LeetCode 110

Description

Given a binary tree, determine if it is height-balanced.

For this problem, a height-balanced binary tree is defined as:

a binary tree in which the depth of the two subtrees of every node never differ by more than 1.

Example 1:

Given the following tree [3,9,20,null,null,15,7]:

```
  3
```

/ \
9 20
/ \
15 7
Return true.

Example 2:

Given the following tree [1,2,2,3,3,null,null,4,4]:

```
    1
   / \
  2   2
 / \
```

3 3
/ \
4 4
Return false.

Thought

If a tree is balanced, the maximum height difference between any parent and child is 1

Solution

```
public class Solution {
private boolean result = true;

public boolean isBalanced(TreeNode root) {
    maxDepth(root);
    return result;
}

public int maxDepth(TreeNode root) {
    if (root == null)
        return 0;
    int l = maxDepth(root.left);
    int r = maxDepth(root.right);
    if (Math.abs(l - r) > 1)
        result = false;
    return 1 + Math.max(l, r);
}
}
```

Takeaways

- 利用balance tree 的特性