Arrays

- Basic Operations
- Sorting
- Searching
- Prefix Sum
- Sliding Window
- Two Pointer Technique
- Kadane's Algorithm
- Merging Intervals

Strings

- Basic Operations
- Pattern Matching
- Palindrome
- Anagrams
- Substring Search
- Character Frequency
- String Hashing

Linked List

- Single Linked List
- Doubly Linked List
- Circular Linked List
- Fast and Slow Pointers
- Cycle Detection
- Reversal

Stack

- Basic Operations
- Infix, Prefix, Postfix Expressions
- Next Greater/Smaller Element
- Balanced Parentheses
- Stack with Min/Max Support

Queue

- Basic Operations

- Deque

- Circular Queue

- Sliding Window Maximum

- Queue Using Stack

- BFS Traversal

Tree

- Binary Tree

- Binary Search Tree

- Tree Traversals (Inorder, Preorder, Postorder)

- Height and Depth of Tree

- Lowest Common Ancestor

- AVL Tree

- Segment Tree

- Trie

Graph

- Graph Representations

- BFS and DFS

- Shortest Path (Dijkstra, Bellman-Ford)

- Minimum Spanning Tree

- Topological Sort

- Union-Find

Hashing

- Hash Tables

- Hash Sets and Maps

- Collision Handling

- Counting Frequencies

- Caching (LRU Cache)

Heap

- Min Heap and Max Heap

- Priority Queue

- Kth Largest/Smallest Element

- Heap Sort

Recursion and Backtracking

- Basic Recursion

- Subset and Permutation Generation

- N-Queens

- Sudoku Solver

- Rat in a Maze

- Word Search

Dynamic Programming (DP)

- **1D DP Problems**:

  - Fibonacci Series

  - Climbing Stairs

  - House Robber Problem

  - Maximum Subarray Sum (Kadane's Algorithm)

  - Coin Change (Min coins to make amount)

- **2D DP Problems**:

  - Longest Common Subsequence

  - Longest Palindromic Substring

  - Edit Distance

  - Unique Paths

  - 0/1 Knapsack Problem

- **Advanced DP**:

  - DP with Bitmasking

  - DP on Trees

  - DP with Memoization and Tabulation Approaches