

CS23331-DAA-2024-CSE / 1-Number of Zeros in a Given Array



1-Number of Zeros in a Given Array

Started on	Tuesday, 30 September 2025, 12:10 PM
State	Finished
Completed on	Tuesday, 30 September 2025, 12:14 PM
Time taken	4 mins 19 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
```

```

3  int findFirstZero(int arr[], int low, int high) {
4      if (low > high) return -1;
5
6      int mid = low + (high - low) / 2;
7
8      if ((arr[mid] == 0) && (mid == 0 || arr[mid - 1] == 1)) {
9          return mid;
10     }
11     else if (arr[mid] == 1) {
12         return findFirstZero(arr, mid + 1, high);
13     } else {
14         return findFirstZero(arr, low, mid - 1);
15     }
16 }
17
18 int main() {
19     int m;
20     scanf("%d", &m);
21
22     int arr[m];
23     for (int i = 0; i < m; i++) {
24         scanf("%d", &arr[i]);
25     }
26
27     int firstZeroIndex = findFirstZero(arr, 0, m - 1);
28
29     if (firstZeroIndex == -1) {
30         printf("0\n");
31     } else {
32         printf("%d\n", m - firstZeroIndex);
33     }
34
35     return 0;
36 }
37

```

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

1			
1			
1			
1			
1			
1			
1			
1			
✓	8	8	✓
0			
0			
0			
0			
0			
0			
0			
0			
✓	17	2	✓
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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