1. **Find the cost of a code**
    a. Matrix addition
    b. Matrix multiplication
    c. Some more demo codes
2. **Asymptotic Analysis**
    a. Big Theta
    b. Big Oh
    c. Big Omega
3. **Complexity Analysis**
    a. Iterative codes
        i. Insertion Sort Analysis
        ii. Selection Sort Analysis
    b. Recursive codes
        i. Recursion Tree method
        ii. Substitution Method
        iii. Master Method
            1. Merge Sort
            2. Quick Sort
4. **Divide and Conquer**
    a. Merge Sort
    b. Quick Sort
    c. Karatsuba's Multiplication of large numbers
5. **Greedy**
    a. Activity Selection
    b. Interval partitioning
    c. Fractional Knapsack
    d. Huffman coding
    e. Dijkstra's shortest path algorithm
    f. Minimum spanning tree
        i. Prim's Algorithm
        ii. Krushkal's Algorithm
    g.
6. **Backtracking**
    a. Find the permutations
        i. nPn or n!
        ii. nPk
    b. Find the Combinations
        i. nCk
    c. N - Queen problem
    d. Find the Subsets of number that add up to a Sum or a value
    e. Graph Coloring
    f. Hamilton Cycle
7. **Branch and Bound**

    a. 8-Puzzle problem
8. **Dynamic programming**
    a. Basic
    b. 0-1 Knapsack
    c. Longest Common Subsequence
9. **Graph**
    a. BFS
    b. DFS
    c. Floyd Warshall
    d. Bellman Ford
    e. Topological Sort
    f. Maximum Flow
    g.
10. **String**
    a. Basic String Processing
    b. KMP
11. **Number Theory**
    a. Basic
    b. Primes
    c. GCD, LCM
    d. Sieve
    e. Modulo Arithmetic
12. **Geometry**
    a. Basic
    b. Polygon
13. **Extra**
    a. P vs NP
14.