

Data Structures and Algorithms Training

Duration: 3 Months (~120 Hours) | Fee: ₹11,999 | Format: Online | Level: Intermediate to Advanced

Module 1: Foundation & Complexity Analysis (Week 1-2)

Time/Space Complexity: Big-O Notation

Math for DSA: Bit Manipulation, Number Theory

Recursion: Base Cases, Stack Memory

Project: Fibonacci Series Visualizer

Module 2: Linear Data Structures (Week 3-5)

Arrays: Rotations, Prefix Sum

Linked Lists: Singly/Doubly, Fast-Slow Pointers

Stacks & Queues: Monotonic Stacks, Circular Queues

Project: LRU Cache Implementation

Module 3: Non-Linear Structures (Week 6-8)

Trees: Binary Trees, BST, AVL Trees

Heaps: Priority Queues, Heap Sort

Hashing: HashMaps, Collision Handling

Project: Autocomplete System (Trie)

Module 4: Graph Algorithms (Week 9-11)

Graph Representation: Adjacency Matrix/List

Traversals: BFS, DFS, Topological Sort

Shortest Path: Dijkstra, Floyd-Warshall

Project: Social Network Connection Finder

Module 5: Advanced Algorithms (Week 12-14)

Divide & Conquer: Merge Sort, Quickselect

Greedy: Fractional Knapsack, Job Sequencing

DP: 0/1 Knapsack, LCS, Tabulation vs Memoization

Project: Stock Trading Optimizer

Module 6: Interview Prep (Week 15-18)

Leetcode Patterns: Sliding Window, Two Pointers

Mock Interviews: FAANG-style Whiteboarding

System Design Primer: Scalability Basics

Capstone: 50+ Problem Sprint

Key Outcomes:

Solve 200+ Problems (Categorized by Difficulty)

Master 15+ Algorithmic Patterns

1:1 Mock Interviews with Performance Feedback

Curated Problem Sets (Company-Wise)

DSA Cheat Sheets (Time Complexity Chart)

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