

[Dashboard](#) / [My courses](#) / [CS23331-DAA-2023-CSE](#) / [Divide and Conquer](#) / [3-Finding Floor Value](#)

Started on	Friday, 4 October 2024, 1:49 PM
State	Finished
Completed on	Friday, 4 October 2024, 1:53 PM
Time taken	3 mins 38 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 findFloor(int arr[], int n, int x) {
3      int low = 0, high = n - 1;
4      int result = -1;
5      while (low <= high) {
6          int mid = low + (high - low) / 2;
7          if (arr[mid] == x) {
8              return arr[mid];
9          } else if (arr[mid] < x) {
10             result = arr[mid];
11             low = mid + 1;
12         } else {
13             high = mid - 1;
14         }
15     }
16     return result;
17 }
18 int main() {
19     int n, x;
20     scanf("%d", &n);
21     int arr[n];
22     for (int i = 0; i < n; i++) {
23         scanf("%d", &arr[i]);
24     }
25     scanf("%d", &x);
26     int floor = findFloor(arr, n, x);
27     printf("%d\n", floor);
28     return 0;
29 }
30

```

	Input	Expected	Got	
✓	6 1 2 8 10 12 19 5	2	2	✓
✓	5 10 22 85 108 129 100	85	85	✓

	Input	Expected	Got	
✓	7 3 5 7 9 11 13 15 10	9	9	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

◀ 2-Majority Element

Jump to...



4-Two Elements sum to x ▶