

CS 100 Exam One – Coding – Spring 2018

You are not allowed to use the Internet while coding the two problems below.
You can log into the cs-intro server to test your programs if you wish.
When you have finished coding your problems, submit your exam via Blackboard

Create a directory called **exam1** using **mkdir exam1** and move into that directory with **cd exam1**

Complete the two programs shown below:

1. Name this program **one.c** – This program reads and counts numbers. It reads integers from standard input until end-of-file, and then prints two values:
 - The number of positive integers seen that are divisible by 5 (5, 10, 15, 20, 25, ...)
 - The number of “small” negative values seen; that is, values in the range **-1, -2, -3 ... -99, -100**.

A few sample executions are shown below (user inputs shown in red, program output in blue)

```
./a.out
Enter integers, ending with ctrl-d
1 2 3 4 5 6 7 8 9 10
20 33 44 55 -1 -2 -101 -102
-50 44 66 88 -1 -2 -100 0
ctrl-d
4 positive multiples of 5
6 small negative values
```

```
./a.out
Enter integers, ending with ctrl-d
11 22 33 44 55 -200 -1000 -99
-555 -999 314159 -1
0 2 4 8 16 32 64
ctrl-d
1 positive multiple of 5
2 small negative values
```

2. Name this program **two.c** – This program reads strings from standard input until the user enters the terminating string **xxx**. Your program prints the number of strings where the first and last character in the string are the same. You can assume that none of the strings entered will ever contain more than 50 characters. Do not count the terminating **xxx** as one of your matches.

A few sample executions are shown below (user inputs shown in red, program output in blue)

```
./a.out
Enter strings, terminating with xxx
ALABAMA
Crimson
Tide
1831
xxx
2 have same first and last character
```

```
./a.out
Enter strings, terminating with xxx
I
thought
it
did
compile
xxx
3 have same first and last character
```

Submit your exam

- First, on your local machine, compress your **exam1** directory into a single (compressed) file.
- Second, once you have a compressed file named **exam1.zip**, submit that file to Blackboard.