HW1

The purpose of HW1 is to give you practice working with numbers and strings in python. First, you will write a program that will prompt the user for a positive integer (you can assume that the user will actually enter a positive integer). Next, you will prompt the user to enter a string with at least 5 letters in it (you can assume that the user will actually enter a string with 5 or more letters).

Your program will output the following in the order shown below:

1. The number the user entered.
2. The remainder after the number is divided by 3.
3. The number cubed (i.e. number^3)
4. The base 10 log of the number (with 5 digits after the decimal place)
5. The string the user entered.
6. The last three letters of the string
7. The decimal ASCII value of the 3rd letter of the string.
8. A new string where all occurrences of the first letter is replaced with @. Uppercase letter and lower case letters are not considered the same letter (e.g. a ≠ A)

Please remember to do the following:

1. Complete Lab 1 before starting HW1
2. Develop the program on the GL system and place it in your hw1 folder (the folder was created in Lab 1)
3. Use python 3, not python 2. The command is **scl enable python33 bash**
4. Follow the CMSC 201 coding conventions(under Homework and Projects folder in Blackboard)

For full credit, do not add anything extra or leave any part out. We have not covered decision making (e.g. if/else statements) or looping (e.g. for loops/while loops) yet, therefore your HW1 solution should not have any decision making or loops in it. Use the samples below as a guide for developing your program and for the format of the prompts and the outputs. In the sample runs, the user input is shown in bold so you can easily distinguish input from program generated text (it does not have to show up as bold in your program). The order in which your program prompts the user and displays information should exactly match what is seen in the sample runs.

Sample run 1

```
This program will work with numbers and strings
Enter a positive integer: 17
Enter a string with 5 or more letter: turtle
The number you entered is 17
17 / 3 has the remainder 2
17 ^ 3 is 4913
Log( 17 ) = 1.23045
----------------------------------------
The string you entered is turtle
The last 3 letters of the string is tle
The ASCII value of the third letter is 114
All the t letters replaced with @ is @ur@le
```

Sample run 2

```
This program will work with numbers and strings

Enter a positive integer: 31

Enter a string with 5 or more letter: Alligator

The number you entered is 31

31 / 3 has the remainder 1

31 ^ 3 is 29791

Log( 31 ) = 1.49136

----------------------------------------

The string you entered is Alligator

The last 3 letters of the string is tor

The ASCII value of the third letter is 108

All the A letters replaced with @ is @lligator
```

When you've finished your homework, use the submit command to submit the file.

You must be logged into your account and you must be in the same directory as the file you're trying to submit.

At the Linux prompt, type

```
submit cs201 HW1 hw1.py
```

After entering the submit command shown above, you should get a confirmation that submit worked correctly:

```
Submitting hw1.py...OK
```

If not, check your spelling and that you have included each of the required parts and try again.

You can check your submission by entering:

```
submitls cs201 HW1
```

You should see the name of the file that you just submitted, in this case hw1.py