

Practice Lab Assignment 6

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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, including 1 (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. Write a program to convert a decimal number into binary using recursion.