Introduction to Computing

Lab 12	
Topic	**Arrays**
Objective	The objective of using arrays in C++ is to store multiple values of the same type in a single structure, allowing efficient data management and easy access through indexing. Arrays simplify code, enable iterative operations using loops, and serve as a foundation for more complex data structures.

1. **Declare and Initialize an Array**

   Write a program to declare an array of 5 integers and initialize it with specific values (e.g., {10, 20, 30, 40, 50}).
2. **Display Array Elements**

   Write a program to display all elements of an array using a loop.
3. **Sum of Array Elements**

Write a program to calculate the sum of all elements in an array.
4. **Find Maximum Element**

   Write a program to find the largest element in an array.
5. **Find Minimum Element**

   Write a program to find the smallest element in an array.
6. **Search for an Element**

   Write a program to search for a specific number in an array and display its position (if found).
7. **Update an Element**

   Write a program to replace a specific element in an array with a new value provided by the user.
8. **Count Even and Odd Numbers**

   Write a program to count how many numbers in an array are even and how many are odd.
9. **Reverse the Array**

   Write a program to print the elements of an array in reverse order.
10. **Copy Array Elements**

    Write a program to copy the elements of one array into another array.
11. **Swap First and Last Elements**

    Write a program to swap the first and last elements of an array.
12. **Average of Array Elements**

Write a program to calculate the average of all elements in an array.

13. **Find Second Largest Element**

    Write a program to find the second largest number in an array.

14. **Count Specific Element**

    Write a program to count how many times a specific element appears in an array.

15. **Initialize Array with User Input**

Write a program to take input from the user to fill an array and then display the array.