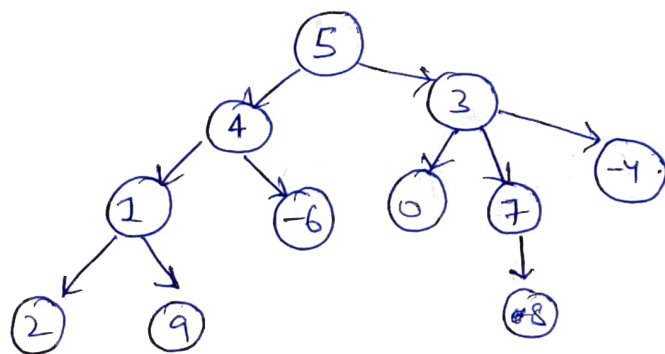


## 8. Beginner Tree Algorithms

(1)

### Problem 1 : Leaf Node Sum.

what is the sum of all the leaf nodes values in a tree



$$2 + 9 + -6 + 0 + 8 + -4 = 9.$$

# Sums up leaf node values in a tree

# call function like : leafsum(root)

function leafSum(node):

# Handle empty tree case.

if node == null:

return 0;

if isleaf(node):

return node.getChildNodes()

total = 0

for child in node.getChildNodes():

total += leafsum(child);

return total.

function isLeaf(node):

return node.getChildNodes().size() == 0

Problem 2: Tree Height

Number of edges from root to the lowest leaf.

$$h(x) = \max(h(x.\text{left}), h(x.\text{right})) + 1.$$