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## 617. Merge Two Binary Trees

**Easy**      👍 6508      👎 242      ♡ Add to List      ⌞↑ Share

You are given two binary trees `root1` and `root2` .

Imagine that when you put one of them to cover the other, some nodes of the two trees are overlapped while the merge the two trees into a new binary tree. The merge rule is that if two nodes overlap, then sum node values up merged node. Otherwise, the NOT null node will be used as the node of the new tree.

Return *the merged tree*.

**Note:** The merging process must start from the root nodes of both trees.

**Example 1:**
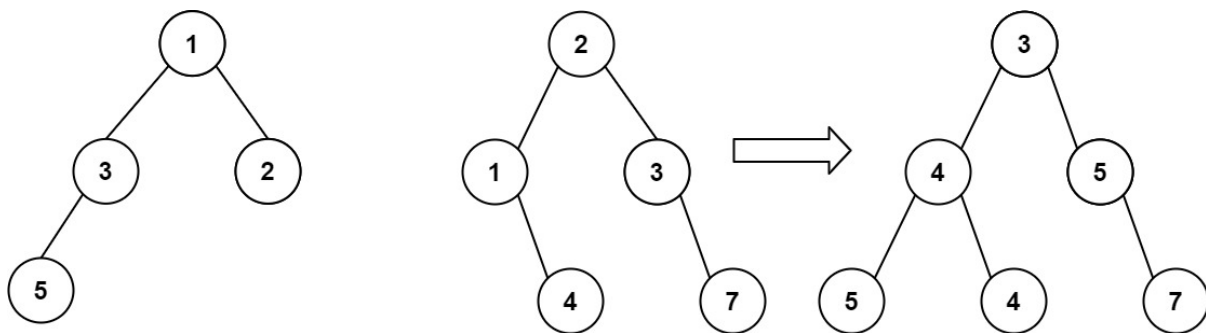


```
Input: root1 = [1,3,2,5], root2 = [2,1,3,null,4,null,7]
Output: [3,4,5,5,4,null,7]
```

**Example 2:**

```
Input: root1 = [1], root2 = [1,2]
Output: [2,2]
```

**Constraints:**

- The number of nodes in both trees is in the range `[0, 2000]` .
- $-10^4$ `<= Node.val <=` $10^4$

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