

1 MUKESH V A 2024-CSD-A ▾M2**Started on** Tuesday, 2 September 2025, 12:04 PM**State** Finished**Completed on** Thursday, 4 September 2025, 9:02 AM**Time taken** 1 day 20 hours**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 %)

```

1  #include <stdio.h>
2  int main()
3  {
4      int m;
5      scanf("%d", &m);
6      int arr[m];
7      for (int i = 0; i < m; i++) scanf("%d", &arr[i]);
8      int low = 0, high = m - 1, firstZero = -1;
9      while (low <= high)
10     {
11         int mid = low + (high - low) / 2;
12         if ((mid == 0 || arr[mid - 1] == 1) && arr[mid] == 0)
13         {
14             firstZero = mid;
15             break;
16         }
17         if (arr[mid] == 1) low = mid + 1;
18         else high = mid - 1;
19     }
20     printf("%d\n", firstZero == -1 ? 0 : m - firstZero);
21     return 0;
22 }
23

```

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

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

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

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