Source File: ~/1337/43/lab43.(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 characters in the input. 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 `lab43` to `targets1srcfile`.

```
 1   newuser@csunix ~> cd 1337
 2   newuser@csunix ~/1337> mkdir 43
 3   newuser@csunix ~/1337> cd 43
 4   newuser@csunix ~/1337/43> cp /usr/local/1337/data/43/* .
 5   newuser@csunix ~/1337/43> cp /usr/local/1337/src/Makefile .
 6   newuser@csunix ~/1337/43> touch lab43.cpp
 7   newuser@csunix ~/1337/43> # Edit Makefile and lab43.cpp
 8   newuser@csunix ~/1337/43> make lab43
 9   g++ -g -Wall -std=c++11 -c lab43.cpp -I/usr/local/1337/include -I.
10   g++ -o lab43 lab43.o -L/usr/local/1337/lib -lm -lbits
11   newuser@csunix ~/1337/43> ls -l *dat
12   -rwxr-xr-x   1 newuser  students     192 Jul 28 08:51 01.dat
13   -rwxr-xr-x   1 newuser  students       0 Jul 28 08:51 06.dat
14   -rwxr-xr-x   1 newuser  students     191 Jul 28 08:51 07.dat
15   newuser@csunix ~/1337/43> wc -c *dat
16        192 01.dat
17          0 06.dat
18        191 07.dat
19        383 total
20   newuser@csunix ~/1337/43> cat 01.dat
21   1992 1993 1994
22   This is a test of your  word   analysis program.
23   How many words did you find that begin with  a vowel?
24   WHAT ABOUT STARTING WITH AN S OR ENDING IN AN s?
25   Mary said, "I like C++."
26   newuser@csunix ~/1337/43> cat 01.dat | ./lab43
27   Your Name - CS 1337 - Lab 43
28
29   Number of characters = 192
30   newuser@csunix ~/1337/43> cat 01.dat | ./lab43 > my.out
31   newuser@csunix ~/1337/43> diff 01.out my.out
32   newuser@csunix ~/1337/43> cat 06.dat | ./lab43 > my.out
33   newuser@csunix ~/1337/43> diff 06.out my.out
34   newuser@csunix ~/1337/43> cat 07.dat | ./lab43 > my.out
35   newuser@csunix ~/1337/43> diff 07.out my.out
36   newuser@csunix ~/1337/43>
```

Figure 1. Commands to Compile, Link, & Run Lab 43