CS 115 - Introduction to Programming in Python

Lab 03

Lab Objectives: Functions

Notes:

- You should not use lists, tuples, dictionaries in your solution.
- For each of the functions below, you should include a docstring comment. The docstring should have the following format:

```
"""
Summary of what the function is for
Parameters:
param1 (param1 type): Description of param1

Returns:
type: variable/value
"""
```

1. The following will be in the script, `Lab03_Q1.py`:

a. Write a function `isOrdered` that takes a string and determines if its letters are in alphabetical order. Case sensitivity is not important.

b. Write a program to input a word and after calling the above function, display an appropriate message if the letters of the word are in alphabetical order. **eg**. biOpsy, Lost, aDEpt are some words whose letters are in alphabetical order.

Sample Run:

```
Enter a string: alMoSt
Letters of "alMoSt" are in alphabetical order
```

Sample Run:

```
Enter a string: you
```

2. The following will be in the script, `Lab03_Q2.py`:

a. Write a function named `countDigits` that accepts a positive integer as its parameter and returns the number of digits in that number.
For example, the number 8546587 has seven digits, so the call `countDigits(8546587)` should return 7. Do not convert the number to string. You may assume that the value passed to your method is non-negative.

b. Write a program to input an integer n and call the function in part a if n is positive, else give 'Value must be Positive' message. Inputting will stop when 0 is entered.

Sample Run:

```
Enter an integer (0 to stop): 1046
1046 has 4 digits

Enter an integer (0 to stop): 8712013
8712013 has 7 digits

Enter an integer (0 to stop): -23
Value must be Positive

Enter an integer (0 to stop): 0
```

3. The following will be in the script, Lab03_Q3.py:

a) Write a function named `printMultiples` that accepts an integer n and an integer m as parameters and prints a complete line of output reporting the first m multiples of n. For example, the following calls:

```
printMultiples(3, 5)
printMultiples(7, 3)
```

should produce this output:

The first 5 multiples of 3 are 3, 6, 9, 12, 15
The first 3 multiples of 7 are 7, 14, 21

Notice that the multiples are separated by commas and spaces. You must exactly produce this format.

b) Write a program to receive 2 integers and display the multiples using the above function. The inputting will continue until at least one of m or n become negative or 0.

Sample Run:

```
Enter first integer: 3
Enter second integer: 5
3, 6, 9, 12, 15

Enter first integer: 7
Enter second integer: 3
7, 14, 21

Enter first integer: 0
Enter second integer: 5
```