|  |  |  |
| --- | --- | --- |
|  | Definition | Status |
|  | Fibonacci numbers | **Analysed** |
|  | Binomial Coefficient | **Analysed** |
|  | Longest Common Subsequence | **Analysed** |
|  | Longest Repeated Subsequence | **Analysed** |
|  | Largest Sum Contiguous Sub array | **Analysed** |
|  | Ugly numbers | **Analysed** |
|  | Maximum size square sub-matrix with all 1s | **Analysed** |
|  | Longest Increasing Subsequence | **Analysed** |
|  | Min Cost Path | **Analysed** |
|  | Coin change problem | **Analysed** |
|  | Minimum number of edits require to convert string 1 to string 2 | **Analysed** |
|  | Cutting a Rod | **Analysed** |
|  | Subset Sum Problem | **Analysed** |
|  | Minimum number of jumps to reach end | **Analysed** |
|  | Assembly line scheduling |  |
|  | Maximum Sum Increasing Subsequence | **Analysed** |
|  | Maximum Length Chain of Pairs | **Analysed** |
|  | Longest Common Substring | **Analysed** |
|  | Count all possible paths from top left to bottom right of a mXn matrix | **Analysed** |
|  | nth Catalan Number | **Analysed** |
|  | Count number of ways to reach a given score in a game | **Analysed** |
|  | Tiling Problem |  |
|  | Count even length binary sequences with same sum of first and second half bits |  |
|  | Find number of solutions of a linear equation of n variables |  |
|  | Bell Numbers (Number of ways to Partition a Set) |  |
|  | Compute nCr % p |  |
|  | Permutation Coefficient |  |
|  | Count number of ways to fill a “n x 4” grid using “1 x 4” tiles |  |
|  | A Space Optimized Solution of LCS |  |
|  | Find maximum length Snake sequence |  |
|  | Minimum cost to fill given weight in a bag |  |
|  | Choice of area |  |
|  | Maximum weight path ending at any element of last row in a matrix |  |
|  | Recursively break a number in 3 parts to get maximum sum |  |
|  | Path with maximum average value |  |
|  | Maximum sum of pairs with specific difference |  |
|  | Maximum subsequence sum such that no three are consecutive |  |
|  | Longest subsequence such that difference between adjacents is one |  |
|  | Maximum path sum for each position with jumps under divisibility condition |  |
|  | Maximum sum Bi-tonic Sub-sequence |  |
|  | LCS (Longest Common Subsequence) of three strings |  |
|  | Maximum path sum in a triangle |  |
|  | Friends Pairing Problem |  |
|  | Size of array after repeated deletion of LIS |  |
|  | Minimum steps to minimize n as per given condition |  |
|  | Maximum path sum that starting with any cell of 0-th row and ending with any cell of (N-1)-th row |  |
|  | Gold Mine Problem |  |
|  | Find number of endless points |  |
|  | Perfect Sum Problem (Print all subsets with given sum) |  |
|  | Maximum sum of a path in a Right Number Triangle |  |
|  | Subset with sum divisible by m |  |
|  | 0-1 Knapsack Problem |  |
|  | Length of the longest substring without repeating characters |  |
|  | Count number of ways to reach destination in a Maze |  |
|  | Super Ugly Number (Number whose prime factors are in given set) |  |
|  | Count number of ways to partition a set into k subsets |  |
|  | Longest Palindromic Subsequence |  |
|  | Egg Dropping Puzzle |  |
|  | Weighted job scheduling |  |
|  | Longest Bitonic Subsequence |  |
|  | Floyd Warshall Algorithm |  |
|  | Partition Problem |  |
|  | Variations of LIS |  |
|  | Box-Stacking Problem |  |
|  | Bellman–Ford Algorithm |  |
|  | Optimal Binary Search Tree |  |
|  | Largest Independent Set Problem |  |
|  | Minimum insertions to form a palindrome |  |
|  | Minimum number of deletions to make a string palindrome |  |
|  | Maximum Product Cutting |  |
|  | Clustering/Partitioning an array such that sum of square differences is minimum |  |
|  | Maximum decimal value path in a binary matrix |  |
|  | Count Derangements (Permutation such that no element appears in its original position) |  |
|  | Dice Throw Problem |  |
|  | Optimal Strategy for a game |  |
|  | Word Break Problem |  |
|  | Remove minimum elements from either side such that 2\*min becomes more than max |  |
|  | Count number of binary strings without consecutive 1’s |  |
|  | Count Possible Decodings of a given Digit Sequence |  |
|  | Count all possible walks from a source to a destination with exactly k edges |  |
|  | Shortest path with exactly k edges in a directed and weighted graph |  |
|  | Longest Even Length Substring such that Sum of First and Second Half is same |  |
|  | Vertex Cover Problem |  |
|  | Find the minimum cost to reach destination using a train |  |
|  | Maximum profit by buying and selling a share at most twice |  |
|  | Count possible ways to construct buildings |  |
|  | Compute sum of digits in all numbers from 1 to n |  |
|  | Shortest Common Supersequence |  |
|  | Minimum number of coins that make a given value |  |
|  | Minimum number of squares whose sum equals to given number n |  |
|  | length of the longest consecutive path from a given starting character |  |
|  | Total number of non-decreasing numbers with n digits |  |
|  | Minimum Initial Points to Reach Destination |  |
|  | Count of n digit numbers whose sum of digits equals to given sum |  |
|  | Count total number of N digit numbers such that the difference between sum of even and odd digits is 1 |  |
|  | Count ways to assign unique cap to every person |  |
|  | Longest Repeating Subsequence |  |
|  | Find the longest path in a matrix with given constraints |  |
|  | Number of paths with exactly k coins |  |
|  | Collect maximum coins before hitting a dead end |  |
|  | Count number of paths with at-most k turns |  |
|  | Partition a set into two subsets such that the difference of subset sums is minimum |  |
|  | Longest Zig-Zag Subsequence |  |
|  | Largest sum Zigzag sequence in a matrix |  |
|  | Count number of subsets having a particular XOR value |  |
|  | Weighted Job Scheduling in O(n Log n) time |  |
|  | Ways to arrange Balls such that adjacent balls are of different types |  |
|  | Minimum time to finish tasks without skipping two consecutive |  |
|  | Find if string is K-Palindrome or not | Set 1 |  |
|  | Find if string is K-Palindrome or not | Set 2 |  |
|  | Wildcard Pattern Matching |  |
|  | Longest Common Increasing Subsequence (LCS + LIS) |  |
|  | Printing Longest Common Subsequence | Set 2 (Printing All) |  |
|  | High-effort vs. Low-effort Tasks Problem |  |
|  | Find minimum adjustment cost of an array |  |
|  | Find Jobs involved in Weighted Job Scheduling |  |
|  | Minimum Cost To Make Two Strings Identical |  |
|  | Find number of times a string occurs as a subsequence in given string |  |
|  | Count digit groupings of a number with given constraints |  |
|  | Non-crossing lines to connect points in a circle |  |
|  | Count Distinct Subsequences |  |
|  | Find minimum sum such that one of every three consecutive elements is taken |  |
|  | Count distinct occurrences as a subsequence |  |
|  | Number of permutation with K inversions |  |
|  | Print all longest common sub-sequences in lexicographical order |  |
|  | Find all distinct subset (or subsequence) sums of an array |  |
|  | Count All Palindromic Subsequence in a given String |  |
|  | Maximum sum alternating subsequence |  |
|  | Sum of average of all subsets |  |
|  | Minimum and Maximum values of an expression with \* and + |  |
|  | Minimum sum subsequence such that at least one of every four consecutive elements is picked |  |
|  | Ways to write n as sum of two or more positive integers |  |
|  | Unbounded Knapsack (Repetition of items allowed) |  |
|  | Finding the maximum square sub-matrix with all equal elements |  |
|  | Find Maximum dot product of two arrays with insertion of 0’s |  |
|  | Maximum points collected by two persons allowed to meet once |  |
|  | Minimum Sum Path In 3-D Array |  |
|  | Count binary strings with k times appearing adjacent two set bits |  |
|  | Highway Billboard Problem |  |
|  | Probability of getting at least K heads in N tosses of Coins |  |
|  | Count of strings that can be formed using a, b and c under given constraints |  |
|  | Modify array to maximize sum of adjacent differences |  |
|  | Temple Offerings |  |
|  | Longest alternating subsequence |  |
|  | Minimum steps to delete a string after repeated deletion of palindrome substrings |  |
|  | Minimum number of deletions to make a sorted sequence |  |
|  | Count number of ways to jump to reach end |  |
|  | Shortest Uncommon Subsequence |  |
|  | Minimum insertions to sort an array |  |
|  | Building Bridges |  |
|  | Palindrome Partitioning |  |
|  | Word Wrap Problem |  |
|  | Maximum sum rectangle in a 2D matrix |  |
|  | Matrix Chain Multiplication |  |
|  | Longest Geometric Progression |  |
|  | Find all combinations of k-bit numbers with n bits set where 1 <= n <= k in sorted order |  |
|  | Find if a string is interleaved of two other strings |  |
|  | Longest Arithmetic Progression |  |
|  | Boolean Parenthesization Problem |  |
|  | Mobile Numeric Keypad Problem |  |
|  | Minimum Cost Polygon Triangulation |  |
|  | How to print maximum number of A’s using given four keys |  |
|  | Smallest length string with repeated replacement of two distinct adjacent |  |
|  | Collect maximum points in a grid using two traversals |  |
|  | Maximum weight transformation of a given string |  |
|  | Find minimum possible size of array with given rules for removing elements |  |
|  | Maximum profit by buying and selling a share at most k times |  |
|  | Number of subsequences in a string divisible by n |  |
|  | Maximize arr[j] – arr[i] + arr[l] – arr[k], such that i < j < k < l |  |
|  | A Space Optimized DP solution for 0-1 Knapsack Problem |  |
|  | Longest repeating and non-overlapping substring |  |
|  | All ways to add parenthesis for evaluation |  |
|  | Number of palindromic paths in a matrix |  |
|  | Minimum cost to sort strings using reversal operations of different costs |  |
|  | Minimum number of elements which are not part of Increasing or decreasing subsequence in array |  |
|  | Printing brackets in Matrix Chain Multiplication Problem |  |
|  | Check if all people can vote on two machines |  |
|  | Probability of Knight to remain in the chessboard |  |
|  | Count of AP (Arithmetic Progression) Subsequences in an array |  |
|  | Number of subsequences of the form a^i b^j c^k |  |
|  | Count ways to increase LCS length of two strings by one |  |
|  | Count of arrays in which all adjacent elements are such that one of them divide the another |  |
|  | Check whether row or column swaps produce maximum size binary sub-matrix with all 1s |  |
|  | Pizza Mania |  |
|  | Count of Palindromic substrings in an Index range |  |
|  | Find if string is K-Palindrome or not |  |
|  | Close to Perfection |  |
|  | Lets play a Game |  |
|  | Recurrence Matrix |  |
|  | Geek and its Game of Coins |  |
|  | Maximum Tip Calculator |  |
|  | Special Numbers |  |
|  | Chicks in a Zoo |  |
|  | Minimum Deletions |  |
|  | Matrix Chain Multiplication |  |
|  | Brackets in Matrix Chain Multiplication |  |
|  | Convert to Strictly increasing array |  |
|  | Minimum number of deletions and insertions. |  |
|  | Minimum insertions to sort an array |  |
|  | Count the number of ways to tile the floor of size n x m using 1 x m size tiles |  |
|  | Minimum number of deletions to make a sorted sequence |  |
|  | Minimum steps to delete a string |  |
|  | Minimum steps to minimize n as per given condition |  |
|  | Minimum number of deletions. |  |
|  | Ways to sum to N |  |
|  | Modify array to maximize sum of adjacent differences |  |
|  | Number of substrings divisible by 8 but not by 3 |  |
|  | Subset with sum divisible by m |  |
|  | Count ways to increase LCS length of two strings by one |  |
|  | Count of strings that can be formed using a, b and c under given constraints |  |
|  | Number of subsequences in a string divisible by n |  |
|  | Shortest Uncommon Subsequence |  |
|  | Size of array after repeated deletion of LIS |  |
|  | Find number of times a string occurs as a subsequence |  |
|  | Minimum Cost To Make Two Strings Identical |  |
|  | Printing Maximum Sum Increasing Subsequence |  |
|  | Find minimum adjustment cost of an array |  |
|  | High-effort vs. Low-effort |  |
|  | Minimum cost to fill given weight in a bag |  |
|  | Longest Repeating Subsequence |  |
|  | Bell Numbers |  |
|  | Count even length |  |
|  | Maximum weight transformation of a given string |  |
|  | Compute sum of digits in all numbers from 1 to n |  |
|  | Total number of non-decreasing numbers with n digits |  |
|  | Longest Zig-Zag Sub Sequence |  |
|  | Stickler Thief |  |
|  | Non-decreasing subsequence |  |
|  | Longest alternating subsequence |  |
|  | Find length of longest subsequence |  |
|  | Count binary strings |  |
|  | Probability of Knight |  |
|  | Ways to write n as sum |  |
|  | Find all distinct subset (or subsequence) sums |  |
|  | LCS of three strings |  |
|  | Longest subsequence-1 |  |
|  | Sum of average of all subsets |  |
|  | Maximum sum Problem |  |
|  | Number of permutation with K inversions |  |
|  | Count digit groupings of a number |  |
|  | Longest repeating and non-overlapping substring |  |
|  | Distinct palindromic substrings |  |
|  | Number of palindromic strings |  |
|  | Broken blocks |  |
|  | Two water Jug problem |  |
|  | Count possible ways to construct buildings |  |
|  | Painting the Fence |  |
|  | Min cut Square |  |
|  | Count all possible paths from top left to bottom right |  |
|  | Minimum number of elements |  |
|  | Shortest Common Supersequence |  |
|  | Perfect Sum Problem |  |
|  | Longest Path in a matrix |  |
|  | Minimum Time |  |
|  | Get Minimum Squares |  |
|  | Word Wrap |  |
|  | Paths to reach origin |  |
|  | Pyramid form |  |
|  | Little Murph and knots |  |
|  | Mobile numeric keypad |  |
|  | Longest Bitonic subsequence |  |
|  | Largest Sum Subarray of Size at least K |  |
|  | Optimal binary search tree |  |
|  | Count numbers containing 4 |  |
|  | Minimum Cost Path |  |
|  | Rod Cutting |  |
|  | Longest Palindromic Subsequence |  |
|  | Floyd Warshall |  |
|  | Minimum number of steps to reach a given number. |  |
|  | Increasing Sub Sequence |  |
|  | Geeky Year |  |
|  | Water Overflow |  |
|  | Count in array |  |
|  | Matrix Exponentiation |  |
|  | Temple Offerings |  |
|  | Largest zigzag sequence |  |
|  | Minimum Operations |  |
|  | Count subsequences of type a^i b^j c^k |  |
|  | Travelling Salesman Problem |  |
|  | Sum of all substrings of a number |  |
|  | Gold Mine Problem |  |
|  | Friends Pairing Problem |  |
|  | Max absolute difference |  |
|  | Count of AP Subsequences |  |
|  | Substring - Subsequence problem |  |
|  | Knapsack with Duplicate Items |  |
|  | Maximum Sum Bitonic Subsequence |  |
|  | Tricky Subset Problem |  |
|  | Minimum Steps |  |
|  | Count Palindrome Sub-Strings of a String |  |
|  | Mr. Binary |  |
|  | Padovan Sequence |  |
|  | Pairs with specific difference |  |
|  | Lucas Number |  |
|  | Adding Ones |  |
|  | Print all LCS sequences |  |
|  | Longest Common Substring |  |
|  | Letter Writer |  |
|  | Count Increasing Subsequences |  |
|  | Maximum calorie |  |
|  | Optimal walk |  |
|  | Maximize Dot Product |  |
|  | Flip Bits |  |
|  | Taking 1 out of 3 consecutives |  |
|  | Maximum Profit |  |
|  | Word Break |  |
|  | Distinct Transformations |  |
|  | Longest valid Parentheses |  |
|  | Unique BST's |  |
|  | Boolean Parenthesization |  |
|  | Total Decoding Messages |  |
|  | Maximum value |  |
|  | Number Formation |  |
|  | Queries on Strings |  |
|  | Composite and Prime |  |
|  | Pick values |  |
|  | Special Matrix |  |
|  | Unique partitions |  |
|  | Number of distinct subsequences |  |
|  | Cutted Segments |  |
|  | Maximum Number of 1s |  |
|  | Skip the work |  |
|  | 0 - 1 Knapsack Problem |  |
|  | Longest Common Increasing Subsequence |  |
|  | Palindromic Strings |  |
|  | Reach a given score |  |
|  | Max possible amount |  |
|  | Maximum Collatz sequence length |  |
|  | Jumbled Strings |  |
|  | Subsets with XOR value |  |
|  | Max rope cutting |  |
|  | Longest Arithmetic Progression |  |
|  | Maximum Sum Subsequence of length k |  |
|  | Count number of hops |  |
|  | Adjacents are not allowed |  |
|  | Reach the Nth point |  |
|  | Form a palindrome |  |
|  | Number of ways |  |
|  | Special Keyboard |  |
|  | Maximum sum increasing subsequence |  |
|  | Largest square formed in a matrix |  |
|  | Sum of Query I |  |
|  | Number of Coins |  |
|  | Path in Matrix |  |
|  | Count of Subarrays |  |
|  | Consecutive 1's not allowed |  |
|  | Min Coin |  |
|  | nCr |  |
|  | Minimum sum partition |  |
|  | Edit Distance |  |
|  | Count of n digit numbers whose sum of digits equals to given sum |  |
|  | Egg Dropping Puzzle |  |
|  | Count ways to N'th Stair(Order does not matter) |  |
|  | Count ways to reach the n’th stair |  |
|  | Minimum number of jumps |  |
|  | Longest Common Subsequence |  |
|  | Longest Increasing Subsequence |  |
|  | Number of Unique Paths |  |
|  | Kadane's Algorithm |  |
|  | Minimum Points To Reach Destination |  |
|  | Coin Change |  |
|  | Largest Independent Set Problem |  |
|  | Minimum four sum subsequence |  |
|  | Pots of Gold Game |  |
|  | Max sum subarray by removing at most one element |  |
|  | Partition array to K subsets |  |
|  | Count Palindromic Subsequences |  |
|  | You and your books |  |
|  | Box Stacking |  |
|  | Interleaved Strings |  |
|  | Max length chain |  |
|  | Distinct occurrences |  |
|  | Wildcard Pattern Matching |  |
|  | K-Palindrome |  |
|  | Python Pulp Mixed Integer Linear Programming with Spatial constraints (Neighbors connectivity and In |  |
|  | WAP to print the LCS |  |
|  | Who will win? |  |
|  | Find number of ways to visit n-1 cities one by one. |  |
|  | Dot Product |  |
|  | Longest increasing sub-sequence |  |
|  | Kandane’s Algorithm. |  |
|  | Integer kanpsack and fractional knapsack |  |
|  | Knap Sack Poblem |  |