

```
C:\Users\Admin\Desktop\cs264\Untitled2.exe
Enter the number of elements in the array: 5
Enter the elements of the array: 2
1
5
4
5
Original array:
2 1 5 4 5

Sorted array:
1 2 4 5 5

Process returned 0 (0x0)  execution time : 7.627 s
Press any key to continue.
```

2024/23 · Quick Sort

```
#include <stdbool.h>
#include <limits.h>
#include <cs50.h>

bool is_sorted(int arr[], int size) {
    for (int i = 1; i < size; i++) {
        if (arr[i] > arr[i - 1]) {
            continue;
        } else {
            return false;
        }
    }
    return true;
}

void printArry(list arr, int size) {
    for (int i = 0; i < size; i++) {
        printf("%d ", arr[i]);
    }
    printf("\n");
}

int main() {
    int n;
    cout << "Enter the no of elements in the array : ";
    cin >> n;
    cout << "Enter the array elements : ";
    vector<int> arr(n);
    for (int i = 0; i < n; i++) {
        cout << "Element " << i + 1 << ": ";
        cin >> arr[i];
    }
    cout << "Original array : ";
    printArry(arr, n);

    if (!is_sorted(arr, n)) {
        cout << "The array is not sorted." << endl;
        cout << "Please sort the array." << endl;
    } else {
        cout << "The array is already sorted." << endl;
        cout << "The sorted array is : ";
        printArry(arr, n);
    }
}
```

Output

Enter the no of element in the array - 5

Enter the elements of the array - 2

1

5

4

8

Original array : 2 1 5 4 5

Sorted array - 1 2 4 5 5

S.S.
20/11/23