이진 트리의 최대 깊이를 구하라.

Input: root = [3,9,20,null,null,15,7]
Output: 3

```
# Definition for a binary tree node.
# class TreeNode:
#     def __init__(self, val=0, left=None, right=None):
#         self.val = val
#         self.left = left
#         self.right = right
```

1.브루트포스

```
class Solution:
    def maxDepth(self, root: TreeNode) -> int:
        def recur_tree(result, node, depth):
            if node == None:
                return
            recur_tree(result, node.left, depth + 1)
            recur_tree(result, node.right, depth + 1)
            result.add(depth)

        result = {0}
        recur_tree(result, root, 1)
        return max(result)
```

2.bfs

```
class Solution:
    def maxDepth(self, root: TreeNode) -> int:
        result = 0
        if root == None:
            return 0
        q = collections.deque([root])
        while len(q) > 0:
            result += 1
            for _ in range(len(q)):
                node = q.popleft()
                if node.left != None:
                    q.append(node.left)
                if node.right != None:
                    q.append(node.right)
        return result
```

- 트리의 레벨 탐색은 bfs를 이용한다.