

Diagonal Traversal of Binary Tree

Given a Binary Tree, print the **diagonal traversal** of the binary tree.

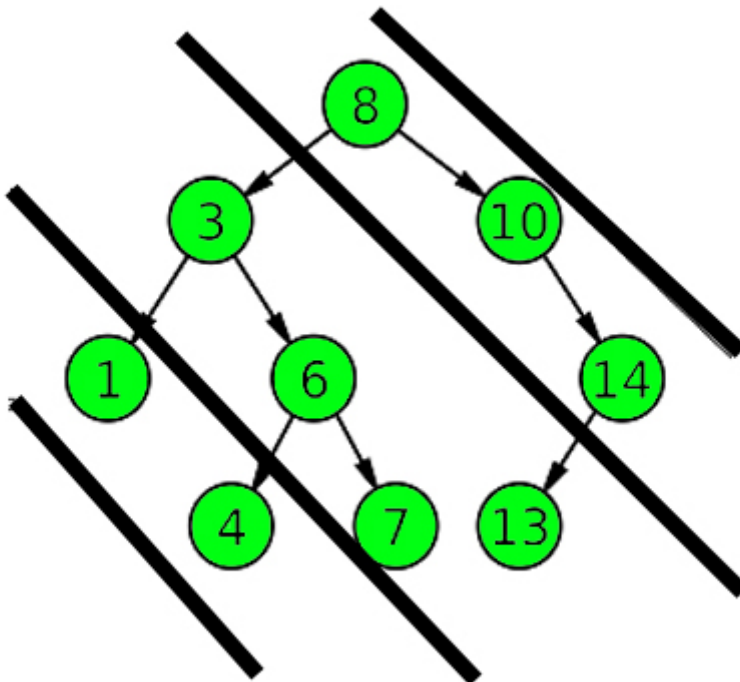
Consider lines of slope -1 passing between nodes. Given a Binary Tree, print all diagonal elements in a binary tree belonging to same line.

Input :

```
8
/
3 10
/\
1 6 14
/\
4 7 13
```

Output : 8 10 14 3 6 7 13 1 4

Explanation:



Diagonal Traversal of

binary tree :

8 10 14 3 6 7 13 1 4

```
def diagonal(root):
    res = {}
    helper(root, 0, res)
    i = 0
```

```

ans = []
while True:
    if i in res:
        ans = ans+res[i]
        i = i+1
    else:
        break
return ans

def helper(root,level,res):
    if root is None:
        return
    if level not in res:
        res[level] = [root.data]
    else:
        res[level] = res[level]+[root.data]

    helper(root.left,level+1,res)
    helper(root.right,level,res)

```

Hint:

If you move to left increment the count, and for a particular count print the answer one after the other.