Problem 1110: Delete Nodes And Return Forest

Problem Information

Difficulty: Medium
Acceptance Rate: 72.44%
Paid Only: No
Tags: Array, Hash Table, Tree, Depth-First Search, Binary Tree

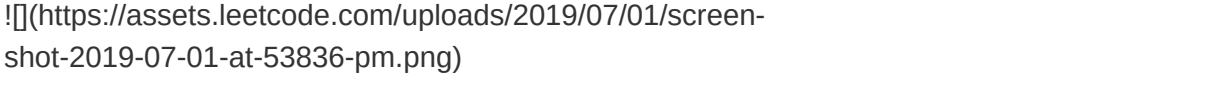
Problem Description

Given the `root` of a binary tree, each node in the tree has a distinct value.

After deleting all nodes with a value in `to_delete`, we are left with a forest (a disjoint union of trees).

Return the roots of the trees in the remaining forest. You may return the result in any order.

Example 1:



Input: root = [1,2,3,4,5,6,7], to_delete = [3,5] **Output:** [[1,2,null,4],[6],[7]]

Example 2:

Input: root = [1,2,4,null,3], to_delete = [3] **Output:** [[1,2,4]]

Constraints:

* The number of nodes in the given tree is at most `1000`. * Each node has a distinct value between `1` and `1000`. * `to_delete.length <= 1000` * `to_delete` contains distinct values between `1` and `1000`.

Code Snippets

C++:

```
/**
* Definition for a binary tree node.
* struct TreeNode {
* int val;
* TreeNode *left;
* TreeNode *right;
* TreeNode() : val(0), left(nullptr), right(nullptr) {}
* TreeNode(int x) : val(x), left(nullptr), right(nullptr) {}
* TreeNode(int x, TreeNode *left, TreeNode *right) : val(x), left(left),
right(right) {}
* };
*/
class Solution {
public:
vector<TreeNode*> delNodes(TreeNode* root, vector<int>& to_delete) {

}
};
```

Java:

```
/**
* Definition for a binary tree node.
* public class TreeNode {
* int val;
* TreeNode left;
* TreeNode right;
* TreeNode() {}
* TreeNode(int val) { this.val = val; }
* TreeNode(int val, TreeNode left, TreeNode right) {
* this.val = val;
* this.left = left;
* this.right = right;
* }
* }
*/
class Solution {
public List<TreeNode> delNodes(TreeNode root, int[] to_delete) {
```

```
}
}
```

Python3:

```
# Definition for a binary tree node.
# class TreeNode:
# def __init__(self, val=0, left=None, right=None):
# self.val = val
# self.left = left
# self.right = right
class Solution:
def delNodes(self, root: Optional[TreeNode], to_delete: List[int]) ->
List[TreeNode]:
```