

5	8	3	2
0	1	2	4

Week 1 Arrays

- Arrays Basics
- Two-Pointers
- Kadane's Algorithm
- Dutch National Flag Algorithm
- Boyer-Moore Majority Voting Algorithm
- Hashing with Arrays
- Frequency Array
- Prefix Sum



STRING

Week 2 Arrays Advanced & Strings

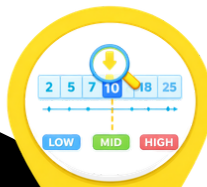
- String Basics
- Sliding Window (fixed and variable size)
- Character Hashing
- Substring Questions
- Anagrams & Palindrome
- Minimum Window
- ASCII

Week 3 Stacks, Queue & Matrix

- Introduction to Stacks & Queue
- Implement Min. Stack
- Valid Parentheses
- Next/Previous, Greater/Smaller
- Largest Rectangle
- Queue Applications
- Matrix Intro. & Questions



TOP
7
5
2
1
STACK



Week 4 Binary Search & Sorting

- Binary Search (Iterative + Recursive)
- Lower/Upper Bound
- Rotated Sorted Array
- Binary Search on Answers
- Painters Partition
- Sorting Fundamentals
- Merge Sort
- Sorting Questions (Merge Sort Implementation)



Week 5 Linked List & Heaps

- Singly, Doubly, Circular Linked List
- Traversal / Insertion / Deletion
- Reverse Linked List
- Cycle Detection (Floyd's Algorithm)
- Advance Linked List Questions
- Heap Basics (Min Heap / Max Heap)
- Priority Queue
- Heap Insertion / Deletion / Heapify



Week 6 Recursion + Backtracking

- What Recursion Is (Call Stack Concept)
- Recursion Tree
- Recursion On Arrays / Strings
- Backtracking Basics
- Combination / Permutation Problems
- Maze / Path Generation
- N-Queens / Sudoku

Pattern Focus

- Pick / Not Pick
- Choose - Explore - Undo
- Base Case Correctness



Week 7 Binary Trees

- Tree Terminology & Representation
- DFS (Pre/In/Post Order)
- BFS / Level Order Traversal
- Height / Depth Of tree
- Using Height Function For Two Different Tasks
- Diameter / Balanced Binary Tree
- Left / Right / Top / Bottom View
- Vertical / Zig-Zag Traversal
- Path / Path-Sum Problems

Week 9 Dynamic Programming - I (Foundations)

- What Is Dynamic Programming ?
- How To Identify DP Problems
- 1D DP Basics
 - Fibonacci
 - Climbing stairs
 - Frog jump
 - House robber
- DP On Grids
 - Unique Paths
 - Min Path Sum
 - Obstacle Grid
 - Multi-Source (Cherry Pickup)
- Subsequence DP
 - Knapsack Problems
 - Subset Sum
 - Minimum Coin / Coin Change
 - Target Sum



Week 8 Binary Search Trees + Greedy

- BST Properties
- Search / Insert / Delete In BST
- Floor / Ceil
- Kth Smallest / Largest
- LCA In BST
- Validate BST
- Construct BST From Sorted Array

Greedy Explanation

- Activity Selection
- Fractional Knapsack
- Assign Cookies
- Jump Game I & II
- Job Sequencing



Week 10 Dynamic Programming - II (Advanced)

- String DP
 - Longest Common Subsequence
 - Longest Common Substring
 - Palindromic Subsequences
 - Edit Distances
- Longest Increasing Subsequence
- Print Longest Increasing Subsequence
- DP On Stocks (Buy/Sell Variants)
- Matrix Chain Multiplication
- Minimum Cost To Cut Stick
- Palindrome Partitioning
- Maximum Rectangle With All 1's



Week 11 Graphs - I (Basics)

- What Are Graphs ?
- Representation (Adj. List/Matrix)
- Directed vs Undirected
- Weighted vs Unweighted
- BFS & DFS
- Connected Components
- Number Of Islands
- Rotten Oranges
- Flood Fill Algorithm
- Surrounded Regions
- Cycle Detection
 - Undirected Graph (BFS/DFS)
 - Directed Graph
- Bipartite Graph



Week 12 Graphs - II (Advanced)

- Topological Sort
 - BFS (Kahn's Algorithm)
 - DFS Method
 - Course Scheduled I & II
 - Alien Dictionary
 - Word Ladder
- Dijkstra's Algorithm
- Print Shortest Path
- Flight Problems
- Minimum Spanning Tree
 - Prim's
 - Kruskal's
- Disjoint Set Union (DSU/Union-Find)
 - Path Compression
 - Union By Rank/Size
 - Accounts Merge