Algorithm Development and Programming Fundamentals
MCA SEM-1

Array and Strings

1. Write a menu driven program to demonstrate following string functions: [Take necessary required inputs]
   STRING LENGTH
   STRING COPY
   STRING COMPARE
   STRING CONCAT
   UPPER CASE
   LOWER CASE

2. Use arrays to collect the three vertices of a triangle. Calculate the length of the three sides of a triangle formed with these vertices and determine whether the input is an equilateral triangle.

    Hint: Use formula to find the distance between two points.

3. Write a C program to find Largest and Smallest Element in an Array. Collect an array of integers from the user.

4. Write a C program to collect an array of integers from the user. Then remove duplicate elements from that Array if any. Also show the count of duplicate elements.

    Example:
    Original array is: 11 12 13 14 11 12 13 15
    New array is: 11 12 13 14 15

5. Write a C program to collect 2 square matrices from the user. Do the following operation on the matrices.
   i.   Transpose of both matrices.
   ii. Addition operation between matrices.
   iii. Subtraction operation between matrices.

6.   Write a C Program to remove all non alphabetic characters in a String. Collect String from the user.

7.   Write a C program to find the total number of alphabets, digits or special characters in a string. Also count the total number of vowels and consonants. Collect String from the user.

8.   Write a C program to count the total number of words in a string.