

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

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Started on	Tuesday, 3 September 2024, 1:55 PM
State	Finished
Completed on	Tuesday, 3 September 2024, 2:26 PM
Time taken	31 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

Problem Statement

Given an array of 1s and 0s this has all 1s first followed by all 0s. Aim is to find the number of 0s. Write a program using Divide and Conquer to Count the number of zeroes in the given array.

Input Format

First Line Contains Integer m – Size of array

Next m lines Contains m numbers – Elements of an array

Output Format

First Line Contains Integer – Number of zeroes present in the given array.

Answer: (penalty regime: 0 %)

```
1 #include<stdio.h>
2 int count(int a[],int low,int high);
3
4 int main(){
5     int m,zero;
6     scanf("%d",&m);
7     int a[m];
8     for(int i=0;i<m;i++){
9         scanf("%d",&a[i]);
10    }
11    zero= count(a,0,m-1);
12    printf("%d",zero);
13    return 0;
14 }
15 int count(int a[],int low, int high)
16 {
17     int left,right;
18     if(low==high)
19         return 1-a[low];
20
21     int mid=(low+high)/2;
22     left=count(a,low,mid);
23     right=count(a,mid+1,high);
24     return (left+right);
25 }
26 }
```

	Input	Expected	Got	
✓	5 1 1 1 1 0 0	2	2	✓
✓	10 1 1 1 1 1 1 1 1 1 1	0	0	✓
✓	8 0 0 0 0 0 0	8	8	✓

	0			
	0			
	0			
✓	17	2	2	✓
1				
1				
1				
1				
1				
1				
1				
1				
1				
1				
1				
1				
1				
1				
1				
1				
1				
1				
0				
0				

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

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