



PRACTICE

COMPETE

JOBS

LEADERBOARD

Search



lee53

Practice > Interview Preparation Kit > Trees > Binary Search Tree : Lowest Common Ancestor

Binary Search Tree : Lowest Common Ancestor ☆

Problem

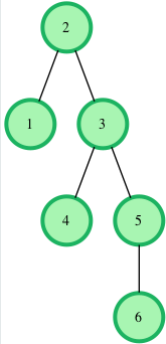
Submissions

Leaderboard

Discussions

Editorial

You are given pointer to the root of the binary search tree and two values $v1$ and $v2$. You need to return the lowest common ancestor (LCA) of $v1$ and $v2$ in the binary search tree.



In the diagram above, the lowest common ancestor of the nodes 4 and 6 is the node 3. Node 3 is the lowest node which has nodes 4 and 6 as descendants.

Function Description

Complete the function lca in the editor below. It should return a pointer to the lowest common ancestor node of the two values given.

lca has the following parameters:

- root: a pointer to the root node of a binary search tree
- v1: a node.data value
- v2: a node.data value

Input Format

The first line contains an integer, n , the number of nodes in the tree.

The second line contains n space-separated integers representing *node.data* values.

The third line contains two space-separated integers, $v1$ and $v2$.

To use the test data, you will have to create the binary search tree yourself. Here on the platform, the tree will be created for you.

Constraints

$$1 \leq n, \text{node.data} \leq 25$$

$$1 \leq v1, v2 \leq 25$$

$$v1 \neq v2$$

The tree will contain nodes with data equal to $v1$ and $v2$.

Output Format

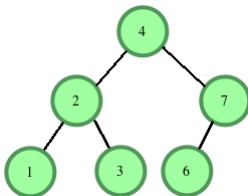
Return the a pointer to the node that is the lowest common ancestor of $v1$ and $v2$.

Sample Input

```

6
4 2 3 1 7 6
1 7

```



$v1 = 1$ and $v2 = 7$.

Sample Output

[reference to node 4]

Explanation

LCA of 1 and 7 is 4, the root in this case.

Return a pointer to the node.

Author

vatsalchanana

Difficulty

Easy

Max Score

30

Submitted By

63633

NEED HELP?

[View discussions](#)[View editorial](#)[View top submissions](#)

RATE THIS CHALLENGE

☆☆☆☆☆

MORE DETAILS

[Download problem statement](#)[Download sample test cases](#)[Suggest Edits](#)

C++



```
35 #include <bits/stdc++.h>...
36 /*The tree node has data, left child and right child
37 class Node {
38     int data;
39     Node* left;
40     Node* right;
41 };
42
43 */
44
45 Node *lca(Node *root, int v1,int v2) {
46     // Write your code here.
47 }
48
49 }; //End of Solution...
```

Line: 35 Col: 1

 Upload Code as File ☐ Test against custom input

Run Code**Submit Code**

[Contest Calendar](#) | [Blog](#) | [Scoring](#) | [Environment](#) | [FAQ](#) | [About Us](#) | [Support](#) | [Careers](#) | [Terms Of Service](#) | [Privacy Policy](#) | [Request a Feature](#)