# 从上往下打印二叉树

## 题目

[牛客网](https://www.nowcoder.com/practice/7fe2212963db4790b57431d9ed259701?tpId=13&tqId=11175&rp=1&ru=%2Fta%2Fcoding-interviews&qru=%2Fta%2Fcoding-interviews%2Fquestion-ranking&tPage=1)

从上往下打印出二叉树的每个节点，同层节点从左至右打印。

## 解题思路

1. 层次遍历，通过队列进行辅助遍历

public ArrayList<Integer> PrintFromTopToBottom(TreeNode root) {  
 ArrayList<Integer> res = new ArrayList<>();  
 LinkedList<TreeNode> nodeQueue = new LinkedList<>();  
  
 if (root == null) {  
 return res;  
 }  
  
 nodeQueue.addLast(root);  
  
 while (!nodeQueue.isEmpty()) {  
 TreeNode node = nodeQueue.pollFirst();  
 if (node == null) {  
 continue;  
 }  
  
 nodeQueue.addLast(node.left);  
 nodeQueue.addLast(node.right);  
  
 res.add(node.val);  
 }  
  
 return res;  
}