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 %)

```c
#include <stdio.h>

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

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

    int low = 0, high = m - 1;
    int firstZeroIndex = -1;

    while (low <= high) {
        int mid = (low + high) / 2;

        if (arr[mid] == 0) {
            if (mid == 0 || arr[mid - 1] == 1) {
                firstZeroIndex = mid;
                break;
            } else {
                high = mid - 1;
            }
        } else {
            low = mid + 1;
        }
    }

    if (firstZeroIndex == -1) {
        printf("0\n");
    } else {
        printf("%d\n", m - firstZeroIndex);
    }

    return 0;
}
```

	Input	Expected	Got	
✔	5 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 0 0	8	8	✔
✔	17 1 1 1 1 1 1	2	2	✔