

Started on Friday, 19 September 2025, 9:11 PM

State Finished

Completed on Friday, 19 September 2025, 9:27 PM

Time taken 15 mins 41 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 %)

```

1  #include<stdio.h>
2  int floor_(int a[],int n, int x){
3      int l=0,h=n-1,f=-1;
4      while(l<=h){
5          int m=(l+h)/2;
6          if(a[m]==x)
7              return a[m];
8          else if(a[m]<x){
9              f=a[m];
10             l=m+1;
11         }
12         else
13             h=m-1;
14     }
15     return f;
16 }
17 int main()
18 {
19     int n,x;
20     scanf("%d",&n);
21     int a[n];
22     for(int i=0;i<n;i++)
23         scanf("%d",&a[i]);
24     scanf("%d",&x);
25     printf("%d",floor_(a,n,x));
26 }
```

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

	Input	Expected	Got	
✓	5	85	85	✓
	10			
	22			
	85			
	108			
	129			
	100			
✓	7	9	9	✓
	3			
	5			
	7			
	9			
	11			
	13			
	15			
	10			

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.