🚀 CodeQuest: 30-Days LeetCode Mastery DSA Challenge ⚡ [100 Essential Problems] 🏆

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📊 Week 1: Arrays and Strings

🔸 Day 1: Array Basics

1. 🔍 Two Sum
2. 📈 Best Time to Buy and Sell Stock
3. 🔄 Contains Duplicate

🔸 Day 2: Array Techniques

4. ⚙️ Product of Array Except Self
5. 📊 Maximum Subarray
6. 0️⃣ Move Zeroes

🔸 Day 3: String Manipulation

7. 🔤 Valid Anagram
8. 🔄 Valid Palindrome
9. 📝 Longest Substring Without Repeating Characters

🔸 Day 4: More Strings

10. ↩️ Reverse String
11. 🔢 String to Integer (atoi)
12. 📝 Longest Common Prefix

🔗 Week 2: Linked Lists and Stacks/Queues

🔸 Day 5: Linked List Basics

13. ↩️ Reverse Linked List
14. 🔄 Linked List Cycle
15. 🔀 Merge Two Sorted Lists

🔸 Day 6: Advanced Linked Lists

16. ❌ Remove Nth Node From End of List
17. 🔗 Intersection of Two Linked Lists
18. 🔁 Palindrome Linked List

🔸 Day 7: Stacks and Queues

19. 📚 Valid Parentheses
20. 🔁 Implement Queue using Stacks
21. ⬇️ Min Stack
22. 🧮 Evaluate Reverse Polish Notation

🌳 Week 3: Binary Trees and Binary Search Trees

🔸 Day 8: Binary Tree Traversal

23. 🔁 Binary Tree Inorder Traversal
24. 📏 Maximum Depth of Binary Tree
25. 🪞 Symmetric Tree

🔸 Day 9: Binary Tree Operations

26. 🔁 Invert Binary Tree
27. ➕ Path Sum
28. 👨‍👩‍👧 Lowest Common Ancestor of a Binary Tree

🔸 Day 10: Binary Search Trees

29. ✅ Validate Binary Search Tree
30. 🔢 Kth Smallest Element in a BST
31. 🔁 Convert Sorted Array to Binary Search Tree

🔍 Week 4: Searching and Sorting

🔸 Day 11: Binary Search

32. 🔎 Binary Search
33. ❌ First Bad Version
34. 🔁 Search in Rotated Sorted Array
35. ⬇️ Find Minimum in Rotated Sorted Array

🔸 Day 12: Sorting Algorithms

36. 🌈 Sort Colors
37. 🔀 Merge Intervals
38. 🗓️ Meeting Rooms II

🔸 Day 13: More Searching

39. 🏔️ Find Peak Element
40. 🏆 Kth Largest Element in an Array
41. 🔍 Search a 2D Matrix

🧠 Week 5: Dynamic Programming

🔸 Day 14: DP Introduction

42. 🪜 Climbing Stairs
43. 🏠 House Robber
44. 📊 Maximum Subarray

🔸 Day 15: 1D Dynamic Programming

45. 💰 Coin Change
46. 📈 Longest Increasing Subsequence
47. 📝 Word Break

🔸 Day 16: 2D Dynamic Programming

48. 🛤️ Unique Paths
49. 🔤 Longest Common Subsequence
50. ✖️ Maximum Product Subarray

🕸️ Week 6: Graphs and BFS/DFS

🔸 Day 17: Graph Basics

51. 🏝️ Number of Islands
52. 🧬 Clone Graph
53. 📚 Course Schedule

🔸 Day 18: BFS

54. 📝 Word Ladder
55. 📏 Minimum Depth of Binary Tree
56. 🍊 Rotting Oranges

🔸 Day 19: DFS

57. 🌊 Pacific Atlantic Water Flow
58. ⭕ Surrounded Regions
59. 🎨 Flood Fill
60. ✅ Graph Valid Tree

📚 Week 7: Heap, Priority Queue, and Trie

🔸 Day 20: Heaps and Priority Queues

61. 🏆 Top K Frequent Elements
62. 🔀 Merge K Sorted Lists
63. 📊 Find Median from Data Stream

🔸 Day 21: More Heap Applications

64. 📍 K Closest Points to Origin
65. 🪟 Sliding Window Maximum
66. ⏱️ Task Scheduler

🔸 Day 22: Trie

67. 🔤 Implement Trie (Prefix Tree)
68. 🔍 Word Search II
69. 🔎 Design Add and Search Words Data Structure

🧮 Week 8: Bitwise Operations and Math

🔸 Day 23: Bit Manipulation

70. ☐ Single Number
71. 🔢 Counting Bits
72. 🔟 Number of 1 Bits
73. ❓ Missing Number

🔸 Day 24: Math Problems

74. 💪 Pow(x, n)
75. 😊 Happy Number
76. 📊 Excel Sheet Column Number
77. 0️⃣ Factorial Trailing Zeroes

📐 Week 9: Design and Advanced Topics

🔸 Day 25: System Design Questions

78. 💾 LRU Cache
79. 🐦 Design Twitter
80. 🌳 Serialize and Deserialize Binary Tree

🔸 Day 26: Advanced Techniques

81. 🗓️ Meeting Rooms II
82. 💧 Trapping Rain Water
83. 🔍 Find the Duplicate Number
84. 📈 Longest Consecutive Sequence

🚀 Week 10: More Advanced Topics and Review

🔸 Day 27: Sliding Window

85. ⬇️ Minimum Window Substring
86. 🪟 Sliding Window Maximum
87. 🔁 Longest Repeating Character Replacement

🔸 Day 28: Greedy Algorithms

88. 🐎 Jump Game
89. ⛽ Gas Station
90. ↔️ Non-overlapping Intervals
91. 🔪 Partition Labels

🔸 Day 29: Backtracking

92. 📱 Letter Combinations of a Phone Number
93. 🔁 Generate Parentheses
94. 🔀 Permutations
95. 🧩 Subsets
96. 🔍 Word Search

🔸 Day 30: Final Review and Challenging Problems

97. 🔁 Longest Palindromic Substring
98. 📈 Longest Increasing Path in a Matrix
99. 👽 Alien Dictionary

100. 📊 Median of Two Sorted Arrays

💡 Study Tips

1. 🔄 **Consistent Practice**: Solve at least the daily questions, even if just for 1-2 hours
2. 🧠 **Understand Solutions**: Don't just solve problems, understand the approach
3. ⏱️ **Time Your Solutions**: Practice with a timer to prepare for real interviews
4. 📝 **Review Regularly**: Go back to problems you've solved to reinforce learning
5. 📈 **Track Progress**: Keep notes on problem patterns and techniques you learn

🏆 Good luck with your 30-day LeetCode challenge! 🚀