Started on	Thursday, 18 September 2025, 8:26 AM
State	Finished
Completed on	Thursday, 18 September 2025, 9:14 AM
Time taken	48 mins 23 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 %)

```
#include<stdio.h>
int main(){
    int n,x;
    scanf("%d",&n);
    int a[n];
    for(int i=0;i<n;i++){
        scanf("%d",&a[i]);
    }
    scanf("%d",&x);
    int low=0,high=n-1;
    int floor_val=1;
    while(low<=high){
        int mid=low+(high-low)/2;
        if(a[mid]==x){
            floor_val=a[mid];
            break;
        }
        else if(a[mid]<x){
            floor_val=a[mid];
            low=mid+1;
        }
        else{
            high=mid-1;
        }
    }
    printf("%d",floor_val);
    return 0;
}
```

	Input	Expected	Got	
✔	6 1 2 8 10 12 19 5	2	2	✔

	Input	Expected	Got	
✔	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.