





Dashboard My courses

CS23331-DAA-2024-CSE / 3-Finding Floor Value



3-Finding Floor Value

Started on	Tuesday, 30 September 2025, 12:15 PM
State	Finished
Completed on	Tuesday, 30 September 2025, 12:16 PM
Time taken	22 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

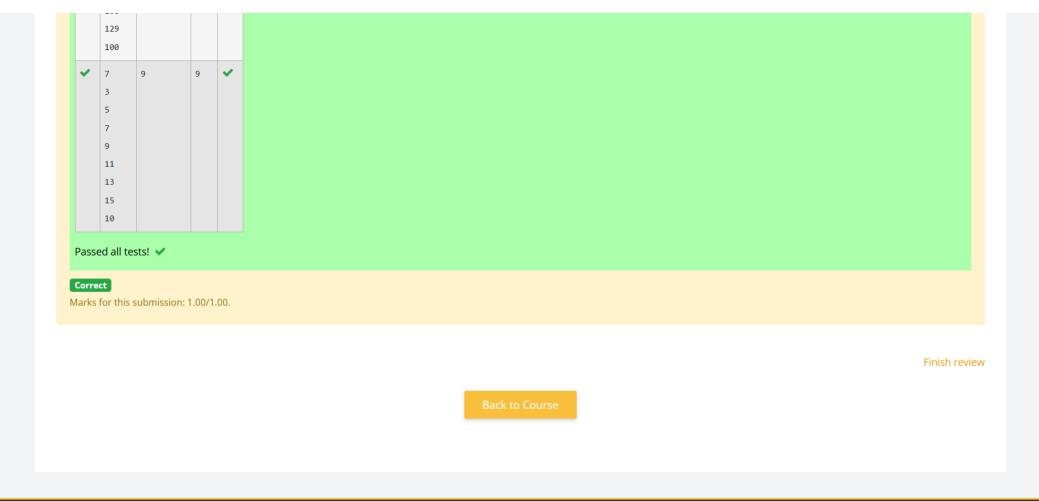
First Line Contains Integer – Floor value for x

Answer: (penalty regime: 0 %)

#include <stdio.h>

```
3 v int findFloor(int arr[], int low, int high, int x) {
       if (low > high) return -1;
       int mid = low + (high - low) / 2;
       if (arr[mid] == x) {
           return arr[mid];
       } else if (arr[mid] > x) {
10 ▼
           return findFloor(arr, low, mid - 1, x);
           int floorRight = findFloor(arr, mid + 1, high, x);
           if (floorRight != -1 && floorRight <= x) return floorRight;
14
           else return arr[mid];
19 v int main() {
       scanf("%d", &n);
       int arr[n];
       for (int i = 0; i < n; i++) scanf("%d", &arr[i]);
       scanf("%d", &x);
       int floorValue = findFloor(arr, 0, n - 1, x);
       printf("%d\n", floorValue);
```

	Input	Expected	Got	
~	6	2	2	~
	1			
	2			
	8			
	10			
	12			
	19			
	5			
~	5	85	85	~
	10			
	22			
	85			
	108			



Data retention summary