

LAB SHEET #6

Title: C Programming with functions

Objective(s):

- To understand function programming, its types and function-call

Theory : Write short theory on functions(declaration, definition, types regarding to return type and arguments), pass by value and pass by reference, recursive function.

Write a program to find sum as Y of the following series excluding prime number in the series. (Write function program to check whether the number is prime or not. also write recursive function to calculate the factorial of the series numbers). — — —

$$Y = 1 + \frac{1}{1!} + \frac{2^2}{2!} + \frac{3^2}{3!} + \dots + \frac{10^2}{10!}$$

Problem Analysis:

Algorithm:

Flowchart: Code:

Output (Compilation, Debugging and Testing):

Discussion and Conclusion:

Lab Exercises (Please Code yourself and show the output to instructor):

1. Write a program to add, subtract, multiply and divide two integers using user defined type function with return type.
2. Write a program to calculate sum of first 50 natural numbers using recursive function.
3. Define a function named fact() to calculate factorial of a number n and then write a program that uses this function fact() to calculate combination and permutation.
4. Write a recursive function to generate Fibonacci series.
5. Write a program that illustrates use of local, global and static variables