

Started on Tuesday, 23 September 2025, 10:15 PM

State Finished

Completed on Tuesday, 23 September 2025, 10:28 PM

Time taken 13 mins 3 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 a sorted array and a value x, the floor of x is the largest element in array smaller than or equal to x. Write divide and conquer algorithm to find floor of x.

Input Format

First Line Contains Integer n – Size of array

Next n lines Contains n numbers – Elements of an array

Last Line Contains Integer x – Value for x

Output Format

First Line Contains Integer – Floor value for x

Answer: (penalty regime: 0 %)

```
1 #include<stdio.h>
2 int main()
3 {
4     int n,x;
5     scanf("%d",&n);
6     int arr[n];
7     for(int i=0;i<n;i++)
8     {
9         scanf("%d",&arr[i]);
10    }
11    scanf("%d",&x);
12    int low=0,high=n-1;
13    int floorValue=-1;
14    while(low<=high)
15    {
16        int mid=low+(high-low)/2;
17        if(arr[mid]==x)
18        {
19            floorValue=arr[mid];
20            break;
21        }
22        else if(arr[mid]<x)
23        {
24            floorValue=arr[mid];
25            low=mid+1;
26        }
27        else
28        {
29            high=mid-1;
30        }
31    }
32    printf("%d",floorValue);
33 }
```

	Input	Expected	Got	
✓	6 1 2 8 10 12 19 5	2	2	✓
✓	5 10 22 85 108 129 100	85	85	✓
✓	7 3 5 7 9 11 13 15 10	9	9	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.