► **Graphs**

Pattern 1: DFS/BFS Traversal

→ Number of Islands
→ Flood Fill
→ Clone Graph
→ Graph Valid Tree
→ Course Schedule

Pattern 2: Shortest Path Algorithms

→ Dijkstra's Algorithm
→ Bellman-Ford
→ Shortest Path in a Grid
→ Network Delay Time
→ Cheapest Flights Within K Stops

Pattern 3: Topological Sort

→ Course Schedule II
→ Alien Dictionary
→ Sequence Reconstruction
→ Minimum Height Trees
→ Task Scheduling

Pattern 4: Cycle Detection

→ Course Schedule
→ Graph Cycle Detection
→ Find if Path Exists in Graph
→ Redundant Connection
→ Minimum Edge to Add to Make Graph Strongly Connected

Pattern 5: Connected Components

→ Number of Connected Components in Graph
→ Friend Circles
→ Count Sub Islands
→ Graph Connectivity After Removing Edges
→ Maximum Area of Island

Pattern 6: Minimum Spanning Tree

→ Kruskal's Algorithm
→ Prim's Algorithm
→ Min Cost to Connect All Points
→ Connecting Cities With Minimum Cost
→ Redundant Connection II

Pattern 7: Union-Find
→ Redundant Connection
→ Number of Islands II
→ Accounts Merge
→ Friend Circles
→ Satisfiability of Equality Equations

Pattern 8: Grid-Based Graph Problems
→ Number of Islands
→ Walls and Gates
→ Rotten Oranges
→ Shortest Path in Binary Matrix
→ Surrounded Regions

Pattern 9: Graph Coloring
→ Graph Coloring
→ Is Graph Bipartite?
→ Map Coloring
→ Partition to K Equal Sum Subsets
→ Scheduling With Constraints

Pattern 10: Strongly Connected Components
→ Course Schedule III
→ Kosaraju's Algorithm Challenge
→ Tarjan's Algorithm Challenge
→ Evaluate Division
→ Minimum Days to Disconnect

Pattern 11: Eulerian & Hamiltonian Paths
→ Course Schedule IV
→ Find Itinerary
→ Hamiltonian Path in Directed Graph
→ Eulerian Circuit
→ Reconstruct Itinerary

Pattern 12: Planets & Queries
→ Dynamic Connectivity
→ Reachability Queries
→ Graph Connectivity via Snapshots
→ Distance Queries in Tree
→ Offline Query Processing