

## Question 1

Correct

Mark 1.00 out of 1.00

Write a Program to Implement the Quick Sort Algorithm

Input Format:

The first line contains the no of elements in the list-n

The next n lines contain the elements.

Output:

Sorted list of elements

For example:

Input	Result
5 67 34 12 98 78	12 34 67 78 98

Answer:

```

1 #include <stdio.h>
2 void swap(int *a, int *b) {
3     int temp = *a;
4     *a = *b;
5     *b = temp;
6 }
7
8 int partition(int arr[], int low, int high) {
9     int pivot = arr[high];
10    int i = low - 1;
11
12    for (int j = low; j < high; j++) {
13        if (arr[j] < pivot) {
14            i++;
15            swap(&arr[i], &arr[j]);
16        }
17    }
18    swap(&arr[i + 1], &arr[high]);
19    return i + 1;
20 }
21 void quick_sort(int arr[], int low, int high) {
22     if (low < high) {
23
24         int pi = partition(arr, low, high);
25         quick_sort(arr, low, pi - 1);
26         quick_sort(arr, pi + 1, high);
27     }
28 }
29
30 int main() {
31     int n;
32     scanf("%d", &n);
33     int arr[n];
34     for (int i = 0; i < n; i++) {
35         scanf("%d", &arr[i]);
36     }
37     quick_sort(arr, 0, n - 1);
38     for (int i = 0; i < n; i++) {
39         printf("%d ", arr[i]);
40     }
41     printf("\n");
42
43     return 0;
44 }
```

	Input	Expected	Got	
✓	5 67 34 12 98 78	12 34 67 78 98	12 34 67 78 98	✓
✓	10 1 56 78 90 32 56 11 10 90 114	1 10 11 32 56 56 78 90 90 114	1 10 11 32 56 56 78 90 90 114	✓
✓	12 9 8 7 6 5 4 3 2 1 10 11 90	1 2 3 4 5 6 7 8 9 10 11 90	1 2 3 4 5 6 7 8 9 10 11 90	✓

Passed all tests! ✓

**Correct**

Marks for this submission: 1.00/1.00.

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