Day 18

Lab Assignments

1. WAP to find the factorial of a number n by writing a recursive function for it.
   Input: Enter a number: 5
   Output: Factorial of 5 = 120
2. WAP to calculate GCD of two numbers by using a recursive function findGCD.
   Input: Enter two numbers: 50 70
   Output: GCD of 50 and 70 = 10
3. WAP by designing a recursive function to calculate the sum of the digits of any given integer.
   Input: Enter a number: 125
   Output: Sum of the digits of 125 = 8
4. WAP by designing a recursive function to print the prime factors of a number
   Input 1: Enter a number: 100
   Output 1: Prime factors of 100 are: 2 2 5 5
   Input 2: Enter a number: 70
   Output 2: Prime factors of 70 are: 2 5 7
5. WAP to calculate x^y by writing a recursive user defined function.
   Input: Enter the value of x and y: 2 5
   Output: 2 to the power 5 = 32
6. Write a recursive function to search an element in an array using Linear Search.
   Input 1: Enter the size of the array: 5
   Enter the array elements: 4 21 15 23 14
   Enter the searching element: 15
   Output 1: Element found at index 2
   Input 2: Enter the size of the array: 5
   Enter the array elements: 4 21 15 23 14
   Enter the searching element: 50
   Output 2: Element not found

Home Assignments

1. WAP to count number of digits of a positive integer n by using a recursive function.
   Input: Enter a number: 1045
   Output: Number of digits of 1045 = 4
2. WAP by designing a recursive function to calculate the sum of the digits of any given integer until it becomes a single digit number.
   Input: Enter a number: 34598
   Output: Sum of the digits of 34598 = 2
3. WAP to find out the maximum element of an integer array by using a recursive function.
   Input: Enter the size of the array: 5
   Enter the array elements: 4 21 15 23 14
   Output: Maximum elements of the array: 23
4. Write a recursive function to convert a binary number to its equivalent

decimal value.

Input: Enter a binary number: 1100

Output: Decimal equivalent of binary number 1100 = 12

5. WAP to find the n^{th} Fibonacci number using recursion.

   Input: Enter the value of n: 10

   Output: 10th Fibonacci number = 34

6. Write a function to reverse the elements of an array using recursion.

   Input: Enter the size of the array: 5

   Enter the array elements: 4 21 15 23 14

   Output: Original array: 4 21 15 23 14

   Reverse of the array: 14 23 15 21 4