Started on	Friday, 20 September 2024, 1:49 PM
State	Finished
Completed on	Friday, 20 September 2024, 1:50 PM
Time taken	36 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 %)

```c
#include <stdio.h>

int findFloor(int arr[], int low, int high, int x) {
    if (low > high) {
        return -1;
    }

    int mid = low + (high - low) / 2;

    if (arr[mid] == x) {
        return arr[mid];
    } else if (arr[mid] < x) {
        int floorValue = findFloor(arr, mid + 1, high, x);
        return (floorValue != -1) ? floorValue : arr[mid];
    } else {
        return findFloor(arr, low, mid - 1, x);
    }
}

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

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

    scanf("%d", &x);
```

```
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 ▶