

# 652. Find Duplicate Subtrees

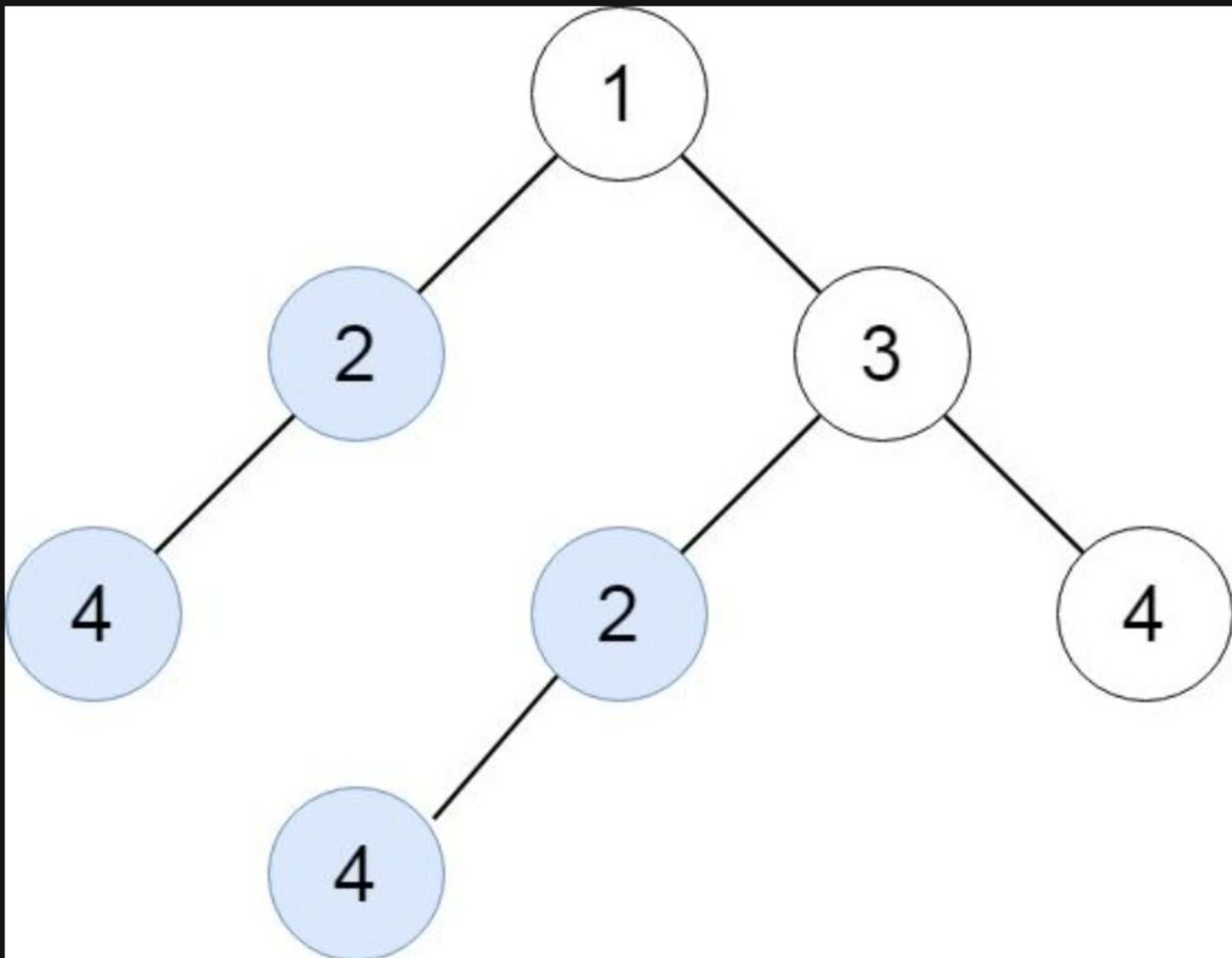
## Description

Given the `root` of a binary tree, return all **duplicate subtrees**.

For each kind of duplicate subtrees, you only need to return the root node of any **one** of them.

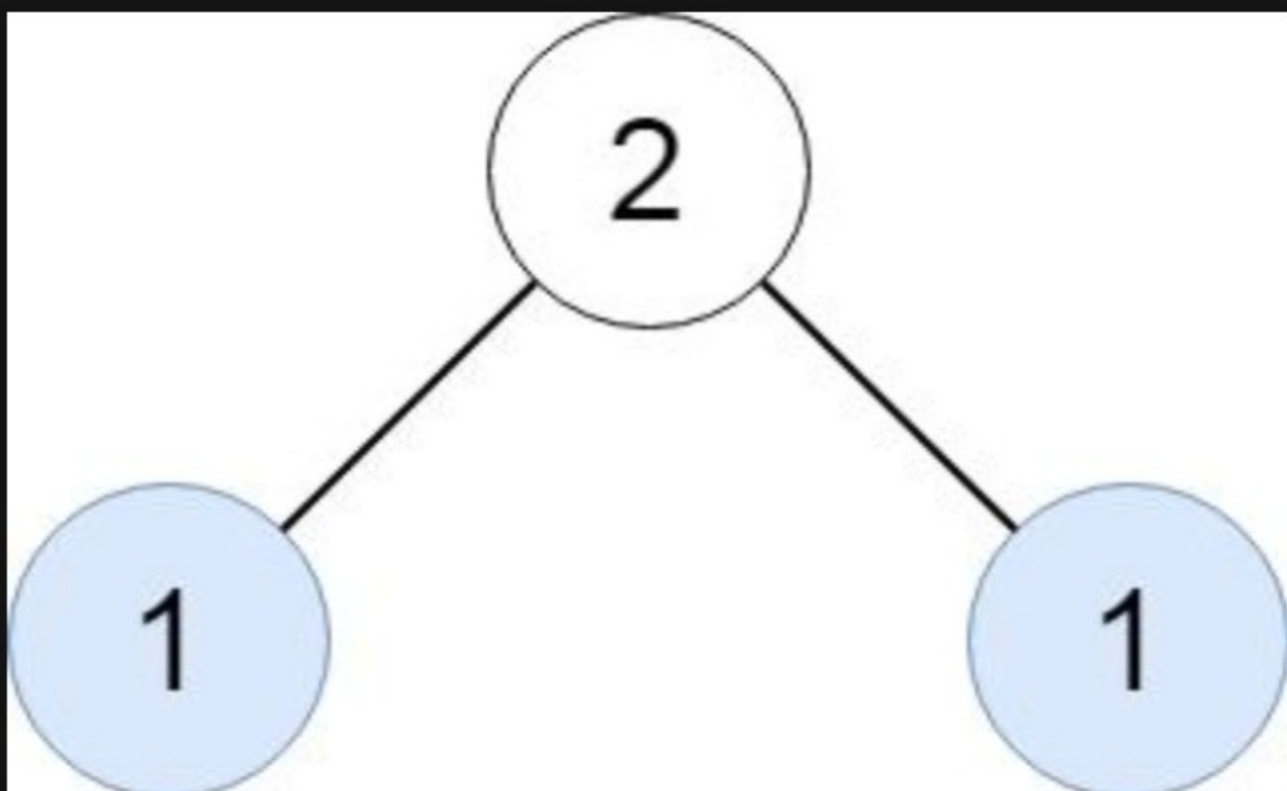
Two trees are **duplicate** if they have the **same structure** with the **same node values**.

### Example 1:



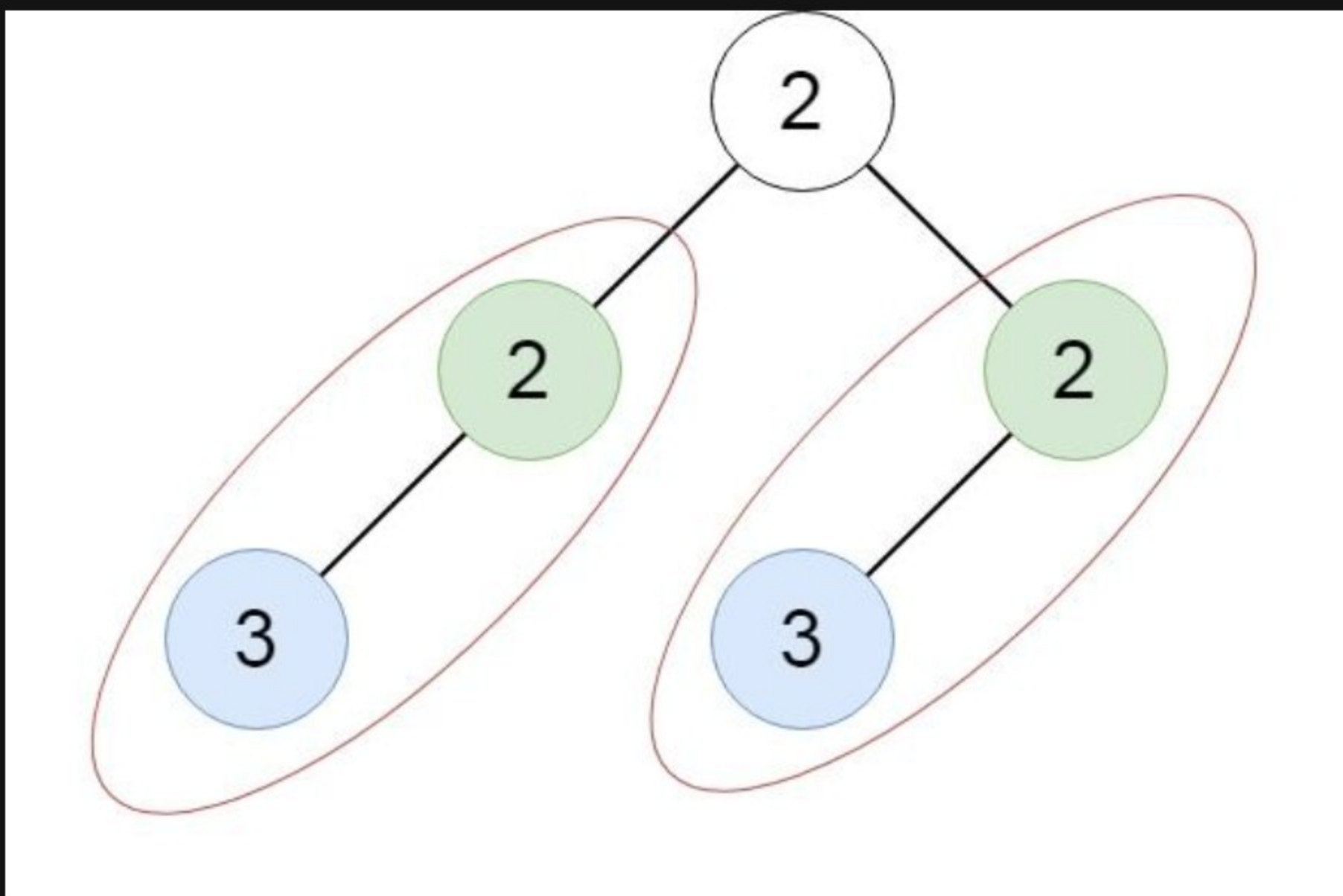
Input: `root = [1,2,3,4,null,2,4,null,null,4]`  
Output: `[[2,4],[4]]`

### Example 2:



Input: `root = [2,1,1]`  
Output: `[[1]]`

### Example 3:



Input: `root = [2,2,2,3,null,3,null]`  
Output: `[[2,3],[3]]`

### Constraints:

- The number of the nodes in the tree will be in the range `[1, 5000]`
- `-200 <= Node.val <= 200`

