Binary Tree Questions

Question 1 :

Check if a Binary Tree is univalued or not

We have a binary tree, the task is to check if the binary tree is univalued or not. If found to be true, then print "YES". Otherwise, print "NO".

Sample Input 1 :

Sample Output 1 : false

Question 2 :

Invert Binary Tree

Mirror of a Tree: Mirror of a Binary Tree T is another Binary Tree M(T) with left and right children of all non-leaf nodes interchanged.
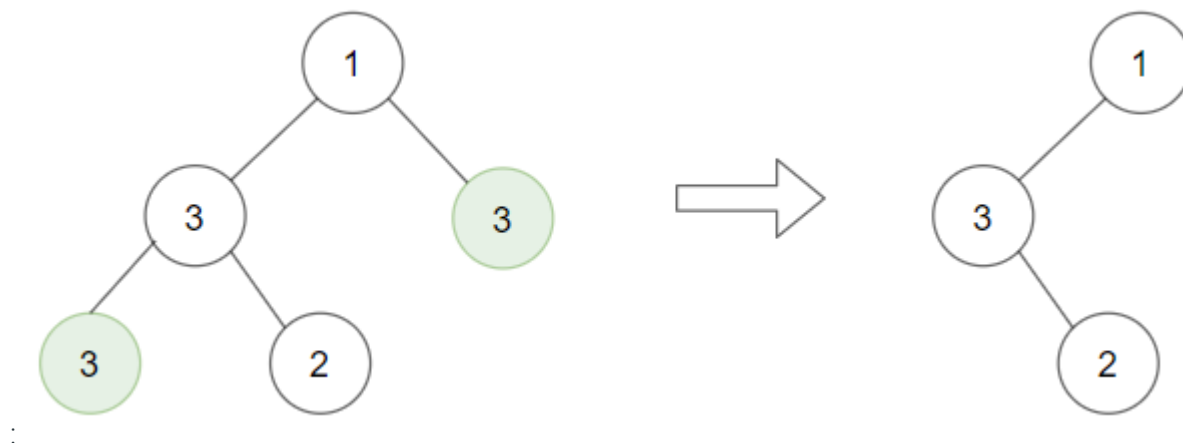

Input1 : fig. above
Output1 : Yes

Question 3 :

Delete leaf nodes with values as x

We have a binary tree and a target integer x, delete all the leaf nodes having value as x. Also, delete the newly formed leaves with the target value as x.

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Question 4 :

Find All Duplicate Subtrees

We have a binary tree, find all duplicate subtrees. For each duplicate subtree, we only need to return the root node of any one of them. Two trees are duplicates if they have the same structure with the same node values.

Input1:

```
    1
   / \
  4   3
 /   / \
3   4   3
   /
  3
```

Output1: 4-3 , 3

Question 5 :

Maximum Path Sum in a Binary Tree

We have a binary tree, find the maximum path sum. The path may start and end at any node in the tree.

Input1:

```
  4
 / \
2   7
```

Output1: 13

Input2:

Output2: 42