Started on	Thursday, 18 September 2025, 9:23 PM
State	Finished
Completed on	Thursday, 18 September 2025, 9:46 PM
Time taken	23 mins 10 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 || x<arr[low])
    {
        return -1;
    }
    if (x>=arr[high])
    {
        return arr[high];
    }
    int mid=low+(high-low)/2;
    if(arr[mid]==x)
    {
        return arr[mid];
    }
    if(x>arr[mid])
    {
        if(mid+1<=high && x<arr[mid+1])
        {
            return arr[mid];
        }
        return findfloor(arr,mid+1,high,x);
    }
    else
    {
        if(mid-1>=low && arr[mid-1]<=x)
        {
            return arr[mid-1];
        }
        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);
    int floor=findfloor(arr,0,n-1,x);
    printf("%d",floor);
    return 0;
}
```

	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.