

The countwords package

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1 Introduction

This is a simple package for generating *exact* wordcounts in L^AT_EX projects. It counts words, storing the value in a standard L^AT_EX counter, which can then be printed in the normal way. Word counting can be paused and resumed, so you can skip certain environments like mathematics, and multiple word counts can happen in parallel (you could keep separate global and per-chapter counts, for example).

A note on TeXcount [TXC]. TeXcount is a popular way of counting words in L^AT_EX projects. It is an external script, which is run *on* the L^AT_EX file, and produces an estimate of the number of words in the final document. You can't use TeXcount to print a wordcount for a document within that very document.¹ countwords is a L^AT_EX package which works *within* the document. countwords also prints *exact* word counts, because it counts the number of printed characters in the final document as they are rendered; TeXcount prints a reasonable estimate.

2 Usage

countwords requires LuaL^AT_EX. Load as usual:

```
1 \documentclass{article}
2
3 \usepackage{countwords}
```

The package has one option, `threshold`, set with `threshold=<number>` This is the minimum number of characters that a string must contain to count as a single word. So setting it to 1 means that 'I' and 'a' count as words (as well as anything longer); setting it to 3 means that 'and' counts as a word, but not 'I', 'a' or 'as'. If unspecified it defaults to 1 (which is usually the most sensible for prose writing).

countwords stores all wordcounts in standard L^AT_EX counters, and does not create or manage these itself. So you must create a counter to store the wordcount in:

```
4 % Create a counter to store word count in
5 \newcounter{words}
```

*The bulk of the actual code is in lua and was written by Philipp Gesang [WCL].

¹Well you *can* with some jiggerypokery, but it isn't pretty, and this isn't what TeXcount was designed to do.

`\countwordsstart{<counter>}` Issue this command to start counting words into *<counter>*. After this, whenever L^AT_EX encounters a string of consecutive characters of longer than or equal to the threshold, the *<counter>* will increment by one.

`\countwordsstop{<counter>}` Issue this command to stop counting words in *<counter>*. After this, countwords will not alter the value of *<counter>*.

3 Examples

3.1 Simple example

```

1 \documentclass{article}
2
3 \title{Foobar}
4
5 \usepackage{countwords}
6 \newcounter{words}
7
8 \begin{document}
9
10 \maketitle
11
12 % Start counting after title is printed, so it is excluded from total.
13 \countwordsstart{words}
14
15 Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do
16 eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad
17 minim veniam, quis nostrud exercitation ullamco laboris nisi ut
18 aliquip ex ea commodo consequat. Duis aute irure dolor in
19 reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla
20 pariatur. Excepteur sint occaecat cupidatat non proident, sunt in
21 culpa qui officia deserunt mollit anim id est laborum.
22
23 % Stop counting before wordcount declaration.
24 \countwordsstop{words}
25
26 There are \arabic{words} words in this document.
27 % Will print:
28 % There are 69 words in this document.
29
30 \end{document}

```

3.2 Printing count at the beginning

The `totcount` package [TCT] can be used to print the eventual total of a counter before that total is reached.

```

1 \documentclass{article}
2
3 \title{Foobar}
4
5 \usepackage{countwords}
6 \newcounter{words}
7

```

```

8 \usepackage{totcount}
9 \regtotcounter{words}
10
11 \begin{document}
12
13 \maketitle
14
15 There are \total{words} words in this document.
16 % (After second LaTeX run) will print:
17 % There are 69 words in this document.
18
19 % Start counting after title is printed, so it is excluded from total.
20 \countwordsstart{words}
21
22 Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do
23 eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad
24 minim veniam, quis nostrud exercitation ullamco laboris nisi ut
25 aliquip ex ea commodo consequat. Duis aute irure dolor in
26 reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla
27 pariatur. Excepteur sint occaecat cupidatat non proident, sunt in
28 culpa qui officia deserunt mollit anim id est laborum.
29
30 % Stop counting before wordcount declaration.
31 \countwordsstop{words}
32 \end{document}

```

3.3 Skipping maths

By starting and stopping the wordcount, things like display mathematics can be skipped. Similar techniques could automatically skip footnotes or citations.

```

1 \documentclass{article}
2
3 \title{Foobar}
4
5 \usepackage{countwords}
6 \newcounter{words}
7
8 \begin{document}
9
10 \maketitle
11
12 % Start counting after title is printed, so it is excluded from total.
13 \countwordsstart{words}
14
15 There are seven words in this sentence.
16
17 % Stop counting before the maths...
18 \countwordsstop{words}
19
20 \[
21 e^{\mathrm{i}\pi} - 1 = 0
22 \]
23

```

```

24 % ... and then start again.
25 \countwordsstart{words}
26
27 And six more in this sentence.
28
29 \countwordsstop{words}
30
31 There are \arabic{words} words in this document.
32 % Will print:
33 % There are 13 words in this document.
34
35 \end{document}

```

4 Implementation

```

1 \RequirePackage{luatexbase}
2 \RequirePackage{luapackageloader}

```

4.1 Lua

```

3 \directlua{countwords = require("countwords")}

```

4.2 Options

```

4 \DeclareKeys
5 {
6   threshold.code = \directlua{ countwords.set_threshold(\number#1) },
7 }
8 \SetKeys{threshold=1}
9 \DeclareUnknownKeyHandler{\PackageWarning{countwords}{Unknown option '#1'}}
10 \ProcessKeyOptions

```

4.3 Add callback

```

11 \directlua{
12   luatexbase.add_to_callback(
13     "pre_linebreak_filter",
14     countwords.callback,
15     "wordcount"
16   )
17 }%

```

4.4 Document commands

\countwordsstart

```

18 \def\countwordsstart#1{%
19   \directlua{ countwords.enable_counter("#1") }
20 }

```

\countwordsstop

```

21 \def\countwordsstop#1{%
22   \directlua{ countwords.disable_counter("#1") }
23 }

```

References

- [WCL] Philipp Gesang. *word_count.lua*. 2012. URL: <https://gist.github.com/phi-gamma/2622252>.
- [TCT] Vasileios Koutavas. *totcount*. URL: <https://ctan.org/pkg/totcount>.
- [TXC] Einar Andreas Rødland. *TeXcount*. URL: <https://app.uio.no/ifi/texcount>.