094. Binary Tree Inorder Traversal

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- **Hash Table** + tree
- **Stack** + tree

Description

Given a binary tree, return the *inorder* traversal of its nodes' values.

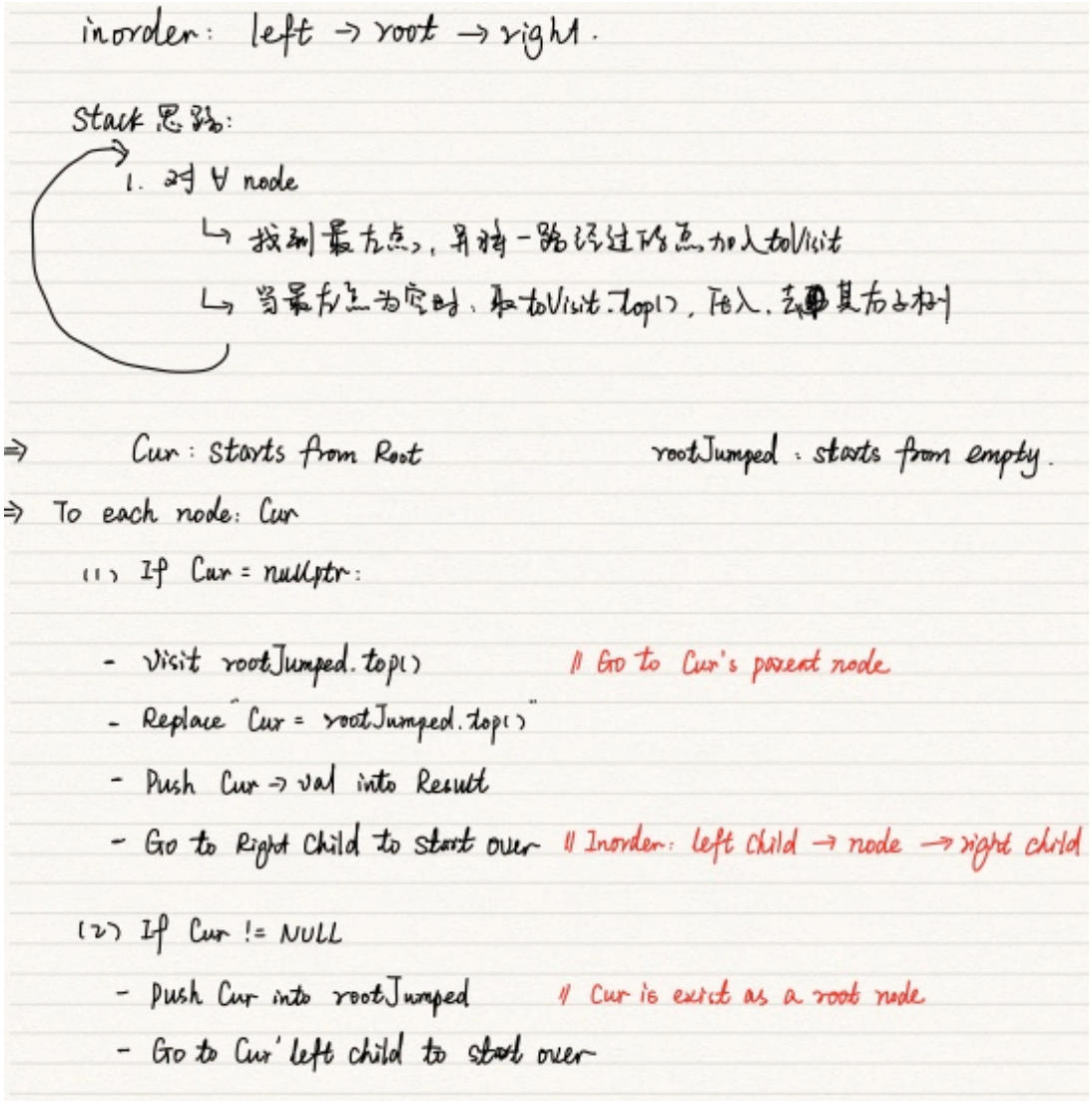
For example:
Given binary tree `[1,null,2,3]`,

```
   1
    \
     2
    /
   3
```

return `[1,3,2]`.

1. Thought line

(1) Stack



2. Stack+tree

```
/**
 * Definition for a binary tree node.
 * struct TreeNode {
 *     int val;
 *     TreeNode *left;
 *     TreeNode *right;
 *     TreeNode(int x) : val(x), left(NULL), right(NULL) {}
 * };
 */
class Solution {
public:
    vector<int> inorderTraversal(TreeNode* root) {
        stack<TreeNode*> rootJumped;
        vector<int> result;
        TreeNode* cur = root;
        while(cur || !rootJumped.empty()){
            if (cur){
                rootJumped.push(cur);
                cur = cur->left;
            }
            else{
                cur = rootJumped.top();
                rootJumped.pop();
                result.push_back(cur->val);
                cur = cur->right;
```

```
        }
      }
      return result;
    }
};
```