

- **Search**

- EASY
 - Binary
 - Ternary

- **Sorting**

- EASY
 - Merge Sort
 - Quick Sort
- MEDIUM
 - Heap Sort
 - Counting Sort
 - Bucket Sort

- **Data Structures**

- EASY
 - Array
 - List, Linked List
 - Stack, Queue, Priority queue
 - BST (ABB)
- MEDIUM
 - Union-Find Disjoint set
 - Hash tables
 - Red-Black trees

- **Graphs**

- EASY
 - Theory of graphs
 - Representation
 - DFS, BFS
 - Finding connected components undirected graph
 - Topological sort
 - Strongly connected components (SCC)
 - Kosaraju
 - Dijkstra
 - Bellman-Ford
- MEDIUM
 - Minimum Spanning Trees
 - _ Prim
 - _ Kruskal
 - Floyd-Warshall
- HARD
 - Maximum Flow
 - _ Ford-Fulkerson
 - _ Edmonds-Karp

- **Backtracking**

- EASY
 - Simple Backtracking
- HARD
 - Backtracking with Bitmask
 - Backtracking with Heavy Pruning

- **Number Theory**

- Fibonacci (DP)
 - Binomial coefficients
 - Catalan numbers
 - Factorial
 - Modulo arithmetic
 - Primality test
 - All the prime factors of a number
 - Sieve of erathostenes
 - GCD (Euclid Algorithm)
 - LCD
 - Number of divisors of an integer
 - Factorization
 - Euler function
 - BigInteger
 - Representation of integers and reals
 - Evaluations of polynomial functions
 - Fast exponentiation (Divide and Conquer)
- EASY

- **Dynamic Programming (DP)**

- Maximum independent sets (MIS)
 - Rod cutting
 - Knapsack
 - Sequence alignment
 - Longest common subsequence
 - Longest increasing subsequence
 - Matrix-Chain multiplication
 - Optimal binary search
 - Coin change
 - Traveling salesman problem
- EASY
- HARD

- **Greedy**

- An activity selection problem
 - Managing task
 - **Find more**
- EASY

- **Processing Strings**

- Class String, Class StringTokenizer, Class StringBuilder
- Next permutation
- Regular Expressions
- Frequencies
- String Matching
- _ Knuth-Morris-Pratt (KMP)
- _ Boyer-Moore
- DNA String

- **Divide and Conquer**

- Counting Inversions
- Maximum-Subarray
- Karatsuba
- Multiplication of Strassen
- Fast exponentiation
- Fibonacci
- Closest Pair

- **Other**

- Min Cost Max Flow
- Josephus Problem
- **Find More**