Lab 1 - python basics review.

1. If you haven’t already, checkout your assignments repo locally.
2. Make the lab01 subdir in the assignments repo, create the q1-q5.py files. Questions 1 & 2 are to “handwritten” or just a text file of your hand computed answers.
3. Write 5 python scripts to solve/answer the CMPSC 1000 final test problems at the end of this doc.
4. Comment your code! The more comments the better. This helps anyone else who might have to look at it better understand it.
5. Commit/push the finished files back to github, with a comment that this is the homework submission.
6. Create an issue assigned to caaron to review the code.
7. Just for fun trivia question (put answer in the comments of your issue submission)

As Apple was founded by the pair Jobs and Wozniak, Microsoft by Gates and Allen, and Hewlett-Packard by Hewlett and Packard, what company was founded by the pair Filo and Yang?

Section 1: Math Operators. [15 questions, each worth 2 points] For each expression, write in the Output column what the Python interpreter would show as output.

Expression Output

14+5-5

“85” + “58”

2-2\*2

(2-2)2

(2-2)\*2

2\*2\*\*3

2\*\*2\*\*3

5//2

1+5//2

6%3

2+6%3

(2+6)%3

2/2\*2

2-2+2\*2

2+2-2\*2

Section 2. Logical Operators. [10 questions, each worth 2 points] For each expression, write in the Output column what the Python interpreter would show as output (True or False). Assume the variables have the following values:

a = 7

b = 3

c = 11

Expression Output

a>b and b<c

b<c and a>b

c>b and b<a

2\*b>a

((2\*a)-b)>=c

a==b or b==c

a<b<c

b<a<c

a+b>c

11+b+a-10==c

Section 3. For Loops and Lists. [Six questions, each worth five points] Show the correct syntax for the problems below.

a)Design a for loop using the range function that prints all natural numbers from 0-15

b)Design a for loop using the range function that prints all natural numbers from 5-100

c)Given a list of candy bars, design a for loop that prints out every item in the list. Assume the list is already defined and is named candy\_bars

d)Modify your answer from problem 3c so it prints out each candy bar with an added greeting. Output should look something like:

Good afternoon, Snickers

Good afternoon, Reese’s Peanut Butter Cup

Good afternoon, Baby Ruth

e)Provide one line of code to add your favorite candy bar to the end of the list called candy\_bars

f)Now that your candy bar is at the end of the list called candy\_bars, provide code (one or two lines) that will print out a greeting only to your favorite candy bar. Hint: you will need to use the len() function.

Section 4. Functions. [Two questions, each worth five points] Show the correct syntax for the problems below.

a)Define a function subtract\_two\_numbers that takes two numbers as arguments and returns their difference

b)Define a function hello\_candy\_bar that takes a string as an argument and prints a greeting to that candy bar. Output should look something like:

Good morning, Milky Way

Section 5. Conditionals. [One question, worth ten points] Show the correct syntax for the following specification: modify your code from question 4b so it takes a list as an argument and prints out a greeting to every item in the list only if the length of the list is greater than 5 items. If the list is not greater than 5 items, output a message to the user that the list is not long enough to process.