120-Day DSA Challenge Plan

Phase 1: Fundamentals (Days 1-15)

- **Day 1-2:** Time & Space Complexity
- **Day 3-4:** Recursion Basics
- **Day 5-7:** Arrays (1D & 2D)
- **Day 8-9:** Strings
- **Day 10-12:** Searching (Binary Search, Linear Search)
- **Day 13-15:** Sorting (Bubble, Selection, Merge, Quick)

Phase 2: Core Data Structures (Days 16-45)

- **Day 16-18:** Hashing (HashMap, HashSet)
- **Day 19-22:** Stacks & Queues (Implementation & Applications)
- **Day 23-26:** Linked Lists (Singly, Doubly, Circular)
- **Day 27-30:** Recursion & Backtracking (Subset, Permutations)
- **Day 31-35:** Binary Trees (Traversals, DFS, BFS)
- **Day 36-40:** Binary Search Trees (Insert, Delete, Search)
- **Day 41-45:** Heaps & Priority Queues

Phase 3: Advanced Data Structures (Days 46-75)

- **Day 46-50:** Graph Basics (BFS, DFS)
- **Day 51-55:** Graph Algorithms (Dijkstra, Floyd-Warshall, Bellman-Ford)
- **Day 56-60:** Dynamic Programming (Fibonacci, Subset Sum, Knapsack)
- **Day 61-65:** Advanced DP (LIS, Matrix Chain Multiplication)
- **Day 66-70:** Tries (Prefix Trees)
- **Day 71-75:** Segment Trees & Fenwick Trees

Phase 4: Problem-Solving & Competitive Programming (Days 76-120)

- **Day 76-80:** Greedy Algorithms
- **Day 81-85:** Bit Manipulation
- **Day 86-90:** Sliding Window & Two Pointers
- **Day 91-95:** Disjoint Set Union (DSU)
- **Day 96-100:** Topological Sorting & Cycle Detection
- **Day 101-110:** Solve 50+ Medium to Hard Leetcode Problems
- **Day 111-120:** Solve 10+ Real-World Case Study Problems
