# TREES SDE SHEET ( RIDDHI DUTTA )

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DISCLAIMER - The problems have been sorted based on relevance and difficulty. Similar problems are grouped together.

#### **Binary Trees**

- 1. https://leetcode.com/problems/maximum-depth-of-binary-tree/
- 2. <a href="https://leetcode.com/problems/invert-binary-tree/">https://leetcode.com/problems/invert-binary-tree/</a>
- 3. <a href="https://leetcode.com/problems/symmetric-tree/">https://leetcode.com/problems/symmetric-tree/</a>
- 4. https://leetcode.com/problems/binary-tree-preorder-traversal/
- 5. <a href="https://leetcode.com/problems/binary-tree-inorder-traversal/">https://leetcode.com/problems/binary-tree-inorder-traversal/</a>
- 6. https://leetcode.com/problems/binary-tree-postorder-traversal/
- 7. <a href="https://leetcode.com/problems/construct-binary-tree-from-preorder-and-inorder-traversal/">https://leetcode.com/problems/construct-binary-tree-from-preorder-and-inorder-traversal/</a>
- 8. <a href="https://leetcode.com/problems/construct-binary-tree-from-inorder-and-postorder-traversal/">https://leetcode.com/problems/construct-binary-tree-from-inorder-and-postorder-traversal/</a>
- 9. https://leetcode.com/problems/sum-root-to-leaf-numbers/
- 10. https://leetcode.com/problems/cousins-in-binary-tree/
- 11. https://leetcode.com/problems/serialize-and-deserialize-binary-tree/
- 12. https://leetcode.com/problems/merge-two-binary-trees/
- 13. https://leetcode.com/problems/find-duplicate-subtrees/
- 14. <a href="https://www.geeksforgeeks.org/find-maximum-or-minimum-in-binary-tree/">https://www.geeksforgeeks.org/find-maximum-or-minimum-in-binary-tree/</a>
- 15. <a href="https://leetcode.com/problems/vertical-order-traversal-of-a-binary-tree/">https://leetcode.com/problems/vertical-order-traversal-of-a-binary-tree/</a> (VVI)
- 16. <a href="https://www.geeksforgeeks.org/print-left-view-binary-tree/">https://www.geeksforgeeks.org/print-left-view-binary-tree/</a>
- 17. https://practice.geeksforgeeks.org/problems/right-view-of-binary-tree/1
- 18. https://practice.geeksforgeeks.org/problems/top-view-of-binary-tree/1
- 19. https://www.geeksforgeeks.org/bottom-view-binary-tree/
- 20. https://leetcode.com/problems/binary-tree-zigzag-level-order-traversal/ (VVI)
- 21. <a href="https://practice.geeksforgeeks.org/problems/boundary-traversal-of-binary-tree/1">https://practice.geeksforgeeks.org/problems/boundary-traversal-of-binary-tree/1</a> (VVI)

- 22. <a href="https://leetcode.com/problems/diameter-of-binary-tree/">https://leetcode.com/problems/diameter-of-binary-tree/</a> (VVI)
- 23. https://leetcode.com/problems/balanced-binary-tree/
- 24. <a href="https://leetcode.com/problems/same-tree/">https://leetcode.com/problems/same-tree/</a>
- 25. <a href="https://leetcode.com/problems/lowest-common-ancestor-of-a-binary-tree/">https://leetcode.com/problems/lowest-common-ancestor-of-a-binary-tree/</a> (VVVI)
- 26. <a href="https://leetcode.com/problems/binary-tree-maximum-path-sum/">https://leetcode.com/problems/binary-tree-maximum-path-sum/</a> (VVI)
- 27. https://leetcode.com/problems/flatten-binary-tree-to-linked-list/
- 28. https://leetcode.com/problems/populating-next-right-pointers-in-each-node/

### **Binary Search Trees**

N.B - Always remember the very important property of BST. It is sorted in it's inorder form.

Also all Binary Trees are NOT Binary Search Trees, but the reverse is true.

- 1. https://leetcode.com/problems/validate-binary-search-tree/
- <a href="https://leetcode.com/problems/convert-sorted-array-to-binary-search-tree/">https://leetcode.com/problems/convert-sorted-array-to-binary-search-tree/</a> (Important for Concept Building)
- 3. <a href="https://www.geeksforgeeks.org/flatten-bst-to-sorted-list-increasing-order/">https://www.geeksforgeeks.org/flatten-bst-to-sorted-list-increasing-order/</a>
- 4. <a href="https://leetcode.com/problems/search-in-a-binary-search-tree/">https://leetcode.com/problems/search-in-a-binary-search-tree/</a>
- 5. <a href="https://www.geeksforgeeks.org/check-if-a-given-array-can-represent-preorder-traversal-o-f-binary-search-tree/">https://www.geeksforgeeks.org/check-if-a-given-array-can-represent-preorder-traversal-o-f-binary-search-tree/</a>
- 6. <a href="https://leetcode.com/problems/range-sum-of-bst/">https://leetcode.com/problems/range-sum-of-bst/</a>
- 7. <a href="https://leetcode.com/problems/kth-smallest-element-in-a-bst/">https://leetcode.com/problems/kth-smallest-element-in-a-bst/</a>
- 8. https://www.geeksforgeeks.org/remove-bst-keys-outside-the-given-range/
- 9. <a href="https://leetcode.com/problems/two-sum-iv-input-is-a-bst/">https://leetcode.com/problems/two-sum-iv-input-is-a-bst/</a>
- 10. https://leetcode.com/problems/delete-node-in-a-bst/
- 11. https://leetcode.com/problems/serialize-and-deserialize-bst/
- 12. https://www.geeksforgeeks.org/convert-given-binary-tree-doubly-linked-list-set-3/
- 13. https://leetcode.com/problems/all-nodes-distance-k-in-binary-tree/
- 14. https://leetcode.com/problems/lowest-common-ancestor-of-a-binary-search-tree/
- 15. <a href="https://www.geeksforgeeks.org/inorder-successor-in-binary-search-tree/">https://www.geeksforgeeks.org/inorder-successor-in-binary-search-tree/</a>
- 16. https://www.geeksforgeeks.org/floor-and-ceil-from-a-bst/
- 17. https://www.geeksforgeeks.org/find-a-pair-with-given-sum-in-bst/
- 18. <a href="https://leetcode.com/problems/recover-binary-search-tree/">https://leetcode.com/problems/recover-binary-search-tree/</a>

## N-Ary Trees

- 1. <a href="https://www.geeksforgeeks.org/next-larger-element-n-ary-tree/">https://www.geeksforgeeks.org/next-larger-element-n-ary-tree/</a>
- 2. <a href="https://www.geeksforgeeks.org/second-largest-element-n-ary-tree/">https://www.geeksforgeeks.org/second-largest-element-n-ary-tree/</a>
- 3. <a href="https://www.hackerearth.com/practice/algorithms/graphs/depth-first-search/practice-problems/algorithm/comrades-i-3/">https://www.hackerearth.com/practice/algorithms/graphs/depth-first-search/practice-problems/algorithm/comrades-i-3/</a>
- 4. <a href="https://www.geeksforgeeks.org/serialize-deserialize-n-ary-tree/">https://www.geeksforgeeks.org/serialize-deserialize-n-ary-tree/</a>