5-Implementation of Quick Sort

Started on	Wednesday, 8 October 2025, 8:18 AM
State	Finished
Completed on	Wednesday, 8 October 2025, 8:47 AM
Time taken	28 mins 57 secs
Marks	1.00/1.00
Grade	**10.00** out of 10.00 (**100**%)

Question 1 Correct Mark 1.00 out of 1.00 Flag question

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:

```c
#include <stdio.h>
void swap(int *a, int *b){
    int c = *a;
    *a = *b;
    *b = c;
}
int partition(int arr[], int l, int h){
    int p = arr[h];
    int i = l -1;
    for(int j=l;j<=h-1;j++){
        if(arr[j] < p){
            i++;
            swap(&arr[i], &arr[j]);
        }
    }
    swap(&arr[i+1], &arr[h]);
    return(i+1);
}
void quickSort(int arr[], int l, int h) {
    if (l < h) {
        int p = partition(arr, l, h);
        quickSort(arr, l, p - 1);
        quickSort(arr, p + 1, h);
    }
}
int main() {
    int n;
    scanf("%d",&n);
    int arr[n];
    for(int i=0;i<n;i++){
        scanf("%d", &arr[i]);
    }
    quickSort(arr, 0, n - 1);
    for (int i = 0; i < n; i++){
        printf("%d ", arr[i]);
    }
    return 0;
}
```

	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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