

Binary Tree Level Order Traversal III (zigzag)

```
1 class Solution(object):
2     def zigzagLevelOrder(self, root):
3         result = []
4         if root is None:
5             return result
6         q = deque([root])
7         popFromleft = True
8
9         while len(q) != 0:
10            size = len(q)
11            current_level = []
12            if popFromleft == True:
13                for i in range(size):
14                    node = q.popleft()
15                    current_level.append(node.val)
16                    if node.left:
17                        q.append(node.left)
18                    if node.right:
19                        q.append(node.right)
20                popFromleft == False
21                result.append(current_level)
22
23            else:
24                for i in range(size):
25                    node = q.pop()
26                    current_level.append(node.val)
27                    if node.right:
28                        q.appendleft(node.right)
29                    if node.left:
30                        q.appendleft(node.left)
31                popFromleft == True
32                result.append(current_level)
33
34        return result
```