

## Top-20 Training Program (Binary Tree Problems)

Apply the solution building strategies discussed in class to solve following problems.

**Group1: Basic Problems** 

Sum of Left Leaves: https://leetcode.com/problems/sum-of-left-leaves/description/

**Second Minimum in Binary Tree:** <a href="https://leetcode.com/problems/second-minimum-node-in-a-binary-tree/description/">https://leetcode.com/problems/second-minimum-node-in-a-binary-tree/description/</a>

**Count Complete Nodes**: <a href="https://leetcode.com/problems/count-complete-tree-nodes/description/">https://leetcode.com/problems/count-complete-tree-nodes/description/</a>

Print Binary Tree: <a href="https://leetcode.com/problems/print-binary-tree/description/">https://leetcode.com/problems/print-binary-tree/description/</a>

**LCA of Binary Tree:** <a href="https://leetcode.com/problems/lowest-common-ancestor-of-a-binary-tree/description/">https://leetcode.com/problems/lowest-common-ancestor-of-a-binary-tree/description/</a>

**Populating Next Right Pointers-I:** <a href="https://leetcode.com/problems/populating-next-right-pointers-in-each-node/description/">https://leetcode.com/problems/populating-next-right-pointers-in-each-node/description/</a>

**Populating Next Right Pointers-II:** <a href="https://leetcode.com/problems/populating-next-right-pointers-in-each-node-ii/description/">https://leetcode.com/problems/populating-next-right-pointers-in-each-node-ii/description/</a>

## **Group2: Level based problems**

Bottom Left Tree Value: <a href="https://leetcode.com/problems/find-bottom-left-tree-value/description/">https://leetcode.com/problems/find-bottom-left-tree-value/description/</a>

Level Order Largest Value: <a href="https://leetcode.com/problems/find-largest-value-in-each-tree-row/description/">https://leetcode.com/problems/find-largest-value-in-each-tree-row/description/</a>

**Level Order Traversal-I:** <a href="https://leetcode.com/problems/binary-tree-level-order-traversal/description/">https://leetcode.com/problems/binary-tree-level-order-traversal/description/</a>

Level Order Traversal-II: <a href="https://leetcode.com/problems/binary-tree-level-order-traversal-ii/description/">https://leetcode.com/problems/binary-tree-level-order-traversal-ii/description/</a>

ZigZag Level Order Traversal-I: <a href="https://leetcode.com/problems/binary-tree-zigzag-level-order-traversal/description/">https://leetcode.com/problems/binary-tree-zigzag-level-order-traversal/description/</a>

Average of Levels: <a href="https://leetcode.com/problems/average-of-levels-in-binary-tree/description/">https://leetcode.com/problems/average-of-levels-in-binary-tree/description/</a>

Maximum Width: <a href="https://leetcode.com/problems/maximum-width-of-binary-tree/description/">https://leetcode.com/problems/maximum-width-of-binary-tree/description/</a>

**Right Side View:** <a href="https://leetcode.com/problems/binary-tree-right-side-view/description/">https://leetcode.com/problems/binary-tree-right-side-view/description/</a>

Add One Row: <a href="https://leetcode.com/problems/add-one-row-to-tree/solution/">https://leetcode.com/problems/add-one-row-to-tree/solution/</a>
TopView: <a href="https://www.hackerrank.com/challenges/tree-top-view/problem">https://www.hackerrank.com/challenges/tree-top-view/problem</a>

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**Group3: SerDe based problems** 

SerDe of Binary Tree: <a href="https://leetcode.com/problems/serialize-and-deserialize-binary-">https://leetcode.com/problems/serialize-and-deserialize-binary-</a>

tree/description/

Construct Binary Tree from inorder & postorder:

https://leetcode.com/problems/construct-binary-tree-from-inorder-and-postorder-

traversal/description/

String from Binary Tree: <a href="https://leetcode.com/problems/construct-string-from-binary-">https://leetcode.com/problems/construct-string-from-binary-</a>

tree/description/

**Subtree Check:** <a href="https://leetcode.com/problems/subtree-of-another-tree/description/">https://leetcode.com/problems/subtree-of-another-tree/description/</a>

Most Frequent Subtree Sum: <a href="https://leetcode.com/problems/most-frequent-subtree-">https://leetcode.com/problems/most-frequent-subtree-</a>

sum/description/

**Duplicate Subtrees:** <a href="https://leetcode.com/problems/find-duplicate-subtrees/description/">https://leetcode.com/problems/find-duplicate-subtrees/description/</a>

**Group4: Misc Problems** 

**Symmetric Tree:** <a href="https://leetcode.com/problems/symmetric-tree/description/">https://leetcode.com/problems/symmetric-tree/description/</a>

Same Tree: https://leetcode.com/problems/same-tree/description/

Binary Tree Tilt: https://leetcode.com/problems/binary-tree-tilt/description/

**Invert Binary Tree:** <a href="https://leetcode.com/problems/invert-binary-tree/description/">https://leetcode.com/problems/invert-binary-tree/description/</a>

Flatten Binary Tree: <a href="https://leetcode.com/problems/flatten-binary-tree-to-linked-">https://leetcode.com/problems/flatten-binary-tree-to-linked-</a>

list/description/

Merge Binary Trees: <a href="https://leetcode.com/problems/merge-two-binary-trees/description/">https://leetcode.com/problems/merge-two-binary-trees/description/</a>
Maximum Binary Tree: <a href="https://leetcode.com/problems/maximum-binary-trees/description/">https://leetcode.com/problems/maximum-binary-trees/description/</a>

tree/description/

**Group 5: Path based problems** 

Diameter of BinaryTree: <a href="https://leetcode.com/problems/diameter-of-binary-">https://leetcode.com/problems/diameter-of-binary-</a>

tree/description/

**Path Sum-I:** <a href="https://leetcode.com/problems/path-sum/description/">https://leetcode.com/problems/path-sum/description/</a> **Path Sum-II:** <a href="https://leetcode.com/problems/path-sum-ii/description/">https://leetcode.com/problems/path-sum/description/</a>

**Root-to-Leaf** Paths: https://leetcode.com/problems/sum-root-to-leaf-

numbers/description/

Path Sum-III: <a href="https://leetcode.com/problems/path-sum-iii/description/">https://leetcode.com/problems/path-sum-iii/description/</a>

Longest Univalue Path: https://leetcode.com/problems/longest-univalue-

path/description/

Maximum Path Sum: https://leetcode.com/problems/binary-tree-maximum-path-

sum/description/

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