



7th, KM Haridwar, National Highway Vardhmanpuram,
Roorkee, Rehmampur, Uttarakhand 247667

Lab Sheet-06

Programs using Arrays, Sorting, and Searching in C++

BCA I Semester (Session 2025-2026)

Objective:

- To be familiar with the syntax and structure of C++ programming.
- To learn problem-solving techniques using C++

Requirements:

- C++ programming environment
- Text editor or IDE

Program List:

1. Write a program to input and display elements of a 1D array.
2. Write a program to find the sum of all elements in a 1D array.
3. Write a program to find the maximum and minimum element in a 1D array.
4. Write a program to reverse a 1D array.
5. Write a program to input 10 numbers in an array and count how many are even and odd.
6. Write a program to search an element in a 1D array (without using functions).
7. Write a program to input and display elements of a 2D array (matrix).
8. Write a program to add two matrices.
9. Write a program to subtract two matrices.
10. Write a program to multiply two matrices.
11. Write a program to sort an array using Bubble Sort in ascending order.
12. Write a program to sort an array using Bubble Sort in descending order.
13. Write a program to sort names of students using Bubble Sort.
14. Write a program to search an element in a 1D array using Linear Search.
15. Write a program to search an element in a 1D array using Binary Search.



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16. Write a program to count the number of occurrences of a given element in an array (Linear Search).
17. Write a program to check if a given number is present in the array or not (Linear Search).
18. Write a program to implement Binary Search for an array of integers.
19. Write a program to implement Binary Search for an array of floating-point numbers.
20. Write a program to search the largest element in a sorted array using Binary Search.

Instructions:

- Write comment to make your programs readable.
- Use descriptive variables in your programs (Name of the variables should show their purposes)

Guidelines:

- Use Clear and Consistent Syntax
- Manage Variables and Data Types Correctly
- Handle Input/Output Effectively



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Submission:

- Submit the source code files (.cpp) for each task along with a brief report documenting the implementation details and the results of the executions.