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5-Implementation of Quick Sort

Started on	Tuesday, 30 September 2025, 10:10 PM
State	Finished
Completed on	Tuesday, 30 September 2025, 10:38 PM
Time taken	28 mins 5 secs
Marks	1.00/1.00
Grade	10.00 out of 10.00 (100%)

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	12 34 67 78 98

67 34 12 98 78

Answer:

```
1 #include <stdio.h>
2
3 void swap(int *a, int *b) {
4     int temp = *a;
5     *a = *b;
6     *b = temp;
7 }
8
9 int partition(int arr[], int low, int high) {
10    int pivot = arr[high];
11    int i = low - 1;
12    for(int j = low; j <= high - 1; 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
22 void quickSort(int arr[], int low, int high) {
23    if(low < high) {
24        int pi = partition(arr, low, high);
25        quickSort(arr, low, pi - 1);
26        quickSort(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    quickSort(arr, 0, n - 1);
37    for(int i = 0; i < n; i++)
38        printf("%d ", arr[i]);
39    printf("\n");
40    return 0;
41 }
```

	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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