**Function Recursion and Pointers**

1. Write a program to calculate the sum of the first n natural numbers using recursion.
2. Write a program to calculate the factorial of a given number using recursion.
3. Write a recursive function to multiply two positive integers without using the \* operator.
4. Create a C program that uses a function to calculate the square root of a number without using the sqrt() function from “math.h”.
5. Write a recursive function to find the sum of all elements in an array.
6. Write a recursive function to count the number of vowels in a string.
7. Write a C program to swap two numbers using pointers and functions. How to swap two numbers using call by value and call by reference method.
8. A 5-digit positive integer is entered through the keyboard, write a function to calculate sum of digits of the 5-digit number: (1) Without using recursion (2) Using recursion
9. A positive integer is entered through the keyboard, write a program to obtain the prime factors of the number. Modify the function suitably to obtain the prime factors recursively.
10. Write a recursive function to generate nth Fibonacci term in C programming. How to generate nth Fibonacci term in C programming using recursion.
11. Write a C program to demonstrate the different storage classes using function.
12. Write a recursive function that converts a decimal number to binary and returns the binary number as an integer.