

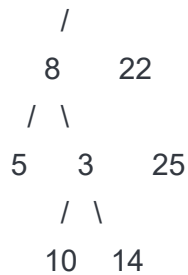
# Bottom View of Binary Tree

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Given a binary tree, print the bottom view from left to right.

A node is included in bottom view if it can be seen when we look at the tree from bottom.

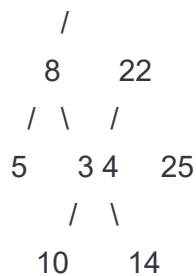
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For the above tree, the bottom view is 5 10 3 14 25.

If there are **multiple** bottom-most nodes for a horizontal distance from root, then print the later one in level traversal. For example, in the below diagram, 3 and 4 are both the bottommost nodes at horizontal distance 0, we need to print 4.

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For the above tree the output should be 5 10 4 14 25.

```
def bottomView(root):  
  
    # code here  
    seen = {}  
    least = [0]  
    # minimum = least[0]  
    helper(root, seen, 0, 0)  
    ans = []  
    minimum = min(seen.keys())  
    while True:  
        if minimum in seen:  
            ans.append(seen[minimum][0])  
            minimum = minimum+1  
        else:
```

```
        break
    return ans
```

```
def helper(root, seen, level, depth):
    if root is None:
        return

    helper(root.left, seen, level - 1, depth+1)
    helper(root.right, seen, level + 1, depth+1)
    if level in seen:
        if depth >= seen[level][1]:
            seen[level] = [root.data, depth]
    else:
        seen[level] = [root.data, depth]
```