9. Arrays and Functions

CO3: Implement modular applications using Functions and pointers.

1. Write a function to swap 2 numbers passed as argument (*pass by reference*) and test this function in main.
2. Write a function to reverse a number passed as argument. Read 'n' numbers from the user and store it in an array. Out of the given array elements print only the palindrome numbers on the screen if present if not give appropriate message to the user. (*Passing individual array element as argument*)
3. Write a function to read an array, display an array and to find the sum of array elements. Calculate the mean of array elements using these functions.
4. Write a C program to apply linear search to a set of n numbers by using a functionLinearSearch(a,n,key) where 'a' is the array with 'n' elements and 'key'is the data to be searched in the array.
5. Write a C language function to compare two strings str1 and str2 and return the result 0,1, -1 if(str1==str2),(str1>str2) and (str1<str2) respectively. Also, write the main program.
6. Write a function to arrange a set of numbers depending on a parameter I. If I=0, arrange the numbers in ascending order else in descending order. The value of I, N and set of N numbers are to be read by the main program.
7. Write a function to obtain the trace of a given square matrix of order m x m. (Trace of a matrix is defined as the sum of the leading diagonal elements of the matrix). Provide a matrix of order not greater than 30 x 30.