

**PSG COLLEGE OF TECHNOLOGY, COIMBATORE -641004**  
**DEPARTMENT OF COMPUTER APPLICATIONS**  
**I SEMESTER MCA**  
**23MX16 C PROGRAMMING LABORATORY**  
**PROBLEM SHEET 3 – ARRAYS – SIMPLE PROBLEMS**

- 1) Write a program to accept the integer values and display the second largest value in an array.
- 2) Write a program to sort the list of numbers in an ascending and descending order.
- 3) Write a program to search for a specified number in an array and display with its position.
- 4) Write a program to find the occurrence of positive, negative, even and odd elements for a given array.
- 5) Write a C program to check if array contains a duplicate number.
- 6) Write a C program to reverse array in place in C.
- 7) Given an array of size n and a number k, find all elements that appear more than n/k times.
- 8) Write a program that accepts an array and a key value. Rotate the array element by 'key' times.

Example:

Input: array[] = [1, 2, 3, 4, 5, 6]

key=2

Output : [ 3, 4, 5, 6, 1, 2]

- 9) Write a C program to merge sorted array?
- 10) Write a C program to check if array contains a duplicate number.
- 11) Write a C program to reverse array in place in C.
- 12) Check if a given array contains duplicate elements within k distance from each other  
Given an unsorted array that may contain duplicates. Also given a number k which is smaller than size of array. Write a C function that returns true if array contains duplicates within k distance.

**Deadline: 10.09.2025**