Practice Lab Assignment 7

For this Practice Lab Assignment, you will write programs in C, **making use of the concepts that have been taught in the class.**

Do not use arrays and any other concept that has not been yet taught in the class.

Instructions

- There are 7 questions in this assignment.
- Any discussion with neighbor/or any other student is strictly not allowed.
- Mobile phones are not allowed. If found, disciplinary action may be taken.

Due Date: **This is only a Practice Lab so no submission is required.**

Grading Criteria

No Grading Criteria.

Programming Questions

1. Write a menu-driven program with the help of functions containing following programs:

   (i) Factorial of any number
   (ii) Prime Number
   (iii) Even or Odd number

2. Define a function called hypotenuse that calculates the length of the hypotenuse of a right triangle when the other two sides are given. The function should take two arguments of type double and return the hypotenuse as a double.

3. An integer number is said to be a perfect number if its factors, including1 (but not the number itself), sum to the number. For example, 6 is a perfect number because 6 =1 + 2 + 3. Write a function perfect that determines if parameter number is a perfect number. Use this function in a program that determines and prints all the perfect

numbers between 1 and 1000. Print the factors of each perfect number to confirm that the number is indeed perfect.

4. Write a program using function that takes an integer value and returns the number with its digits reversed. For example, given the number 7631, the function should return 1367.

5. Write a Program to print the Fibonacci Series with the help of functions. A Fibonacci Series is a series of numbers where the next number in the series is equal to the sum of previous 2 numbers. **Example:-** A Fibonacci series of 8 terms will be - 0, 1, 1, 2, 3, 5, 8, 13.

6. Write a function multiple that determines for a pair of integers whether the second integer is a multiple of the first. The function should take two integer arguments and return 1(true) if the second is a multiple of the first and 0 (false) otherwise.

7. The *greatest common divisor* (*GCD*) of two integers is the largest integer that evenly divides each of the two numbers. Write function gcd that returns the greatest common divisor of two integers.