

# Dynamic Programming Questions:

- How to solve a Dynamic Programming Problem ?

[Practice here: <https://www.geeksforgeeks.org/solve-dynamic-programming-problem/> ]

- Binomial Coefficient Problem

[Practice here:

<https://practice.geeksforgeeks.org/problems/ncr/0> ]

- Permutation Coefficient Problem

[Practice here: <https://www.geeksforgeeks.org/permutation-coefficient/> ]

- Coin Change Problem

[Practice here:

<https://practice.geeksforgeeks.org/problems/coin-change/0> ]

- Gold Mine Problem

[Practice here:

<https://practice.geeksforgeeks.org/problems/gold-mine-problem/0> ]

- Friends Pairing Problem

[Practice here:

<https://practice.geeksforgeeks.org/problems/friends-pairing-problem/0> ]

- Subset Sum Problem

[Practice here:

<https://practice.geeksforgeeks.org/problems/subset-sum-problem/0> ]

- Program for nth Catalan Number

[Practice here: <https://practice.geeksforgeeks.org/problems/nth-catalan-number/0> ]

- Maximize The Cut Segments

[Practice here:

<https://practice.geeksforgeeks.org/problems/cutted-segments/0>

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- Painting the Fence problem

[Practice here:

<https://practice.geeksforgeeks.org/problems/painting-the-fence/0> ]

- Assembly Line Scheduling Problem

[Practice here: <https://www.geeksforgeeks.org/assembly-line-scheduling-dp-34/> ]

- Find maximum length Snake sequence

[Practice here: <https://www.geeksforgeeks.org/find-maximum-length-snake-sequence/> ]

- Print Fibonacci Series in reverse order

[Practice here: <https://www.geeksforgeeks.org/print-fibonacci-series-reverse-order/> ]

- Longest Common Subsequence

[Practice here:

<https://practice.geeksforgeeks.org/problems/longest-common-subsequence/0> ]

- Longest Repeated Subsequence

[Practice here:

<https://practice.geeksforgeeks.org/problems/longest-repeating-subsequence/0> ]

- Longest Increasing Subsequence

[Practice here:

<https://practice.geeksforgeeks.org/problems/longest-increasing-subsequence/0> ]

- Space Optimized Solution of LCS

[See here: <https://www.geeksforgeeks.org/space-optimized-solution-lcs/> ]

- LCS (Longest Common Subsequence) of three strings

[Practice here: <https://practice.geeksforgeeks.org/problems/lcs-of-three-strings/0> ]

- Maximum Sum Increasing Subsequence

[Practice here:

<https://practice.geeksforgeeks.org/problems/maximum-sum-increasing-subsequence/0> ]

- Count all subsequences having product less than K

[Practice here: <https://www.geeksforgeeks.org/count-subsequences-product-less-k/> ]

- Longest subsequence such that difference between adjacent is one

[Practice here:

<https://practice.geeksforgeeks.org/problems/longest-subsequence-such-that-difference-between-adjacents-is-one/0> ]

- Maximum subsequence sum such that no three are consecutive

[Practice here: <https://www.geeksforgeeks.org/maximum-subsequence-sum-such-that-no-three-are-consecutive/> ]

- Maximum Length Chain of Pairs

[Practice here:

<https://practice.geeksforgeeks.org/problems/max-length-chain/1> ]

- Minimum Sum Path in a Triangle

[Practice here: <https://www.geeksforgeeks.org/minimum-sum-path-triangle/> ]

- Maximum size square sub-matrix with all 1s

[Practice here:

<https://practice.geeksforgeeks.org/problems/largest-square-formed-in-a-matrix/0> ]

- Maximum sum of pairs with specific difference

[Practice here:

<https://practice.geeksforgeeks.org/problems/pairs-with-specific-difference/0> ]

- Maximum difference of zeros and ones in binary string

[Practice here: <https://www.geeksforgeeks.org/maximum-difference-zeros-ones-binary-string-set-2-time/> ]

- Min Cost Path Problem

[Practice here:

<https://practice.geeksforgeeks.org/problems/path-in-matrix/0> ]

- Minimum number of jumps to reach end

[Practice here:

<https://practice.geeksforgeeks.org/problems/minimum-number-of-jumps/0> ]

- Minimum cost to fill given weight in a bag

[Practice here:

<https://practice.geeksforgeeks.org/problems/minimum-cost-to-fill-given-weight-in-a-bag/0> ]

- Minimum removals from array to make  $\text{max} - \text{min} \leq K$   
[Practice here: <https://www.geeksforgeeks.org/minimum-removals-array-make-max-min-k/> ]

- Edit Distance  
[Practice here: <https://practice.geeksforgeeks.org/problems/edit-distance/0> ]

- Minimum time to write characters using insert, delete and copy operation  
[Practice here: <https://practice.geeksforgeeks.org/problems/minimum-time/0> ]

- Longest Common Substring  
[Practice here: <https://practice.geeksforgeeks.org/problems/longest-common-substring/0> ]

- Count number of ways to reach a given score in a game  
[Practice here: <https://practice.geeksforgeeks.org/problems/reach-a-given-score/0> ]

- Count number of ways to cover a distance  
[Practice here: <https://practice.geeksforgeeks.org/problems/count-number-of-hops/0> ]

- Count Balanced Binary Trees of Height  $h$   
[Practice here: <https://practice.geeksforgeeks.org/problems/bbt-counter/0> ]

- Count ways to divide circle using  $N$  non-intersecting chords  
[Practice here: <https://www.geeksforgeeks.org/count-ways-divide-circle-using-n-non-intersecting-chords/> ]

- Largest Sum Contiguous Subarray

[Practice here:

<https://practice.geeksforgeeks.org/problems/kadanes-algorithm/0> ]

- Smallest sum contiguous subarray

[Practice here: <https://www.geeksforgeeks.org/smallest-sum-contiguous-subarray/> ]

- Unbounded Knapsack (Repetition of items allowed)

[Practice

here: <https://practice.geeksforgeeks.org/problems/knapsack-with-duplicate-items/0> ]

- Egg Dropping Puzzle

[Practice here: <https://practice.geeksforgeeks.org/problems/egg-dropping-puzzle/0> ]

- Word Break Problem

[Practice here:

<https://practice.geeksforgeeks.org/problems/word-break/0> ]

- Vertex Cover Problem

[Practice here: <https://www.geeksforgeeks.org/vertex-cover-problem-set-2-dynamic-programming-solution-tree/> ]

- Tile Stacking Problem

[Practice here: <https://www.geeksforgeeks.org/tile-stacking-problem/> ]

- Largest Independent Set Problem

[Practice here: <https://www.geeksforgeeks.org/largest-independent-set-problem-dp-26/> ]

- Partition problem

[Practice here: <https://www.geeksforgeeks.org/partition-problem-dp-18/> ]

- Travelling Salesman Problem

[Practice here: <https://www.geeksforgeeks.org/travelling-salesman-problem-set-1/> ]

- Longest Palindromic Subsequence

[Practice here: <https://www.geeksforgeeks.org/longest-palindromic-subsequence-dp-12/> ]

- Count All Palindromic Subsequence in a given String

[Practice here: <https://practice.geeksforgeeks.org/problems/count-palindromic-subsequences/1> ]

- Longest Palindromic Substring

[Practice here: <https://practice.geeksforgeeks.org/problems/longest-palindrome-in-a-string/0> ]

- Longest alternating subsequence

[Practice here: <https://practice.geeksforgeeks.org/problems/longest-alternating-subsequence/0> ]

- Weighted Job Scheduling

[Practice here: <https://www.geeksforgeeks.org/weighted-job-scheduling/> ]

- Coin game winner where every player has three choices

[Practice here: <https://www.geeksforgeeks.org/coin-game-winner-every-player-three-choices/> ]

- Count Derangements (Permutation such that no element appears in its original position)

[Practice here:

<https://practice.geeksforgeeks.org/problems/dearrangement-of-balls/0> ]

- Maximum subarray sum in  $O(n)$  using prefix sum

[Practice here: <https://www.geeksforgeeks.org/maximum-subarray-sum-using-prefix-sum/> ]

- Maximum profit by buying and selling a share at most twice

[Practice here: <https://www.geeksforgeeks.org/maximum-profit-by-buying-and-selling-a-share-at-most-twice/> ]

- Find if string is K-Palindrome or not

[Practice here: <https://practice.geeksforgeeks.org/problems/k-palindrome/1> ]

- Wildcard Pattern Matching

[Practice here:

<https://practice.geeksforgeeks.org/problems/wildcard-pattern-matching/1> ]

- Optimal Strategy for a Game

[Practice here:

<https://practice.geeksforgeeks.org/problems/optimal-strategy-for-a-game/0> ]

- Optimal Binary Search Tree

[Practice here: <https://www.geeksforgeeks.org/optimal-binary-search-tree-dp-24/> ]

- Number of ordered pairs such that  $(A_i \& A_j) = 0$

[Practice here: <https://www.geeksforgeeks.org/number-ordered-pairs-ai-aj-0/> ]



- Palindrome Partitioning Problem

[Practice here:

<https://practice.geeksforgeeks.org/problems/palindromic-partitioning/0> ]

- Word Wrap Problem

[Practice here:

<https://practice.geeksforgeeks.org/problems/word-wrap/0> ]

- Mobile Numeric Keypad Problem

[Practice here:

<https://practice.geeksforgeeks.org/problems/mobile-numeric-keypad/0> ]

- The painter's partition problem

[Practice here:

<https://practice.geeksforgeeks.org/problems/allocate-minimum-number-of-pages/0> ]

- Boolean Parenthesization Problem

[Practice here:

<https://practice.geeksforgeeks.org/problems/boolean-parenthesization/0> ]

- Largest rectangular sub-matrix whose sum is 0

[Practice here: <https://www.geeksforgeeks.org/largest-rectangular-sub-matrix-whose-sum-0/> ]

- Largest area rectangular sub-matrix with equal number of 1's and 0's

[Practice here: <https://www.geeksforgeeks.org/largest-area-rectangular-sub-matrix-equal-number-1s-0s/> ]

- Maximum sum rectangle in a 2D matrix

[Practice here:

<https://practice.geeksforgeeks.org/problems/maximum-sum-rectangle/0> ]

- Maximum weight transformation of a given string

[Practice here: <https://www.geeksforgeeks.org/maximum-weight-transformation-of-a-given-string/> ]

- Maximum profit by buying and selling a share at most k times

[Practice here:

<https://practice.geeksforgeeks.org/problems/maximum-profit/0> ]

- Probability of Knight to remain in the chessboard

[Practice here:

<https://practice.geeksforgeeks.org/problems/probability-of-knight/0> ]

- Find if a string is interleaved of two other strings

[Practice here:

<https://practice.geeksforgeeks.org/problems/interleaved-strings/1> ]

- Maximum Product Cutting

[Practice here: <https://www.geeksforgeeks.org/maximum-product-cutting-dp-36/> ]