

latexindent.pl

Version 3.0

Chris Hughes *

January 20, 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 modify line breaks, and add comment symbols.

Contents

1	The <code>-m (modifylinebreaks)</code> switch	1
1.1	Poly-switches	2
1.2	<code>modifyLineBreaks</code> for environments	2
1.2.1	Adding line breaks (poly-switches set to 1 or 2)	3
1.2.2	Removing line breaks (poly-switches set to 0)	5

Listings

LISTING 2:	<code>mlb1.tex</code>	2
LISTING 3:	<code>mlb1.tex</code> out output	2
LISTING 4:	<code>environments</code>	3
LISTING 5:	<code>env-mlb1.tex</code>	3
LISTING 6:	<code>env-mlb1.yaml</code>	3
LISTING 7:	<code>env-mlb2.yaml</code>	3
LISTING 8:	<code>env-mlb.tex</code> using Listing 27	3
LISTING 9:	<code>env-mlb.tex</code> using Listing 7	3
LISTING 10:	<code>env-mlb3.yaml</code>	3
LISTING 11:	<code>env-mlb4.yaml</code>	3
LISTING 12:	<code>env-mlb.tex</code> using Listing 10	4
LISTING 13:	<code>env-mlb.tex</code> using Listing 11	4
LISTING 14:	<code>env-mlb5.yaml</code>	4
LISTING 15:	<code>env-mlb6.yaml</code>	4
LISTING 16:	<code>env-mlb.tex</code> using Listing 14	4
LISTING 17:	<code>env-mlb.tex</code> using Listing 15	4
LISTING 18:	<code>env-mlb7.yaml</code>	4
LISTING 19:	<code>env-mlb8.yaml</code>	4
LISTING 20:	<code>env-mlb.tex</code> using Listing 18	4
LISTING 21:	<code>env-mlb.tex</code> using Listing 19	4
LISTING 22:	<code>env-mlb2.tex</code>	5
LISTING 23:	<code>env-mlb3.tex</code>	5
LISTING 24:	<code>env-mlb3.tex</code> using Listing 7 on page 3	5

*and contributors! (See ?? on page ??.) For all communication, please visit [[latexindent-home](#)].



LISTING 25: env-mlb3.tex using Listing 11 on page 3	5
LISTING 26: env-mlb1.tex	5
LISTING 27: env-mlb1.tex	5

1 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` switch has been used.* A snippet of the default settings of this field is shown in Listing 1.

LISTING 1: `modifyLineBreaks`

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

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 2 shows a sample file with blank lines; upon running

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

the output is shown in Listing 3; note that the multiple blank lines have been condensed into one blank line, and note also that we have used the `-m` switch!

LISTING 2: `mlb1.tex`

before blank line

after blank line

after blank line

LISTING 3: `mlb1.tex` out output

before blank line

after blank line

after blank line



1.1 Poly-switches

Every other field in the `modifyLineBreaks` field uses poly-switch, and can take one of four integer values¹:

- 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>*.

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.

1.2 modifyLineBreaks for environments

We start by viewing a snippet of `defaultSettings.yaml` in Listing 4; note that it contains *global* settings (immediately after the `environments` field) and that *per-name* settings are also allowed – in the case of Listing 4, settings for `equation*` have been specified.

LISTING 4: 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

```

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

Let's begin with the simple example given in Listing 27; note that we have annotated key parts of the file using ♠, ♥, ♦ and ♣, these will be related to fields specified in Listing 4.

LISTING 5: env-mlb1.tex

before words ♠\begin{myenv}♥body of myenv♦\end{myenv}♣ after words

Let's explore `BeginStartsOnOwnLine` and `BodyStartsOnOwnLine` in Listings 7 and 27, and in particular, let's allow each of them in turn to take a value of 1.

LISTING 6: env-mlb1.yaml

```

modifyLineBreaks:
  environments:
    BeginStartsOnOwnLine: 1

```

LISTING 7: 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 8 and 9.

¹visual learners might like to associate one of the four circles in the logo with one of the four given values



LISTING 8: env-mlb.tex using Listing 27

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

LISTING 9: env-mlb.tex using Listing 7

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

There are a couple of points to note:

- in Listing 8 a line break has been added at the point denoted by ♠ in Listing 27; no other line breaks have been changed;
- in Listing 9 a line break has been added at the point denoted by ♥ in Listing 27; furthermore, note that the *body* of `myenv` has received the appropriate (default) indentation.

Let's now change each of the 1 values in Listings 7 and 27 so that they are 2 and save them into `env-mlb3.yaml` and `env-mlb4.yaml` respectively (see Listings 10 and 11).

LISTING 10: env-mlb3.yaml

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

LISTING 11: env-mlb4.yaml

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

Upon running commands analogous to the above, we obtain Listings 12 and 13.

LISTING 12: env-mlb.tex using Listing 10

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

LISTING 13: env-mlb.tex using Listing 11

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

Note that line breaks have been added as in Listings 8 and 9, 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 14 and 15, and in particular, let's allow each of them in turn to take a value of 1.

LISTING 14: env-mlb5.yaml

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

LISTING 15: 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 16 and 17.

LISTING 16: env-mlb.tex using Listing 14

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

LISTING 17: env-mlb.tex using Listing 15

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

There are a couple of points to note:

- in Listing 16 a line break has been added at the point denoted by ♦ in Listing 27; no other line breaks have been changed and the `\end{myenv}` statement has *not* received indentation (as intended);
- in Listing 17 a line break has been added at the point denoted by ♣ in Listing 27;

Let's now change each of the 1 values in Listings 14 and 15 so that they are 2 and save them into `env-mlb7.yaml` and `env-mlb8.yaml` respectively (see Listings 18 and 19).



LISTING 18: env-mlb7.yaml

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

LISTING 19: env-mlb8.yaml

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

Upon running commands analogous to the above, we obtain Listings 20 and 21.

LISTING 20: env-mlb.tex using Listing 18

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

LISTING 21: env-mlb.tex using Listing 19

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

Note that line breaks have been added as in Listings 16 and 17, 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 7 using any of the YAML files presented so far in this section, it will be left unchanged.

LISTING 22: env-mlb2.tex

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

LISTING 23: env-mlb3.tex

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

In contrast, the output from processing the file in Listing 23 will vary depending on the poly-switches used; in Listing 24 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 25 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 23 and the other poly-switches considered so far.

LISTING 24: env-mlb3.tex using Listing 7 on page 3

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

LISTING 25: env-mlb3.tex using Listing 11 on page 3

```
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 4 on page 3, an example is shown for the `equation*` environment.

1.2.2 Removing line breaks (poly-switches set to 0)

Setting poly-switches to 0 tells `latexindent.pl` to remove line breaks, if necessary. We will consider the example codes given in ????, noting in particular the positions of the line break highlighters, ♠, ♥, ♦ and ♣.



LISTING 26: env-mlb4.tex

```
before words ♠  
\begin{myenv} %♥  
body of myenv%♦  
\end{myenv}% ♣  
after words
```

LISTING 27: env-mlb1.tex

```
before words ♠  
  
\begin{myenv} %♥  
  
body of myenv%♦  
  
\end{myenv}% ♣  
  
after words
```