CS 100 Exam One – Coding – Fall 2017

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 plays the classic childhood game of "rock-paper-scissors." Your program reads two moves and then prints the winner. You store each move in a string of length ten (all input is lower-case and the user will never enter invalid input). Read the two moves and print the winner of the game. Each time you run the program, it plays the game once. You should print "Tie" (no winner) if both users enter the same string. The rules of the game are shown at the right.

Player 1	Player 2	Winner
rock	paper	P2
rock	scissors	P1
paper	rock	P1
paper	scissors	P2
scissors	rock	P2
scissors	paper	P1

rock crushes scissors, paper covers rock, scissors cut paper

A few sample executions are shown below:

```
./a.out
Player 1 move: rock
Player 2 move: paper
Winner is Player 2
```

```
./a.out
Player 1 move: scissors
Player 2 move: paper
Winner is Player 1
```

```
./a.out
Player 1 move: scissors
Player 2 move: scissors
Game is a tie
```

2. Name this program **two.c** – This program initially reads two values – an integer **N** (which is always a positive integer) and a second integer **T** (which could be any value) from standard input. It then reads **N** integers and counts the numbers that are greater than **T**, the numbers equal to **T**, and the numbers less than **T**. It then prints out these three counts. A sample execution of the program is shown below.

```
./a.out
Enter the number of values to read: 10  25
0  25  50  75  25  25  25  5  1  100
Saw 3 values greater than 25
Saw 4 values equal to 25
Saw 3 values less than 25
```

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.