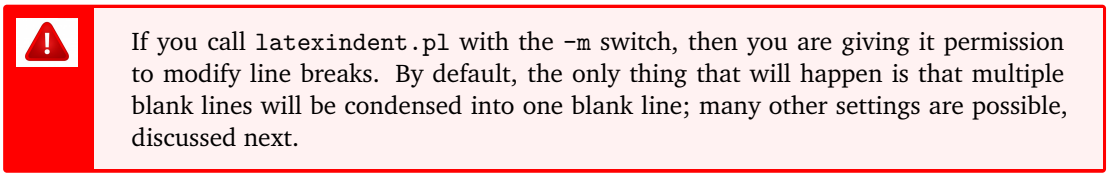
LISTING 112: `modifyLineBreaks`

```
modifyLineBreaks:
    preserveBlankLines: 1
    condenseMultipleBlankLinesInto: 1
   ...
```



switch has been used. A snippet of the default settings of this field is shown in Listing 112.

Having read the previous paragraph, it should sound reasonable that, if you call `latexindent.pl` using the `-m` switch, then you give it permission to modify line breaks in your file, but let's be clear:



If you call `latexindent.pl` with the `-m` switch, then you are giving it permission to modify line breaks. By default, the only thing that will happen is that multiple blank lines will be condensed into one blank line; many other settings are possible, discussed next.

All YAML-based details in this section only apply if the `-m` switch is active.

`preserveBlankLines`: **0|1**

This field is directly related to *poly-switches*, discussed below. By default, it is set to `1`, which means that blank lines will be protected from removal; however, regardless of this setting, multiple blank lines can be condensed if `condenseMultipleBlankLinesInto` is greater than `0`, discussed next.

`condenseMultipleBlankLinesInto`: ⟨*integer* ≥ 0⟩

Assuming that this switch takes an integer value greater than `0`, `latexindent.pl` will condense multiple blank lines into the number of blank lines illustrated by this switch. As an example, Listing 113 shows a sample file with blank lines; upon running

```
cmh:~$ latexindent.pl myfile.tex -m
```

the output is shown in Listing 114; note that the multiple blank lines have been condensed into one blank line, and note also that we have used the `-m` switch!

LISTING 113: `mlb1.tex`

```
before blank line



after blank line



after blank line
```

LISTING 114: `mlb1.tex` out output

```
before blank line

after blank line

after blank line
```

5.1 Poly-switches

Every other field in the `modifyLineBreaks` field uses poly-switch, and can take one of four integer values[3]:

−1 *remove mode*: line breaks before or after the *<part of thing>* can be removed (assuming that `preserveBlankLines` is set to `0`);

0 *off mode*: line breaks will not be modified for the *<part of thing>* under consideration;

1 *add mode*: a line break will be added before or after the *<part of thing>* under consideration, assuming that there is not already a line break before or after the *<part of thing>*;

2 *comment then add mode*: a comment symbol will be added, followed by a line break before or after the *<part of thing>* under consideration, assuming that there is not already a comment and line break before or after the *<part of thing>*.

[3] visual learners might like to associate one of the four circles in the logo with one of the four given values

All poly-switches are *off* by default; `latexindent.pl` searches first of all for per-name settings, and then followed by global per-thing settings.

5.2 modifyLineBreaks for environments

We start by viewing a snippet of `defaultSettings.yaml` in Listing 115; note that it contains *global* settings (immediately after the `environments` field) and that *per-name* settings are also allowed – in the case of Listing 115, settings for `equation*` have been specified. Note that all poly-switches are *off* by default.

LISTING 115: `environments`

```
347     environments:
348         BeginStartsOnOwnLine: 0
349         BodyStartsOnOwnLine: 0
350         EndStartsOnOwnLine: 0
351         EndFinishesWithLineBreak: 0
352         equation*:
353             BeginStartsOnOwnLine: 0
354             BodyStartsOnOwnLine: 0
355             EndStartsOnOwnLine: 0
356             EndFinishesWithLineBreak: 0
```

5.2.1 Adding line breaks (poly-switches set to 1 or 2)

Let's begin with the simple example given in Listing 116; note that we have annotated key parts of the file using ♠, ♡, ♢ and ♣, these will be related to fields specified in Listing 115.

LISTING 116: `env-mlb1.tex`

```
before words♠ \begin{myenv}♡body of myenv♢\end{myenv}♣ after words
```

Let's explore `BeginStartsOnOwnLine` and `BodyStartsOnOwnLine` in Listings 117 and 118, and in particular, let's allow each of them in turn to take a value of 1.

LISTING 117: `env-mlb1.yaml`

```
modifyLineBreaks:
    environments:
        BeginStartsOnOwnLine: 1
```

LISTING 118: `env-mlb2.yaml`

```
modifyLineBreaks:
    environments:
        BodyStartsOnOwnLine: 1
```

After running the following commands,

```
cmh:~$ latexindent.pl -m env-mlb.tex -l env-mlb1.yaml
cmh:~$ latexindent.pl -m env-mlb.tex -l env-mlb2.yaml
```

the output is as in Listings 119 and 120.

LISTING 119: `env-mlb.tex` using Listing 117

```
before words
\begin{myenv}body of myenv\end{myenv} after words
```

LISTING 120: `env-mlb.tex` using Listing 118

```
before words \begin{myenv}
  body of myenv\end{myenv} after words
```

There are a couple of points to note:

- in Listing 119 a line break has been added at the point denoted by ♠ in Listing 116; no other line breaks have been changed;
- in Listing 120 a line break has been added at the point denoted by ♡ in Listing 116; furthermore, note that the *body* of `myenv` has received the appropriate (default) indentation.

Let's now change each of the `1` values in Listings 117 and 118 so that they are 2 and save them into `env-mlb3.yaml` and `env-mlb4.yaml` respectively (see Listings 121 and 122).

LISTING 121: env-mlb3.yaml

```
modifyLineBreaks:
    environments:
        BeginStartsOnOwnLine: 2
```

LISTING 122: env-mlb4.yaml

```
modifyLineBreaks:
    environments:
        BodyStartsOnOwnLine: 2
```

Upon running commands analogous to the above, we obtain Listings 123 and 124.

LISTING 123: env-mlb.tex using Listing 121

```
before words%
\begin{myenv}body of myenv\end{myenv} after words
```

LISTING 124: env-mlb.tex using Listing 122

```
before words \begin{myenv}%
  body of myenv\end{myenv} after words
```

Note that line breaks have been added as in Listings 119 and 120, but this time a comment symbol has been added before adding the line break; in both cases, trailing horizontal space has been stripped before doing so.

Let's explore EndStartsOnOwnLine and EndFinishesWithLineBreak in Listings 125 and 126, and in particular, let's allow each of them in turn to take a value of 1.

LISTING 125: env-mlb5.yaml

```
modifyLineBreaks:
    environments:
        EndStartsOnOwnLine: 1
```

LISTING 126: env-mlb6.yaml

```
modifyLineBreaks:
    environments:
        EndFinishesWithLineBreak: 1
```

After running the following commands,

```
cmh:~$ latexindent.pl -m env-mlb.tex -l env-mlb5.yaml
cmh:~$ latexindent.pl -m env-mlb.tex -l env-mlb6.yaml
```

the output is as in Listings 127 and 128.

LISTING 127: env-mlb.tex using Listing 125

```
before words \begin{myenv}body of myenv
\end{myenv} after words
```

LISTING 128: env-mlb.tex using Listing 126

```
before words \begin{myenv}body of myenv\end{myenv}
after words
```

There are a couple of points to note:

- in Listing 127 a line break has been added at the point denoted by ♢ in Listing 116 on page 30; no other line breaks have been changed and the \end{myenv} statement has *not* received indentation (as intended);
- in Listing 128 a line break has been added at the point denoted by ♣ in Listing 116 on page 30.

Let's now change each of the 1 values in Listings 125 and 126 so that they are 2 and save them into env-mlb7.yaml and env-mlb8.yaml respectively (see Listings 129 and 130).

LISTING 129: env-mlb7.yaml

```
modifyLineBreaks:
    environments:
        EndStartsOnOwnLine: 2
```

LISTING 130: env-mlb8.yaml

```
modifyLineBreaks:
    environments:
        EndFinishesWithLineBreak: 2
```

Upon running commands analogous to the above, we obtain Listings 131 and 132.

LISTING 131: env-mlb.tex using Listing 129

```
before words \begin{myenv}body of myenv%
\end{myenv} after words
```

LISTING 132: env-mlb.tex using Listing 130

```
before words \begin{myenv}body of myenv\end{myenv}%
after words
```

Note that line breaks have been added as in Listings 127 and 128, but this time a comment symbol has been added before adding the line break; in both cases, trailing horizontal space has been stripped before doing so.

If you ask `latexindent.pl` to add a line break (possibly with a comment) using a poly-switch value of 1 (or 2), it will only do so if necessary. For example, if you process the file in Listing 118 on page 30 using any of the YAML files presented so far in this section, it will be left unchanged.

LISTING 133: env-mlb2.tex

```
before words
\begin{myenv}
  body of myenv
\end{myenv}
after words
```

LISTING 134: env-mlb3.tex

```
before words
\begin{myenv}  %
  body of myenv%
\end{myenv}%
after words
```

In contrast, the output from processing the file in Listing 134 will vary depending on the poly-switches used; in Listing 135 you'll see that the comment symbol after the `\begin{myenv}` has been moved to the next line, as `BodyStartsOnOwnLine` is set to 1. In Listing 136 you'll see that the comment has been accounted for correctly, and that, because `BodyStartsOnOwnLine` has been set to 2, the comment symbol has *not* been moved to its own line. You're encouraged to experiment with Listing 134 and by setting the other poly-switches considered so far to 2 in turn.

LISTING 135: env-mlb3.tex using Listing 118 on page 30

```
before words
\begin{myenv}
  %
  body of myenv%
\end{myenv}%
after words
```

LISTING 136: env-mlb3.tex using Listing 122 on page 31

```
before words
\begin{myenv}  %
  body of myenv%
\end{myenv}%
after words
```

The details of the discussion in this section have concerned *global* poly-switches in the `environments` field; each switch can also be specified on a *per-name* basis, which would take priority over the global values; with reference to Listing 115 on page 30, an example is shown for the `equation*` environment.

5.2.2 Removing line breaks (poly-switches set to −1)

Setting poly-switches to −1 tells `latexindent.pl` to remove line breaks of the *<part of the thing>*, if necessary. We will consider the example code given in Listing 137, noting in particular the positions of the line break highlighters, ♠, ♡, ♢ and ♣, together with the associated YAML files in Listings 138 to 141.

LISTING 137: env-mlb4.tex

```
before words♠
\begin{myenv}♡
body of myenv♢
\end{myenv}♣
after words
```

LISTING 138: env-mlb9.yaml

```
modifyLineBreaks:
    environments:
        BeginStartsOnOwnLine: -1
```

LISTING 139: env-mlb10.yaml

```
modifyLineBreaks:
    environments:
        BodyStartsOnOwnLine: -1
```

LISTING 140: env-mlb11.yaml

```
modifyLineBreaks:
    environments:
        EndStartsOnOwnLine: -1
```

LISTING 141: env-mlb12.yaml

```
modifyLineBreaks:
    environments:
        EndFinishesWithLineBreak: -1
```

After running the commands

```
cmh:~$ latexindent.pl -m env-mlb4.tex -l env-mlb9.yaml
cmh:~$ latexindent.pl -m env-mlb4.tex -l env-mlb10.yaml
cmh:~$ latexindent.pl -m env-mlb4.tex -l env-mlb11.yaml
cmh:~$ latexindent.pl -m env-mlb4.tex -l env-mlb12.yaml
```

we obtain the output in Listings 142 to 145.

LISTING 142: env-mlb4.tex using Listing 138

```
before words\begin{myenv}
  body of myenv
\end{myenv}
after words
```

LISTING 143: env-mlb4.tex using Listing 139

```
before words
\begin{myenv}body of myenv
\end{myenv}
after words
```

LISTING 144: env-mlb4.tex using Listing 140

```
before words
\begin{myenv}
  body of myenv\end{myenv}
after words
```

LISTING 145: env-mlb4.tex using Listing 141

```
before words
\begin{myenv}
  body of myenv
\end{myenv}after words
```

Notice that in

- Listing 142 the line break denoted by ♠ has been removed;
- Listing 143 the line break denoted by ♡ has been removed;
- Listing 144 the line break denoted by ♢ has been removed;
- Listing 145 the line break denoted by ♣ has been removed.

We examined each of these cases separately for clarity of explanation, but you can combine all of the YAML settings in Listings 138 to 141 into one file; alternatively, you could tell `latexindent.pl` to load them all by using the following command, for example

```
cmh:~$ latexindent.pl -m env-mlb4.tex -l env-mlb9.yaml,env-mlb10.yaml,env-mlb11.yaml,env-mlb12.yaml
```

which gives the output in Listing 116 on page 30.

About trailing horizontal space Recall that on page 11 we discussed the YAML field `removeTrailingWhitespace`, and that it has two (binary) switches to determine if horizontal space should be removed `beforeProcessing` and `afterProcessing`. The `beforeProcessing` is particularly relevant when considering the `-m` switch; let's consider the file shown in Listing 146, which highlights trailing spaces.

LISTING 146: env-mlb5.tex

```
before␣words␣␣␣♠
\begin{myenv}␣␣␣␣␣␣␣␣␣␣␣♡
body␣of␣myenv␣␣␣␣␣␣♢
\end{myenv}␣␣␣␣␣♣
after␣words
```

LISTING 147: removeTWS-before.yaml

```
removeTrailingWhitespace:
    beforeProcessing: 1
```

The output from the following commands

```
cmh:~$ latexindent.pl -m env-mlb5.tex -l env-mlb9.yaml,env-mlb10.yaml,env-mlb11.yaml,env-mlb12.yaml
cmh:~$ latexindent.pl -m env-mlb5.tex -l
    env-mlb9.yaml,env-mlb10.yaml,env-mlb11.yaml,env-mlb12.yaml,removeTWS-before.yaml
```

is shown, respectively, in Listings 148 and 149; note that the trailing horizontal white space has been preserved (by default) in Listing 148, while in Listing 149, it has been removed using the switch specified in Listing 147.

LISTING 148: env-mlb5.tex using Listings 142 to 145

```
before words    \begin{myenv}          body of myenv      \end{myenv}     after words
```

LISTING 149: env-mlb5.tex using Listings 142 to 145 *and* Listing 147

```
before words\begin{myenv}body of myenv\end{myenv}after words
```

Blank lines Now let's consider the file in Listing 150, which contains blank lines.

LISTING 150: env-mlb6.tex

```
before words♠


\begin{myenv}♡


body of myenv♢


\end{myenv}♣

after words
```

LISTING 151: UnpreserveBlankLines.yaml

```
modifyLineBreaks:
    preserveBlankLines: 0
```

Upon running the following commands

```
cmh:~$ latexindent.pl -m env-mlb6.tex -l env-mlb9.yaml,env-mlb10.yaml,env-mlb11.yaml,env-mlb12.yaml
cmh:~$ latexindent.pl -m env-mlb6.tex -l
    env-mlb9.yaml,env-mlb10.yaml,env-mlb11.yaml,env-mlb12.yaml,UnpreserveBlankLines.yaml
```

we receive the respective outputs in Listings 152 and 153. In Listing 152 we see that the multiple blank lines have each been condensed into one blank line, but that blank lines have *not* been removed by the poly-switches – this is because, by default, `preserveBlankLines` is set to `1`. By contrast, in Listing 153, we have allowed the poly-switches to remove blank lines because, in Listing 151, we have set `preserveBlankLines` to `0`.

LISTING 152: env-mlb6.tex using Listings 142 to 145

```
before words

\begin{myenv}

  body of myenv

\end{myenv}

after words
```

LISTING 153: env-mlb6.tex using Listings 142 to 145 *and* Listing 151

```
before words\begin{myenv}body of myenv\end{myenv}after words
```

5.3 Poly-switches for other code blocks

Rather than repeat the examples shown for the environment code blocks (in Section 5.2 on page 30), we choose to detail the poly-switches for all other code blocks in Table 2; note that each and every one of these poly-switches is *off by default*.

TABLE 2: Poly-switch mappings for all code-block types

Code block	Sample	Poly-switch mapping
environment	before words♠ \begin{myenv}♡ body of myenv♢ \end{myenv}♣ after words	♠ BeginStartsOnOwnLine ♡ BodyStartsOnOwnLine ♢ EndStartsOnOwnLine ♣ EndFinishesWithLineBreak
ifelsefi	before words♠ \if...♡ body of if statement★ \else□ body of else statement♢ \fi♣ after words	♠ IfStartsOnOwnLine ♡ BodyStartsOnOwnLine ★ ElseStartsOnOwnLine □ ElseFinishesWithLineBreak ♢ FiStartsOnOwnLine ♣ FiFinishesWithLineBreak
optionalArguments	...♠ [♡ body of opt arg♢]♣ ...	♠ LSqBStartsOnOwnLine[4] ♡ OptArgBodyStartsOnOwnLine ♢ RSqBStartsOnOwnLine ♣ RSqBFinishesWithLineBreak
mandatoryArguments	...♠ {♡ body of mand arg♢ }♣ ...	♠ LCuBStartsOnOwnLine[5] ♡ MandArgBodyStartsOnOwnLine ♢ RCuBStartsOnOwnLine ♣ RCuBFinishesWithLineBreak
commands	before words♠ \mycommand♡ ⟨*arguments*⟩	♠ CommandStartsOnOwnLine ♡ CommandNameFinishesWithLineBreak
namedGroupingBraces Brackets	before words♠ myname♡ ⟨*braces/brackets*⟩	♠ NameStartsOnOwnLine ♡ NameFinishesWithLineBreak
keyEqualsValuesBraces	before words♠ key•=♡ ⟨*braces/brackets*⟩	♠ KeyStartsOnOwnLine • EqualsStartsOnOwnLine ♡ EqualsFinishesWithLineBreak

[4] LSqB stands for Left Square Bracket
[5] LCuB stands for Left Curly Brace

items	before words♠ \item♡ ...	♠ ItemStartsOnOwnLine ♡ ItemFinishesWithLineBreak
specialBeginEnd	before words♠ \[♡ body of special♢ \]♣ after words	♠ SpecialBeginStartsOnOwnLine ♡ SpecialBodyStartsOnOwnLine ♢ SpecialEndStartsOnOwnLine ♣ SpecialEndFinishesWithLineBreak

6 indentconfig.yaml and .indentconfig.yaml (for user settings)

Editing defaultSettings.yaml is not ideal as it may be overwritten when updating your distribution– a better way to customize the settings to your liking is to set up your own settings file, mysettings.yaml (or any name you like, provided it ends with .yaml). The only thing you have to do is tell latexindent.pl where to find it.

latexindent.pl will always check your home directory for indentconfig.yaml and .indentconfig.yaml (unless it is called with the -d switch), which is a plain text file you can create that contains the *absolute* paths for any settings files that you wish latexindent.pl to load. There is no difference between indentconfig.yaml and .indentconfig.yaml, other than the fact that .indentconfig.yaml is a 'hidden' file; thank you to [5] for providing this feature. In what follows, we will use indentconfig.yaml, but it is understood that this equally represents .indentconfig.yaml as well. If you have both files in existence, indentconfig.yaml takes priority.

For Mac and Linux users, their home directory is /username while Windows (Vista onwards) is C:\Users\username [6] Listing 163 shows a sample indentconfig.yaml file.

LISTING 163: indentconfig.yaml (sample)

```
# Paths to user settings for latexindent.pl
#
# Note that the settings will be read in the order you
# specify here- each successive settings file will overwrite
# the variables that you specify

paths:
- /home/cmhughes/Documents/yamlfiles/mysettings.yaml
- /home/cmhughes/folder/othersettings.yaml
- /some/other/folder/anynameyouwant.yaml
- C:\Users\chughes\Documents\mysettings.yaml
- C:\Users\chughes\Desktop\test spaces\more spaces.yaml
```

Note that the .yaml files you specify in indentconfig.yaml will be loaded in the order that you write them in. Each file doesn't have to have every switch from defaultSettings.yaml; in fact, I recommend that you only keep the switches that you want to *change* in these settings files.

To get started with your own settings file, you might like to save a copy of defaultSettings.yaml in another directory and call it, for example, mysettings.yaml. Once you have added the path to indentconfig.yaml you can change the switches and add more code-block names to it as you see fit – have a look at Listing 164 for an example that uses four tabs for the default indent, adds the tabbing environment to the list of environments that contains alignment delimiters, and adds

[6] If you're not sure where to put indentconfig.yaml, don't worry latexindent.pl will tell you in the log file exactly where to put it assuming it doesn't exist already.

the changes we described on page 14; you might also like to refer to the many YAML files detailed throughout the rest of this documentation.

LISTING 164: `mysettings.yaml` (example)

```
# Default value of indentation
defaultIndent: "\t\t\t\t"

# environments that have tab delimiters, add more
# as needed
lookForAlignDelims:
tabbing: 1

# If you use the exam documentclass, you might
# like the following settings
# environments that have \item commands
indentAfterItems:
parts: 1

# commands to be treated like \item
itemNames:
part: 1
```

You can make sure that your settings are loaded by checking `indent.log` for details – if you have specified a path that `latexindent.pl` doesn't recognize then you'll get a warning, otherwise you'll get confirmation that `latexindent.pl` has read your settings file [7].

When editing `.yaml` files it is *extremely* important to remember how sensitive they are to spaces. I highly recommend copying and pasting from `defaultSettings.yaml` when you create your first `whatevernameyoulike.yaml` file.

If `latexindent.pl` can not read your `.yaml` file it will tell you so in `indent.log`.

6.1 `localSettings.yaml`

Throughout this manual, we have discussed the `-l` switch that tells `latexindent.pl` either to look for `localSettings.yaml` in the *same directory* as `myfile.tex`; alternatively, it may look for any other specified YAML file. Any settings file(s) specified in this way will be read *after* `defaultSettings.yaml` and, assuming they exist, user settings from `indentconfig.yaml`.

The *local* settings file may be called `localSettings.yaml`, and it can contain any switches that you'd like to change; a sample is shown in Listing 165.

LISTING 165: `localSettings.yaml` (example)

```
# Default value of indentation
defaultIndent: " "

# environments that have tab delimiters, add more
# as needed
lookForAlignDelims:
tabbing: 0

#  verbatim environments- environments specified
#  in this hash table will not be changed at all!
verbatimEnvironments:
cmhenvironment: 0
```

[7] Windows users may find that they have to end `.yaml` files with a blank line

FIX

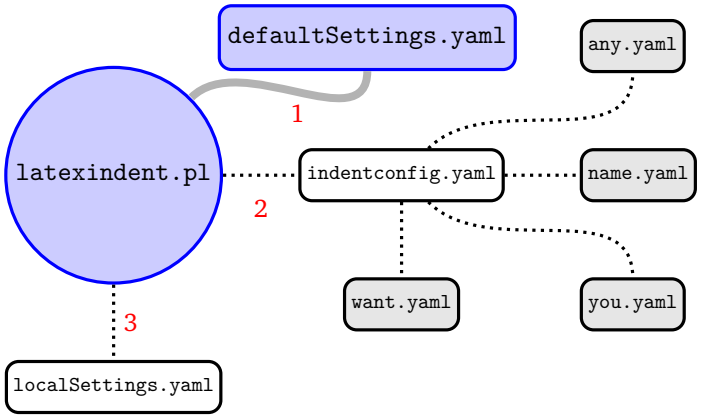


FIGURE 1: Schematic of the load order described in Section 6.2; solid lines represent mandatory files, dotted lines represent optional files. `indentconfig.yaml` can contain as many files as you like. The files will be loaded in order; if you specify settings for the same field in more than one file, the most recent takes priority.

You can make sure that your local settings are loaded by checking `indent.log` for details; if `localSettings.yaml` can not be read then you will get a warning, otherwise you'll get confirmation that `latexindent.pl` has read `localSettings.yaml`.

If you'd prefer to name your `localSettings.yaml` file something different, (say, `myyaml.yaml`) then you can call `latexindent.pl` using, for example,

```
cmh:~$ latexindent.pl -l=myyaml.yaml myfile.tex
```

6.2 Settings load order

`latexindent.pl` loads the settings files in the following order:

1. `defaultSettings.yaml` is always loaded, and can not be renamed;
2. `anyUserSettings.yaml` and any other arbitrarily-named files specified in `indentconfig.yaml`;
3. `localSettings.yaml` but only if found in the same directory as `myfile.tex` and called with `-l` switch; this file can be renamed, provided that the call to `latexindent.pl` is adjusted accordingly (see Section 6.1). You may specify relative paths to other YAML files using the `-l` switch, separating files using commas.

FIX

A visual representation of this is given in Figure 1.

7 References

7.1 External links

[1] *A Perl script for indenting tex files*. URL: http://tex.blogoverflow.com/2012/08/a-perl-script-for-indenting-tex-files/ (visited on 01/23/2017).
[3] *CPAN: Comprehensive Perl Archive Network*. URL: http://www.cpan.org/ (visited on 01/23/2017).
[6] *Home of latexindent.pl*. URL: https://github.com/cmhughes/latexindent.pl (visited on 01/23/2017).
[8] *Perlbrew*. URL: http://perlbrew.pl/ (visited on 01/23/2017).
[9] *Strawberry Perl*. URL: http://strawberryperl.com/ (visited on 01/23/2017).
[10] *Video demonstration of latexindet.pl on youtube*. URL: http://www.youtube.com/watch?v=s_AMmNVg5WM (visited on 01/23/2017).

7.2 Contributors

[2] Paulo Cereda. *arara rule, indent.yaml*. May 23, 2013. URL: https://github.com/cereda/arara/blob/master/rules/indent.yaml (visited on 01/23/2017).
[4] Jacobo Diaz. *Changed shebang to make the script more portable*. July 23, 2014. URL: https://github.com/cmhughes/latexindent.pl/pull/17 (visited on 01/23/2017).
[5] Jacobo Diaz. *Hiddenconfig*. July 21, 2014. URL: https://github.com/cmhughes/latexindent.pl/pull/18 (visited on 01/23/2017).
[7] Jason Juang. *add in PATH installation*. Nov. 24, 2015. URL: https://github.com/cmhughes/latexindent.pl/pull/38 (visited on 01/23/2017).
[11] Michel Voßkuhle. *Remove trailing white space*. Nov. 10, 2013. URL: https://github.com/cmhughes/latexindent.pl/pull/12 (visited on 01/23/2017).

A Required `Perl` modules

If you intend to use `latexindent.pl` and *not* one of the supplied standalone executable files, then you will need a few standard Perl modules–if you can run the minimum code in Listing 166 (`perl helloworld.pl`) then you will be able to run `latexindent.pl`, otherwise you may need to install the missing modules.

LISTING 166: `helloworld.pl`

```
#!/usr/bin/perl

use strict;
use warnings;
use FindBin;
use YAML::Tiny;
use File::Copy;
use File::Basename;
use Getopt::Long;
use File::HomeDir;

print "hello␣world";
exit;
```

My default installation on Ubuntu 12.04 did *not* come with all of these modules as standard, but Strawberry Perl for Windows [9] did.

Installing the modules given in Listing 166 will vary depending on your operating system and `Perl` distribution. For example, Ubuntu users might visit the software center, or else run

```
cmh:~$ sudo perl -MCPAN -e 'install "File::HomeDir"'
```

Linux users may be interested in exploring Perlbrew [8]; possible installation and setup options follow for Ubuntu (other distributions will need slightly different commands).

```
cmh:~$ sudo apt-get install perlbrew
cmh:~$ perlbrew install perl-5.20.1
cmh:~$ perlbrew switch perl-5.20.1
cmh:~$ sudo apt-get install curl
cmh:~$ curl -L http://cpanmin.us | perl - App::cpanminus
cmh:~$ cpanm YAML::Tiny
cmh:~$ cpanm File::HomeDir
```

Strawberry Perl users on Windows might use `CPAN client`. All of the modules are readily available on CPAN [3].

`indent.log` will contain details of the location of the Perl modules on your system. `latexindent.exe` is a standalone executable for Windows (and therefore does not require a Perl distribution) and caches copies of the Perl modules onto your system; if you wish to see where they are cached, use the `trace` option, e.g

```
C:\Users\cmh>latexindent.exe -t myfile.tex
```

B The `arara` rule

The `arara` rule (`indent.yaml`) contains lines such as those given in Listing 167. With this setup, the user *always* has to specify whether or not they want (in this example) to use the `trace` identifier.

LISTING 167: The `arara` rule

```
...
arguments:
- identifier: trace
flag: <arara> @{ isTrue( parameters.trace, "-t" ) }
...
```

If you would like to have the `trace` option on by default every time you call `latexindent.pl` from `arara` (without having to write `% arara: indent: {trace: yes}`), then simply amend Listing 167 so that it looks like Listing 168.

LISTING 168: The `arara` rule (modified)

```
...
arguments:
- identifier: trace
flag: <arara> @{ isTrue( parameters.trace, "-t" ) }
default: "-t"
...
```

With this modification in place, you now simply to write `% arara: indent` and `trace` mode will be activated by default. If you wish to turn off `trace` mode then you can write `% arara: indent: {trace: off}`.

Of course, you can apply these types of modifications to *any* of the identifiers, but proceed with caution if you intend to do this for `overwrite`.

C Updating the `path` variable

`latexindent.pl` ships with a few scripts that can update the `path` variables [8]. If you're on a Linux or Mac machine, then you'll want `CMakeLists.txt` from [6].

C.1 Add to path for Linux

To add `latexindent.pl` to the path for Linux, follow these steps:

1. download `latexindent.pl`, `defaultSettings.yaml` and its associated modules, to your chosen directory from [6] ;
2. within your directory, create a directory called `path-helper-files` and download `CMakeLists.txt` and `cmake_uninstall.cmake.in` from [6]/path-helper-files to this directory;

[8] Thanks to [7] for this feature!

3. run

```
cmh:~$ ls /usr/local/bin
```

   to see what is *currently* in there;

4. run the following commands

```
cmh:~$ sudo apt-get install cmake
cmh:~$ sudo apt-get update && sudo apt-get install build-essential
cmh:~$ mkdir build && cd build
cmh:~$ cmake ../path-helper-files
cmh:~$ sudo make install
```

5. run

```
cmh:~$ ls /usr/local/bin
```

   again to check that `latexindent.pl` and `defaultSettings.yaml` have been added.

To *remove* the files, run

```
cmh:~$ sudo make uninstall}.
```

C.2 Add to path for Windows

To add `latexindent.exe` to the path for Windows, follow these steps:

1. download `latexindent.exe`, `defaultSettings.yaml`, `add-to-path.bat` from [6] to your chosen directory;
2. open a command prompt and run to see what is *currently* in your `%path%` variable;

```
C:\Users\cmh>echo %path%
```

3. right click on `add-to-path.bat` and *Run as administrator*;
4. log out, and log back in;
5. open a command prompt and run

```
C:\Users\cmh>echo %path%
```

   to check that the appropriate directory has been added to your `%path%`.

To *remove* the directory from your `%path%`, run `remove-from-path.bat` as administrator.

D Differences from Version 2.2 to 3.0

There are a few (small) changes to the interface when comparing Version 2.2 to Version 3.0. Explicitly, in previous versions you might have run, for example,

```
cmh:~$ latexindent.pl -o myfile.tex outputfile.tex
```

whereas in Version 3.0 you would run

```
cmh:~$ latexindent.pl -o=outputfile.tex myfile.tex
cmh:~$ latexindent.pl -o outputfile.tex myfile.tex
```

noting that the *output* file is given *next to* the `-o` switch.

The fields given in Listing 169 are *obsolete* from Version 3.0 onwards.

LISTING 169: Obsolete YAML fields from Version 3.0

```
alwaysLookforSplitBrackets
alwaysLookforSplitBrackets
checkunmatched
checkunmatchedELSE
checkunmatchedbracket
constructIfElseFi
```

There is a slight difference when specifying indentation after headings; specifically, we now write `indentAfterThisHeading` instead of `indent`. See Listings 170 and 171

LISTING 170: `indentAfterThisHeading` in Version 2.2

```
indentAfterHeadings:
    part:
       indent: 0
       level: 1
```

LISTING 171: `indentAfterThisHeading` in Version 3.0

```
indentAfterHeadings:
    part:
       indentAfterThisHeading: 0
       level: 1
```

To specify `noAdditionalIndent` for display-math environments in Version 2.2, you would write YAML as in Listing 172; as of Version 3.0, you would write YAML as in Listing 173 or, if you're using `-m` switch, Listing 174.

LISTING 172: `noAdditionalIndent` in Version 2.2

```
noAdditionalIndent:
    \[: 0
    \]: 0
```

LISTING 173: `noAdditionalIndent` for `displayMath` in Version 3.0

```
specialBeginEnd:
    displayMath:
        begin: '\\\['
        end: '\\\]'
        lookForThis: 0
```

LISTING 174: `noAdditionalIndent` for `displayMath` in Version 3.0

```
noAdditionalIndent:
    displayMath: 1
```