BUBBLE SORT

Write a C++ program to sort given number of elements using Bubble Sort algorithm.

Instruction: -

1. Create a **bubbleSort**() function to sort the elements.
2. Create a **printArray**() function to display the array elements.
3. Take the input from the user and store into array named **arr[].**

CODE: -

```
#include <iostream>
using namespace std;

void bubbleSort(int arr[], int n) // Function to perform Bubble Sort
{
    for (int i = 0; i < n - 1; i++)
    {
        bool swapped = false;
        for (int j = 0; j < n - i - 1; j++)
        {
            if (arr[j] > arr[j + 1])
            {
                swap(arr[j], arr[j + 1]); // Swap elements
                swapped = true;
            }
        }
       if (!swapped)

       break; // If no elements were swapped, the array is already sorted
    }
}

// Function to print an array
void printArray(int arr[], int n)
{
    for (int i = 0; i < n; i++)
    {
        cout << arr[i] << " ";
    }
    cout << endl;
}

int main()
{
    int n;
    cout << "Enter the number of elements: ";
    cin >> n;

    int arr[n];
    cout << "Enter " << n << " elements: ";
    for (int i = 0; i < n; i++)
```

```
    {
        cin >> arr[i];
    }

    cout << "Original array: ";
    printArray(arr, n);

    bubbleSort(arr, n);

    cout << "Sorted array: ";
    printArray(arr, n);

    return 0;
}

```