Computer Science I, Section C
Lab 7

Games are often played with two dice. Each die has 6 sides, labeled 1, 2, 3, 4, 5, or 6. So when you roll two dice together, their sum could be 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, or 12.

Are some rolls more common than others? For example, are you more likely to roll a 7 than an 11? You may already know the answer, but let's explore this by writing a program to conduct an experiment.

Write a class called RollCounter. It should have a method called runExperiment that takes an int argument representing the number of times to roll two dice. It should simulate the two dice being rolled that many times, keeping track of how many times each roll comes up. Finally, a table of the results should be printed.

Use an array for this. (Don't try to use 11 different variables and/or lots of if or switch statements.) Specifically, the array should keep track of how many times numbers of different values come up. For example, if your array is called count, then you should use count[2] to keep track of how many times a sum of 2 is rolled, count[8] to keep track of how many times a sum of 8 is rolled, etc.

Just to reiterate: if you have something like this pseudocode:
if the sum is 2
   increase count[2]
else if the sum is 3
   increase count[3]
else if the sum is 4
   increase count[4]
...
then please rethink how to know what index corresponds to a value to increase. There's a much better way.

You'll also need a Random object and a while loop to do the dice rolls.

Finally, when you print the table, use another while loop, rather than 11 different System.out.println calls.

For example, if you run your method with input of 1000, you should get something like this:

```
Roll    Count
2       23
3       63
4       93
5       115
6       129
7       160
8       142
9       96
```

```
10      87
11      60
12      32
```

Of course the rolls are random, so your results won't be exactly like these, but they should follow the same basic pattern.

We can get more accurate results by running the experiment for a higher number of times. For example, with 100,000 rolls of a pair of dice, I get:

```
Roll    Count
2       2812
3       5516
4       8392
5       11170
6       13786
7       16698
8       13785
9       11180
10       8461
11       5509
12       2691
```

The spacing in the table is a little messed up, yes. There's a way to fix it that we might look at later. For now, though, just try to get it so that the first count lines up with the "C" in the "Count" column heading.