RAJALAKSHMI ENGINEERING COLLEGE

MAAHESH S 2024-CSD-A

M2

Started on	Thursday, 4 September 2025, 8:24 AM
State	Finished
Completed on	Thursday, 4 September 2025, 8:32 AM
Time taken	8 mins 10 secs
Marks	1.00/1.00
Grade	**10.00** out of 10.00 (**100**%)

Question 1 | Correct Mark 1.00 out of 1.00

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 %)

```c
#include <stdio.h>

int count_zeroes(int arr[], int low, int high, int size) {
    if (low > high) {
        return 0;
    }
    int mid = (low + high) / 2;

    if (arr[mid] == 0) {
        if (mid == 0 || arr[mid - 1] == 1) {
            return size - mid;
        } else {
            return count_zeroes(arr, low, mid - 1, size);
        }
    } else {
        return count_zeroes(arr, mid + 1, high, size);
    }
}

int main() {
    int m;
    scanf("%d", &m);

    int arr[m];
    for (int i = 0; i < m; i++) {
        scanf("%d", &arr[i]);
    }

    int result = count_zeroes(arr, 0, m - 1, m);
    printf("%d\n", result);

    return 0;
}
```

	Input	Expected	Got	
✔	5 1 1 1 0 0	2	2	✔

	Input	Expected	Got	
✔	10 1 1 1 1 1 1 1 1 1 1	0	0	✔
✔	8 0 0 0 0 0 0 0 0	8	8	✔
✔	17 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0 0	2	2	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

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