**Lab 7**

**Classwork:**

1. **Basics of Pointer to a variable**

**Objective:** Learn how to use pointers to swap the values of two variables.

**Description:** Write a program that takes two integers from the user and swaps their values using pointers.

**Instructions:**

1. Declare two integer variables.
2. Use pointers to point to these variables.
3. Get input from the user for both integers.
4. Swap the values using the pointers.
5. Display the values before and after the swap.
6. **Basic Array Manipulation Using Pointers**

**Objective:** Use pointers to access and modify elements of an array.

**Description:** Write a program that initializes an array of integers, then uses a pointer to print each element of the array and modify one of the elements.

**Homework:**

**Objective:** Use pointers to calculate the sum of elements in an array.

**Description:** Write a program that initializes an array of integers, then calculates and displays the sum of its elements using pointers.

**Extra Challenging:**

**Problem Statement: Sorting an Array Using Pointers**

**Objective:** Implement a sorting algorithm to sort an array of integers using pointers.

**Description:** Write a program that takes an array of integers from the user, then sorts the array in ascending order using the bubble sort algorithm and pointers. The program should display the original array and the sorted array.

**Requirements:**

1. Prompt the user to enter the number of elements in the array.
2. Allow the user to input the elements of the array.
3. Use a pointer to implement the bubble sort algorithm to sort the array in ascending order.
4. Print the original array before sorting.
5. Print the sorted array after sorting.