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Lab Manual: 01
Course Code: CSE207
Topic: 1D Array
Course Title: Data Structures
Instructor: Md. Manowarul Islam, Adjunct Faculty, Department of CSE

Objective:
The objective of this lab is to provide a fundamental idea about the sorting element of an integer array using C/C++ programming. At the end of the lab, students are able to know:

- How to take input into an array.
- How to control the elements of the array.

Lab Task

Exercise 1:
Write a program to find maximum and minimum number of an integer array. Show the sample input and output clearly.

Sample Input	Sample Output
Input array elements: 17 4 5 6 2 10	Maximum: 17 Minimum: 2

Exercise 2:
Write a program which can input last seven days temperature into an array and display the highest temperature. How many days that highest is found.

Sample Input	Sample Output
Input array elements: 36 35 39 37 38 39 38	Highest temperature: 39 Total days of highest temperature: 2

Exercise 3:
Write a program in C to delete an element at desired position from an array.

Sample Input	Sample Output
Input array elements: 10 20 30 40 50 Input position to delete: 2	Array elements: 10, 30, 40, 50

Exercise 4:

Write a program in C to insert element in array at specified position.

Sample Input	Sample Output
Input array elements: 10 20 30 40 50 Input element to insert: 25 Input position where to insert: 3	Elements of array are: 10 20 25 30 40 50

Exercise 5:

Find the elements of an array that are greater than a specific Threshold. Create a new array to store all the elements from the original array that exceed a given threshold.

Sample Input	Sample Output
Input array elements: 10 25 89 50 100 Threshold: 30	89 50 100

Exercise 6:

Remove duplicate elements from the 1D array and print the modified array.

Sample Input	Sample Output
Input array elements: 10 20 10 30	10 20 30

Exercise 7:

Write a program which can input N numbers of rolls into an array and display the odd roll numbers also count how many odd numbers are in the array.

Sample Input	Sample Output
Number of elements, N = 6 Input roll numbers: 13 20 30 33 1 7	Odd roll numbers: 13, 33, 1, 7 Total odd roll numbers: 4

Exercise 8:

Write a program that can input N numbers of Marks into an array and display the sum of the marks, the average of all marks, and the highest marks in the array.

Sample Input	Sample Output
Number of elements, N = 7 Input marks: 88 100 44 76 33 45 79	Sum of the marks: 465 Avg of the marks: 66.4285 Highest marks: 100