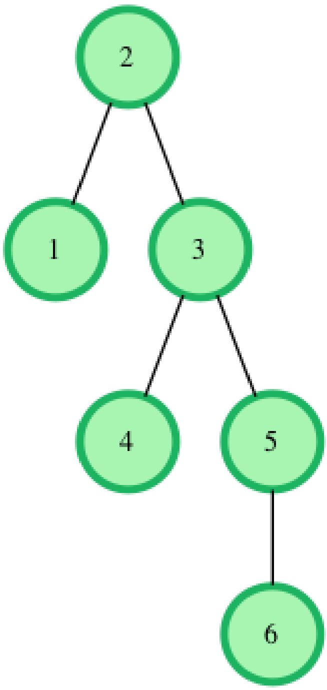
You are given pointer to the root of the binary search tree and two values $v1$ and $v2$. You need to return the lowest common ancestor (LCA) of $v1$ and $v2$ in the binary search tree.



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

$1 \leq n, node.data \leq 25$
$1 \leq v1, v2 \leq 25$

$v1 \neq v2$

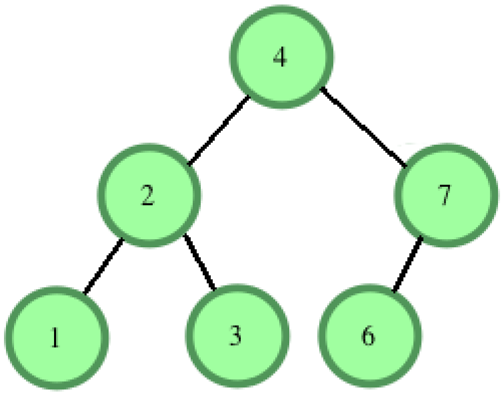
The tree will contain nodes with data equal to $v1$ and $v2$.

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.