CS 115 - Introduction to Programming in Python

Lab Guide 03B

Lab Objectives: Functions

1) Complete the following:

   a) Write a function **largestDivisor(n)** which takes integer n as a parameter and returns the maximum integer that divides n (excluding n itself).

   b) Write a script to input a positive integer n and decide if n is prime or not using the above function. The script will display whether the number is a prime or not. The program will continue inputting until a number < 1 is entered.

   Sample Run:
   Enter a positive integer >=1: 10
   10 is not a prime number

   Enter a positive integer >=1: 7
   7 is a prime number

   Enter a positive integer >=1: 0

2) Complete the following:

   a) Write a function, **generate_password(n)** where n is the length of the password. The function should generate a password with n/2 letters and n/2 (+1 if odd) digits. The letters should be randomly selected from a – z, and you should randomly capitalize the letters before adding to the password.

   b) Write a script that generates passwords using the lengths input from the user. You should generate passwords until the user inputs -1 to quit. The input length of a password cannot be less than 5 and your program should validate the input and prompt again for invalid input.
   Sample Run:

   Enter password length (-1 to quit): 5
   Your password is: aq373

   Enter password length (-1 to quit): 4
   Password minimum length is 5

   Enter password length: 6
   Your password is: qSm354

   Enter password length (-1 to quit): 9
   Your password is: jker40996

   Enter password length (-1 to quit): -1