7-Day DSA Preparation Plan for 12th April

Goal: Crack the company interview by mastering key data structures with focused practice.
Total Questions: ~40-45 (solvable in 7 days)
Daily Task: Learn concepts, solve 3-5 questions, dry run, and explain time complexity.

Day 1: Arrays + Stack

Focus: Array traversal, two-pointer, stack operations (push/pop)
Questions:

- Two Sum
- Maximum Subarray Sum (Kadane's)
- Rotate Array
- Valid Parentheses
- Next Greater Element
  Time: *4-5 hours*

Day 2: Linked List + Queue

Focus: Node manipulation, slow-fast pointer, queue operations
Questions:

- Reverse a Linked List
- Detect Cycle in Linked List
- Merge Two Sorted Lists
- Implement Queue
- Sliding Window Maximum
  Time: *4-5 hours*

Day 3: Binary Tree

Focus: Recursion, BFS, DFS traversals
Questions:

- Inorder Traversal
- Maximum Depth of Binary Tree
- Lowest Common Ancestor (LCA)
- Level Order Traversal
  Time: *3-4 hours*

Day 4: BST + Heap

Focus: BST properties, heap operations (heapify)
Questions:

- Validate BST
- Kth Smallest Element in BST
- Kth Largest Element
- Merge K Sorted Lists
- Top K Frequent Elements
  Time: *4-5 hours*

Day 5: Graph

Focus: DFS, BFS, connectivity problems
Questions:

- DFS Traversal
- BFS Traversal
- Detect Cycle in Graph
- Number of Islands
  Time: *3-4 hours*

Day 6: Hashing + Revision

Focus: Hash map usage, sliding window, revisit weak areas
Questions:

- Two Sum (Hash Map)
- Group Anagrams
- Longest Substring Without Repeating Characters
- Count Distinct Elements
- Revise 1-2 tough questions from previous days
  Time: *4-5 hours*

Day 7: DP + Mock Interview

Focus: DP basics, mock problem-solving under time pressure
Questions:

- Fibonacci Number
- Longest Common Subsequence
- 0/1 Knapsack
- Climbing Stairs
  Time: *3-4 hours + 1 hour mock*
