CS23331-Design and Analysis of Algorithms-2023 Batch-CSE

Quiz navigation

1

Finish review

Started on	Friday, 18 October 2024, 1:45 PM
State	Finished
Completed on	Friday, 18 October 2024, 1:46 PM
Time taken	22 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 temp = *a;
    *a = *b;
    *b = temp;
}

int partition(int arr[], int low, int high)
{
    int pivot = arr[low];
    int i = low;
    int j = high;

    while (i < j)
    {
        while (arr[i] <= pivot && i <= high - 1) i++;
        while (arr[j] > pivot && j >= low + 1) j--;
        if (i < j)  swap(&arr[i], &arr[j]);
    }
    swap(&arr[low], &arr[j]);
    return j;
}

void quickSort(int arr[], int low, int high)
{
    if (low < high)
    {
        int partitionIndex = partition(arr, low, high);
        quickSort(arr, low, partitionIndex - 1);
        quickSort(arr, partitionIndex + 1, high);
    }
}

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]);
    }
}
```

	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.

Finish review

⇥ 4-Two Elements sum to x

Jump to...

1-DP-Playing with Numbers ⇤