Started on	Thursday, 25 September 2025, 8:11 AM
State	Finished
Completed on	Thursday, 25 September 2025, 8:26 AM
Time taken	15 mins 19 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)
{
    int floorValue=-1;
    while (low<=high)
    {

        int mid=low+(high-low)/2;
        if(arr[mid]<=x){
            floorValue=arr[mid];
            low=mid+1;
        }else{
            high=mid-1;
        }
    }

    return floorValue;
}
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 result=findFloor(arr,0,n-1,x);
    printf("%d\n",result);
    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.