

Source File: ~/1337/44/lab44. (C|CPP|cpp|c++|cc|cxx|cp)
Input: Standard Input
Output: Standard Output
Value: 1

Write a program that reads from standard input character-by-character and determines the number of words in the input. A word is defined as a sequence of characters that begins a line or is preceded by whitespace and that is terminated by whitespace. The input is of unknown length; however, input can terminate when the end-of-data marker is encountered.

A sample execution sequence is shown in Figure 1. To use the Makefile as distributed in class, add a target of `lab44` to `targets1srcfile`.

```
1 newuser@csunix ~> cd 1337
2 newuser@csunix ~/1337> mkdir 44
3 newuser@csunix ~/1337> cd 44
4 newuser@csunix ~/1337/44> cp /usr/local/1337/data/44/* .
5 newuser@csunix ~/1337/44> cp /usr/local/1337/src/Makefile .
6 newuser@csunix ~/1337/44> touch lab44.cpp
7 newuser@csunix ~/1337/44> # Edit Makefile and lab44.cpp
8 newuser@csunix ~/1337/44> make lab44
9 g++ -g -Wall -std=c++11 -c lab44.cpp -I/usr/local/1337/include -I.
10 g++ -o lab44 lab44.o -L/usr/local/1337/lib -lm -lbits
11 newuser@csunix ~/1337/44> wc -w *dat
12      39 01.dat
13       0 06.dat
14      39 07.dat
15     78 total
16 newuser@csunix ~/1337/44> cat 01.dat
17 1992 1993 1994
18 This is a test of your word analysis program.
19 How many words did you find that begin with a vowel?
20 WHAT ABOUT STARTING WITH AN S OR ENDING IN AN s?
21 Mary said, "I like C++."
22 newuser@csunix ~/1337/44> cat 01.dat | ./lab44
23 Your Name - CS 1337 - Lab 44
24
25 Number of words = 39
26 newuser@csunix ~/1337/44> cat 01.dat | ./lab44 > my.out
27 newuser@csunix ~/1337/44> diff 01.out my.out
28 newuser@csunix ~/1337/44> cat 06.dat | ./lab44 > my.out
29 newuser@csunix ~/1337/44> diff 06.out my.out
30 newuser@csunix ~/1337/44> cat 07.dat | ./lab44 > my.out
31 newuser@csunix ~/1337/44> diff 07.out my.out
32 newuser@csunix ~/1337/44>
```

Figure 1. Commands to Compile, Link, & Run Lab 44