

# 1008. Binary Tree Cameras

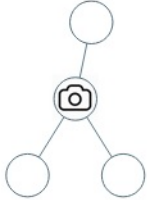
## Difficulty : Hard

<https://leetcode.com/problems/binary-tree-cameras>

You are given the `root` of a binary tree. We install cameras on the tree nodes where each camera at a node can monitor its parent, itself, and its immediate children.

Return *the minimum number of cameras needed to monitor all nodes of the tree*.

### Example 1:

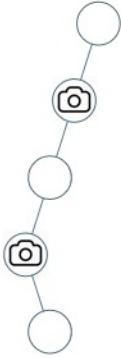


**Input:** `root = [0,0,null,0,0]`

**Output:** 1

**Explanation:** One camera is enough to monitor all nodes if placed as shown.

### Example 2:



**Input:** `root = [0,0,null,0,null,0,null,null,0]`

**Output:** 2

**Explanation:** At least two cameras are needed to monitor all nodes of the tree. The above image shows one of the valid configurations of camera placement.

### Constraints:

- The number of nodes in the tree is in the range `[1, 1000]`.
- `Node.val == 0`