3-Finding Floor Value

Started on	Wednesday, 17 September 2025, 9:09 AM
State	Finished
Completed on	Wednesday, 17 September 2025, 9:37 AM
Time taken	27 mins 56 secs
Marks	1.00/1.00
Grade	**10.00** out of 10.00 (**100**%)

Question 1 Correct Mark 1.00 out of 1.00 Flag question

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 main() {
```

```c
    int n;
    scanf("%d", &n);
    int a[n];
    for(int i=0;i<n;i++){
        scanf("%d", &a[i]);
    }
    int x;
    scanf("%d", &x);
    int low = 0;
    int high = n-1;
    int c = -1;
    while (low <= high) {
        int mid = low + (high - low) / 2;
        if (a[mid] == x){
           c = mid;
           break;
        }

        else if (a[mid] < x){
            c = mid;
            low = mid + 1;

        }

        else if(a[mid] > x){
            high = mid - 1;
        }
    }
    printf("%d", a[c]);
}
```

	Input	Expected	Got	
✔	6 1 2 8 10 12 19 5	2	2	✔
✔	5 10 22 85	85	85	✔

	108 129 100			
✔	7 3 5 7 9 11 13 15 10	9	9	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

Finish review

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