

Day 26/180 Bubble Sort in C++

1: Use Bubble Sort Algorithm to sort the array of integers in decreasing order.

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

```
void bubbleSort(int arr[], int n) {
    for (int i = 0; i < n - 1; i++) {
        for (int j = 0; j < n - i - 1; j++) {
            if (arr[j] < arr[j + 1]) {
                // Swap arr[j] and arr[j + 1] if the current element
                is smaller
                swap(arr[j], arr[j + 1]);
            }
        }
    }
}

int main() {
    int n;
    cin >> n;
    int arr[n];
    for (int i = 0; i < n; i++) {
        cin >> arr[i];
    }

    cout << "Original array: ";
    for (int i = 0; i < n; i++) {
        cout << arr[i] << " ";
    }
    cout << endl;

    bubbleSort(arr, n);
```

```

    cout << "Sorted array in decreasing order: ";
    for (int i = 0; i < n; i++) {
        cout << arr[i] << " ";
    }
    cout << endl;

    return 0;
}

```

2: Bubble Sort Algorithm to sort the array of integers in increasing order by taking the smallest number to first place by starting from the last. Question was explained in the class.

```

#include <iostream>
using namespace std;

void bubbleSort(int arr[], int n) {
    for (int i = 0; i < n - 1; i++) {
        for (int j = n - 1; j > i; j--) {
            if (arr[j] < arr[j - 1]) {
                // Swap arr[j] and arr[j - 1] if the current
                element is smaller
                std::swap(arr[j], arr[j - 1]);
            }
        }
    }
}

```

```

int main() {
    int n;
    cin>>n;
    int arr[n];
    for(int i=0;i<n;i++){
        cin>>arr[i];
    }

    cout << "Original array: ";
    for (int i = 0; i < n; i++) {
        cout << arr[i] << " ";
    }
    cout << endl;
    bubbleSort(arr, n);
    cout << "Sorted array in increasing order: ";
    for (int i = 0; i < n; i++) {
        cout << arr[i] << " ";
    }
    cout << endl;
    return 0;
}

```

3: Bubble Sort Algorithm to sort the array of char in ascending order.

```

#include <iostream>
using namespace std;

void bubbleSort(char arr[], int n) {
    for (int i = 0; i < n - 1; i++) {
        for (int j = 0; j < n - i - 1; j++) {
            if (arr[j] > arr[j + 1]) {
                // Swap arr[j] and arr[j + 1] if the current character is
                greater
                std::swap(arr[j], arr[j + 1]);
            }
        }
    }
}

```

```
}

int main() {
    int n;
    cin>>n;
    char arr[n];
    for(int i=0;i<n;i++){
        cin>>arr[i];
    }

    cout << "Original array: ";
    for (int i = 0; i < n; i++) {
        cout << arr[i] << " ";
    }
    cout << endl;

    bubbleSort(arr, n);

    cout << "Sorted array in increasing order: ";
    for (int i = 0; i < n; i++) {
        cout << arr[i] << " ";
    }
    cout << endl;
    return 0;
}
```