



Lowest Common Ancestor

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✓ Points: 100 (partial)
② Time limit: 1.0s

■ Memory limit: 256M

✓ Allowed languages

Problem Statement

Given a tree represented by an array of integers where each element represents the parent of a corresponding node, find the **Lowest Common Ancestor (LCA)** of two given nodes [a] and [b].

The **Lowest Common Ancestor** of two nodes (a) and (b) in a tree is the deepest node that has both (a) and (b) as descendants. A node is considered a descendant of itself.

You are given an array [parent] of size [n], where [parent[i]] represents the parent of node [i]. If [parent[i] = -1], node [i] is the root of the tree. It is guaranteed that the tree is connected, meaning there is a path between any two nodes, and that there are no self-loops, i.e., for every node [i], the parent of [i] is not [i].

Input Format

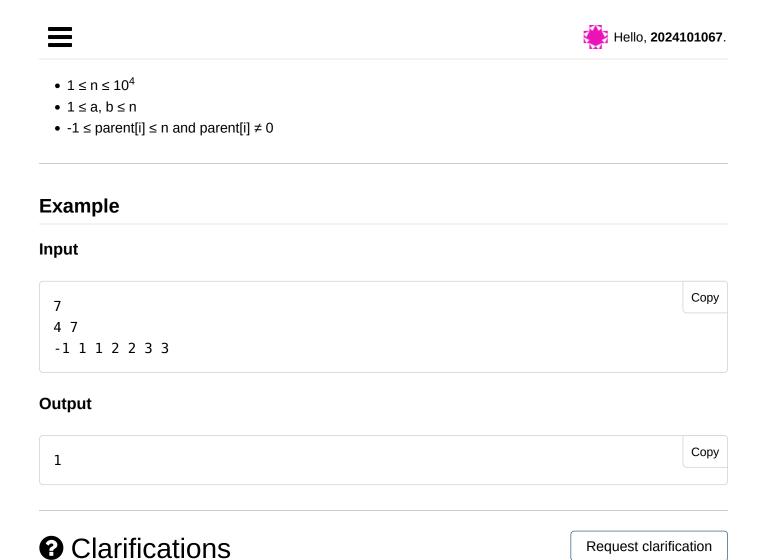
- The first line contains an integer (n), the number of nodes in the tree.
- The second line contains two integers a and b, the two nodes for which the LCA is to be found.
- The third line contains n space-separated integers, where the <u>i-th</u> integer represents the parent of the <u>i-th</u> node. If the integer is <u>-1</u>, the <u>i-th</u> node is the root node.

Output Format

• Print the LCA of nodes a and b. If no LCA is found (which should not happen in a valid tree), print "No LCA found (invalid tree or nodes)".

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No clarifications have been made at this time.

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