144. Binary Tree Preorder Traversal

题目描述：https://leetcode.com/problems/binary-tree-preorder-traversal/

> 给定一棵二叉树，求其先序排列。

解题思路：

stack dfs

代码：

```cpp
/**
 * 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> preorderTraversal(TreeNode* root) {
        vector<int> res;
        stack<TreeNode*> st;
        if(root == NULL) {
            return res;
        }
        st.push(root);
        while(!st.empty()) {
            TreeNode *p = st.top();
            st.pop();
            res.push_back(p->val);
            if(p->right != NULL) {
                st.push(p->right);
            }
            if(p->left != NULL) {
                st.push(p->left);
            }
        }
        return res;
    }
};
```