1612. Check If Two Expression Trees are Equivalent Premium

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A **binary expression tree** is a kind of binary tree used to represent arithmetic expressions. Each node of a binary expression tree has either zero or two children. Leaf nodes (nodes with 0 children) correspond to operands (variables), and internal nodes (nodes with two children) correspond to the operators. In this problem, we only consider the `'+'` operator (i.e. addition).

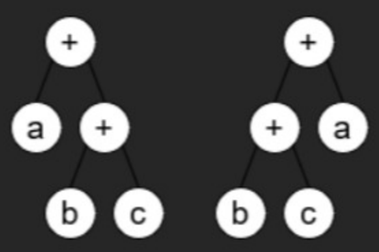
You are given the roots of two binary expression trees, `root1` and `root2`. Return `true` *if the two binary expression trees are equivalent*. Otherwise, return `false`.

Two binary expression trees are equivalent if they **evaluate to the same value** regardless of what the variables are set to.

Example 1:

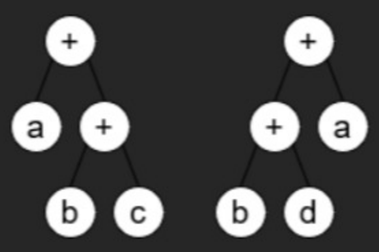
> **Input:** root1 = [x], root2 = [x]
> **Output:** true

Example 2:



> **Input:** root1 = [+,a,+,null,null,b,c], root2 = [+,+,a,b,c]
> **Output:** true
> **Explanation:** `a + (b + c) == (b + c) + a`

Example 3:



> **Input:** root1 = [+,a,+,null,null,b,c], root2 = [+,+,a,b,d]
> **Output:** false
> **Explanation:** `a + (b + c) != (b + d) + a`

Constraints:

- The number of nodes in both trees are equal, odd and, in the range `[1, 4999]`.
- `Node.val` is `'+'` or a lower-case English letter.
- It's **guaranteed** that the tree given is a valid binary expression tree.

Follow up: What will you change in your solution if the tree also supports the `'-'` operator (i.e. subtraction)?

Seen this question in a real interview before? 1/5

Yes No

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Hint 1

Count for each variable how many times it appeared in the first tree.

Hint 2

Do the same for the second tree and check if the count is the same for both tree.

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