Introduction to Computers and Programming LAB-3 2016/10/05

- ✧ You **cannot** use **loop statements** (for, while …) even if you have learned them.
- ✧ The output must be in our sample output format.
- ✧ If you cannot finish it in time, you should demo your lab work at next lab hours.
- ✧ TAs will update lab records every Monday after the lab hours in the link: http://goo.gl/ZVJu2Y

1. Write a program that can enter the value of total seconds, and transform the input to the "week, day, hour, minute, second" format.

```
Total seconds:5000000
Equal to 8 week 1 day 20 hour 53 minute 20 second
```

2. Write a program that you are asked to enter a pair of positive integer with the format (***int1, int2***) and a pair of floating number with the format (***float1 float2***). Then the program will ask you to choose an operation to perform: (1) ***int1*** % ***int2***; (2) ***float1*** / ***float2***. Last, the program shows the equation and the result of the chosen operation.
   When choosing operation two, the division result should follow the requirements: (1) show the sign of it; (2) round off to the 3rd decimal place; (3) the width is 8 (including the sign symbol and the decimal point); if not, must fill with zero.
   Note: Please follow the format of the input and the output in example.

```
Please enter two positive integers (int1,int2) : 9,2
Please enter two floating numbers (float1 float2) : 3.14 1.414


(1) int1 % int2    (2) float1 / float2
Please choose an operation: 1

9%2 = 1
```

```
Please enter two positive integers (int1,int2) : 9,2
Please enter two floating numbers (float1 float2) : 3.14 1.414


(1) int1 % int2    (2) float1 / float2
Please choose an operation: 2

3.140000/1.414000 = +002.221
```

```
Please enter two positive integers (int1,int2) : 4,1
Please enter two floating numbers (float1 float2) : 6 -2.0


(1) int1 % int2    (2) float1 / float2
Please choose an operation: 2

6.000000/-2.000000 = -003.000
```

3. Write a program that ask the user to enter 2 numbers ($a \ \ b, 0 \leq a \leq b \leq 2147483647$) and then calculate how many odd and even numbers are there between a and b **(include a and b)**.

Note: Zero is an even number

```
Please input a: 3
Please input b: 7
There are 3 odd numbers between 3 and 7
There are 2 even numbers between 3 and 7
```

```
Please input a: 2
Please input b: 4
There are 1 odd numbers between 2 and 4
There are 2 even numbers between 2 and 4
```

```
Please input a: 0
Please input b: 100
There are 50 odd numbers between 0 and 100
There are 51 even numbers between 0 and 100
```

```
Please input a: 20
Please input b: 31
There are 6 odd numbers between 20 and 31
There are 6 even numbers between 20 and 31
```

4. Simple Lottery

Here are the Lottery Rules:

1. The length of lottery number is five.
2. When your number match winning number, you win **first prize**.
3. When your number and winning number has same four consecutive numbers, you win second prize.

Please write a program to determine whether you win the lottery or not.

Input:

Two numbers, first one is winning number and second one is your number

Output:

You win first prize, second prize or you lose.

```
Please input winning number: 12345
Please input your number: 12345
You win the first prize!
```

```
Please input winning number: 12345
Please input your number: 91234
You win the second prize!
```

```
Please input winning number: 20480
Please input your number: 04809
You win the second prize!
```

```
Please input winning number: 69875
Please input your number: 69831
Sorry, you lose!
```

```
Please input winning number: 13579
Please input your number: 24579
Sorry, you lose!
```