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<b>Started on</b>	Friday, 20 September 2024, 2:48 PM
<b>State</b>	Finished
<b>Completed on</b>	Friday, 20 September 2024, 2:49 PM
<b>Time taken</b>	33 secs
<b>Marks</b>	1.00/1.00
<b>Grade</b>	<b>10.00</b> out of 10.00 ( <b>100%</b> )

## 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
3  int findFloor(int arr[], int low, int high, int x) {
4      if (low > high) {
5          return -1;
6      }
7
8      int mid = low + (high - low) / 2;
9
10     if (arr[mid] == x) {
11         return arr[mid];
12     } else if (arr[mid] < x) {
13         int floorValue = findFloor(arr, mid + 1, high, x);
14         return (floorValue != -1) ? floorValue : arr[mid];
15     } else {
16         return findFloor(arr, low, mid - 1, x);
17     }
18 }
19
20 int main() {
21     int n, x;
22     scanf("%d", &n);
23
24     int arr[n];
25     for (int i = 0; i < n; i++) {
26         scanf("%d", &arr[i]);
27     }
28
29     scanf("%d", &x);
30
31     int result = findFloor(arr, 0, n - 1, x);
32     if (result != -1) {
33         printf("%d\n", result);
34     } else {
35         printf("No floor value found\n");
36     }
37
38     return 0;
39 }
40

```

	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.

◀ 2-Majority Element

Jump to...

4-Two Elements sum to x ▶