Binary Tree Maximum Path Sum

class Solution:

def maxPathSum(self, root: TreeNode) -> int:

max\_sum = float('-inf')

def gain(node):

nonlocal max\_sum

if not node:

return 0

cur = node.val

left = gain(node.left)

right = gain(node.right)

cur\_gain = cur + left + right

max\_sum = max(max\_sum, cur\_gain)

return max(0, cur + max(left, right))

gain(root)

return max\_sum