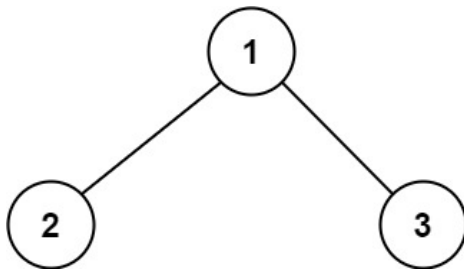


124. Binary Tree Maximum Path Sum

- A path in a binary tree is a sequence of nodes where each pair of adjacent nodes in the sequence has an edge connecting them. A node can only appear in the sequence at most once. Note that the path does not need to pass through the root.
- The path sum of a path is the sum of the node's values in the path.
- Given the root of a binary tree, return the maximum path sum of any non-empty path.

Example 1:

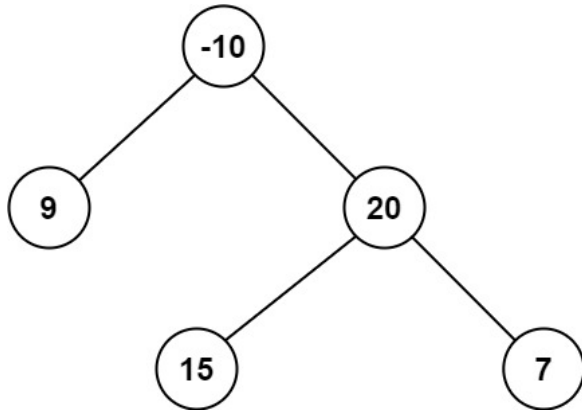


Input: root = [1,2,3]

Output: 6

Explanation: The optimal path is 2 -> 1 -> 3 with a path sum of $2 + 1 + 3 = 6$.

Example 2:



Input: root = [-10,9,20,null,null,15,7]

Output: 42

Explanation: The optimal path is 15 -> 20 -> 7 with a path sum of $15 + 20 + 7 = 42$.

Constraints:

- The number of nodes in the tree is in the range $[1, 3 * 10^4]$.
- $-1000 \leq \text{Node.val} \leq 1000$