515. Find Largest Value in Each Tree Row

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Description SubmissionsSolutions

- Total Accepted: **9161**
- Total Submissions: **17258**
- Difficulty: **Medium**
- Contributors: **μsic_forever**

You need to find the largest value in each row of a binary tree.

Example:

```
Input:

          1
         / \
        3   2
       / \   \
      5   3   9

Output: [1, 3, 9]
```

```
/**
 * 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:
    void InorderTree(TreeNode* root, int depth, unordered_map<int,vector<int>> &mem)
```

```
    {
        if(root==NULL) return;
        int val = root->val;
        if(!mem.count(depth)) mem[depth] = vector<int>();
        mem[depth].push_back(val);
        InorderTree(root->left,depth+1,mem);
        InorderTree(root->right,depth+1,mem);
    }

    vector<int> largestValues(TreeNode* root) {
        unordered_map<int,vector<int>> mem;
        InorderTree(root,0,mem);
        vector<int> res;
        for(int i=0;i<mem.size();i++)
        {
            vector<int> tp = mem[i];
            int tmp = INT_MIN;
            for(auto it:tp)
            {
                tmp = max(tmp,it);
            }
            res.push_back(tmp);
        }
        return res;
    }
};
```