Assignment 9

[01.02.2021 – Monday – Lab 10]

Common to All Students:

Write a C Program for the following problem statements

a) Functions without arguments and without return type

- check whether the year is Leap year
- convert binary to hexadecimal
- count number of digits in a number

b) Functions without arguments and with return type

- check Armstrong number or not
- to evaluate the following using loops x + x^3 / 3! + x^5 / 5! +... upto 5 terms
- Convert temperature Fahrenheit to Celsius

c) Functions with arguments and without return type

- check prime number or not
- find all roots of the quadratic equation
- find ASCII number to character and character to ASCII number

d) Functions with arguments and with return type

- check perfect or abundant or deficient number
- calculate factorial of a number
- count number of digits in a number

e) Function return Multiple values

- Largest and Smallest of five numbers
- Find Simple interest and compound interest
- simple calculator (add, sub, mul, div, mod)

f) Nesting of Functions

- Print the sum of series 1 + 1/2 + 1/3 + 1/4 + ... + 1/N.
- Find GCD and LCM of numbers
- reverse a number

g) Recursive Functions

- to Print Fibonacci Series
- to print even or odd numbers in given range
- to convert a decimal number to binary

h) Passing 1D Array in Functions

- Reverse the elements of an array
- Find the fourth largest and Third smallest element in an array
- Find Mean, Median, Mode, Variance, Standard Deviation, and Range of 'n' elements in an array

i) Passing 2D Array in Functions

- Sum of upper triangular and lower triangular elements of mxm array
- Find the maximum & minimum element in each row and each column of mxm array
- Perform matrix multiplication between two mxn array

j) Passing Strings in Functions

- to perform Substring Extraction (With and Without String Handling Functions).
- to read a string and prints if it is a palindrome or not.
- to replace a particular word by word character in a line of text.

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