CS-UY 1114 Lab 4 Spring 2018

In this lab, you will learn about:

- while loops.
- Conditional statements: if/else/elif.

Please stick to concepts only covered thus far in class. If you think you need something more advanced, you don't!

Pen & Paper warm-up

[Do **NOT** use your computer for these problems. Work them out on paper.

(a)
n = 3
while n >= 0:
  n -= 1
  print(n)
	(b)
	n = 4
	while n > 0:
	  n += 1
	  print(n)
		(c)
		positive = 28
		while positive:
		  print("Positive?")
		  positive -= 3
			(d)
			positive = -9
			negative = -12
			while negative:
			  if positive:
			    print(negative)
			    positive += 3
			    negative += 3

Note: variable += 5 is equivalent to variable = variable + 5.

Coding problems

Problem 1: Given 2 strings, a and b, return a string of the form short+long+short, with the shorter string on the outside and the longer string on the inside. The strings will not be the same length, but they may be empty (length 0).

For example, an execution would look like this:
Please enter string a: hello
Please enter string b: hi
hihellohi

Problem 2: Write a program to check if the given string is a palindrome or not. A palindrome is defined as a word, phrase, or sequence that reads the same backward as forward.

For example, an execution would look like this:
Please enter a string: madam
madam is a palindrome
Please enter a string: python
python is not a palindrome

Problem 3: Write a program that asks user to input two positive integers a and b, and print out the quotient of a divided by b. **The only arithmetic operations your program can use are addition and subtraction**.

For example, an execution would look like this:
Please enter a positive integer as the dividend: 13
Please enter a positive integer as the divisor: 5
Quotient of 13 divided by 5 is: 2

Problem 4: Write a program that asks user to input two positive integers a and b, and print out the remainder of a divided by b. Once again, the only arithmetic operation your program can use are **addition and subtraction**.
For example, an execution would look like this:
Please enter a positive integer as the dividend: 13
Please enter a positive integer as the divisor: 5
Remainder of 13 divided by 5 is: 3

Problem 5: Write a program that prints perfect cubes that are less than n (input from the user).

For example, if n = 30, the output is:

1
8
27