1. Function
2. Recursion
3. Asymptotic Notation
4. Complexity Analysis
5. Euclid’s Greatest Common Divisor(GCD)
6. Least Common Multiple
7. Linear Search and Brute Force Techniques
8. Introduction to Divide and Conquer Approach
9. Binary Search
10. Insertion Sort
11. Bubble Sort
12. Selection Sort
13. Merge Sort
14. Quick Sort
15. Counting Sort
16. STL Sort
17. Introduction to Greedy Approach.
18. Greedy Coin Change
19. Greedy Bin Packing
20. Greedy Partial Knapsack
21. Greedy Huffman Coding
22. Introduction to Dynamic Programming Approach Using DP to solve the Fibonacci Numbers Problem
23. DP: Coin Change
24. DP: 0/1 Knapsack
25. DP: Longest Increasing Subsequence
26. Introduction to Graph Algorithms
27. Graph Representation
28. Breadth First Search
29. Depth First Search
30. DFS Applications:

Full Tree Traversal

Cycle Finding

Component Finding

Articulation Point Finding

Topological Sort

Strongly Connected Components

1. Minimum Spanning Tree (MST)

MST: Kruskal’s Algorithm

MST: Prim’s Algorithm

1. Single Source Shortest Path (SSSP):

Dijkstra’s Algorithm

Bellman Ford Algorithm

1. All Pairs Shortest Path: Floyd–Warshall algorithm