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

Quiz navigation

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Finish review

Status	Finished
Started	Friday, 21 March 2025, 9:06 AM
Completed	Friday, 21 March 2025, 9:26 AM
Duration	20 mins 6 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 part(int arr[],int low,int high)
{
    int p=arr[low];
    int i=low;
    int j=high;
    while(i<j)
    {
        while(arr[i]<=p && i<=high-1)
        {
            i++;
        }
        while(arr[j]>p && j>=low+1)
        {
            j--;
        }
        if(i<j)
        {
            swap(&arr[i],&arr[j]);
        }
    }
    swap(&arr[low],&arr[j]);
    return j;
}
void quick(int arr[],int low,int high)
{
    if(low<high)
    {
        int pi=part(arr,low, high);
        quick(arr,low,pi-1);
        quick(arr,pi+1,high);
    }
}
int main()
{
    int n;
    scanf("%d",&n);
    int arr[n];
    for(int i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    quick(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.

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