Started on	Friday, 19 September 2025, 8:34 PM
State	Finished
Completed on	Friday, 19 September 2025, 9:05 PM
Time taken	31 mins 25 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 floorvalue(int low,int high,int arr[],int x)
{
    if (x<arr[low])   return -1;
    if (x>=arr[high]) return arr[high];
    while(low<=high){
        int mid=(low+high)/2;
        if(arr[mid]==x)
            return arr[mid];
        if (mid>0 && arr[mid-1]<=x && x<arr[mid])
            return arr[mid-1];
        if (mid<high && arr[mid]<x && x<arr[mid+1])
                return arr[mid];
        if (arr[mid]>x)
            high=mid-1;
        else
            low=mid+1;
    }
    return -1;
}

int main(){
    int n;
    scanf("%d",&n);
    int arr[n];
    for(int i=0;i<n;i++){
        scanf("%d",&arr[i]);
    }
    int x;
    scanf("%d",&x);
    int flr=floorvalue(0,n-1,arr,x);
    printf("%d",flr);
}
```

	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.