# Dynamic Programming

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3. [Digit DP | Introduction](https://www.geeksforgeeks.org/digit-dp-introduction/)

**Basic Problems :**

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3. [nth Catalan Number](https://www.geeksforgeeks.org/program-nth-catalan-number/)
4. [Bell Numbers (Number of ways to Partition a Set)](https://www.geeksforgeeks.org/bell-numbers-number-of-ways-to-partition-a-set/)
5. [Binomial Coefficient](https://www.geeksforgeeks.org/dynamic-programming-set-9-binomial-coefficient/)
6. [Permutation Coefficient](https://www.geeksforgeeks.org/permutation-coefficient/)
7. [Tiling Problem](https://www.geeksforgeeks.org/tiling-problem/)
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9. [Coin change problem](https://www.geeksforgeeks.org/dynamic-programming-set-7-coin-change/)
10. [Friends Pairing Problem](https://www.geeksforgeeks.org/friends-pairing-problem/)
11. [Subset Sum Problem](https://www.geeksforgeeks.org/dynamic-programming-subset-sum-problem/)
12. [Subset Sum Problem in O(sum) space](https://www.geeksforgeeks.org/subset-sum-problem-osum-space/)
13. [Subset with sum divisible by m](https://www.geeksforgeeks.org/subset-sum-divisible-m/)
14. [Largest divisible pairs subset](https://www.geeksforgeeks.org/largest-divisible-pairs-subset/)
15. [Perfect Sum Problem (Print all subsets with given sum)](https://www.geeksforgeeks.org/perfect-sum-problem-print-subsets-given-sum/)
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25. [Newman-Conway Sequence](https://www.geeksforgeeks.org/newman-conway-sequence/)
26. [Find maximum length Snake sequence](https://www.geeksforgeeks.org/find-maximum-length-snake-sequence/)
27. [Print n terms of Newman-Conway Sequence](https://www.geeksforgeeks.org/print-n-terms-newman-conway-sequence/)
28. [Print Fibonacci sequence using 2 variables](https://www.geeksforgeeks.org/print-fibonacci-sequence-using-2-variables/)
29. [Print Fibonacci Series in reverse order](https://www.geeksforgeeks.org/print-fibonacci-series-reverse-order/)
30. [Count even length binary sequences with same sum of first and second half bits](https://www.geeksforgeeks.org/count-even-length-binary-sequences-with-same-sum-of-first-and-second-half-bits/)
31. [Sequences of given length where every element is more than or equal to twice of previous](https://www.geeksforgeeks.org/sequences-given-length-every-element-equal-twice-previous/)
32. [Longest Common Subsequence](https://www.geeksforgeeks.org/longest-common-subsequence/)
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36. [LCS (Longest Common Subsequence) of three strings](https://www.geeksforgeeks.org/lcs-longest-common-subsequence-three-strings/)
37. [Maximum sum Bi-tonic Sub-sequence](https://www.geeksforgeeks.org/maximum-sum-bi-tonic-sub-sequence/)
38. [Maximum Sum Increasing Subsequence](https://www.geeksforgeeks.org/dynamic-programming-set-14-maximum-sum-increasing-subsequence/)
39. [Maximum product of an increasing subsequence](https://www.geeksforgeeks.org/maximum-product-increasing-subsequence/)
40. [Count all subsequences having product less than K](https://www.geeksforgeeks.org/count-subsequences-product-less-k/)
41. [Maximum subsequence sum such that no three are consecutive](https://www.geeksforgeeks.org/maximum-subsequence-sum-such-that-no-three-are-consecutive/)
42. [Longest subsequence such that difference between adjacents is one](https://www.geeksforgeeks.org/longest-subsequence-such-that-difference-between-adjacents-is-one/)
43. [Maximum length subsequence with difference between adjacent elements as either 0 or 1](https://www.geeksforgeeks.org/maximum-length-subsequence-difference-adjacent-elements-either-0-1/)
44. [Maximum sum increasing subsequence from a prefix and a given element after prefix is must](https://www.geeksforgeeks.org/maximum-sum-increasing-subsequence-from-a-prefix-and-a-given-element-after-prefix-is-must/)

1. [Maximum Length Chain of Pairs](https://www.geeksforgeeks.org/dynamic-programming-set-20-maximum-length-chain-of-pairs/)
2. [Print Maximum Length Chain of Pairs](https://www.geeksforgeeks.org/print-maximum-length-chain-of-pairs/)
3. [Path with maximum average value](https://www.geeksforgeeks.org/path-maximum-average-value/)
4. [Maximum games played by winner](https://www.geeksforgeeks.org/maximum-games-played-winner/)
5. [Maximum path sum in a triangle](https://www.geeksforgeeks.org/maximum-path-sum-triangle/)
6. [Minimum Sum Path in a Triangle](https://www.geeksforgeeks.org/minimum-sum-path-triangle/)
7. [Maximum sum of a path in a Right Number Triangle](https://www.geeksforgeeks.org/maximum-sum-path-right-number-triangle/)
8. [Size of The Subarray With Maximum Sum](https://www.geeksforgeeks.org/size-subarray-maximum-sum/)
9. [Maximum sum of pairs with specific difference](https://www.geeksforgeeks.org/maximum-sum-pairs-specific-difference/)
10. [Maximum size square sub-matrix with all 1s](https://www.geeksforgeeks.org/maximum-size-sub-matrix-with-all-1s-in-a-binary-matrix/)
11. [Maximum number of segments of lengths a, b and c](https://www.geeksforgeeks.org/maximum-number-segments-lengths-b-c/)
12. [Recursively break a number in 3 parts to get maximum sum](https://www.geeksforgeeks.org/recursively-break-number-3-parts-get-maximum-sum/)
13. [Maximum value with the choice of either dividing or considering as it is](https://www.geeksforgeeks.org/maximum-value-choice-either-dividing-considering/)
14. [Maximum weight path ending at any element of last row in a matrix](https://www.geeksforgeeks.org/maximum-weight-path-ending-element-last-row-matrix/)
15. [Maximum sum in a 2 x n grid such that no two elements are adjacent](https://www.geeksforgeeks.org/maximum-sum-2-x-n-grid-no-two-elements-adjacent/)
16. [Maximum difference of zeros and ones in binary string | Set 2 (O(n) time)](https://www.geeksforgeeks.org/maximum-difference-zeros-ones-binary-string-set-2-time/)
17. [Maximum path sum for each position with jumps under divisibility condition](https://www.geeksforgeeks.org/maximum-path-sum-position-jumps-divisibility-condition/)
18. [Maximize the sum of selected numbers from an array to make it empty](https://www.geeksforgeeks.org/maximize-sum-selected-numbers-performing-following-operation/)
19. [Maximum subarray sum in an array created after repeated concatenation](https://www.geeksforgeeks.org/maximum-subarray-sum-array-created-repeated-concatenation/)
20. [Maximum path sum that starting with any cell of 0-th row and ending with any cell of (N-1)-th row](https://www.geeksforgeeks.org/maximum-path-sum-starting-cell-0-th-row-ending-cell-n-1-th-row/)
21. [Min Cost Path](https://www.geeksforgeeks.org/dynamic-programming-set-6-min-cost-path/)
22. [Minimum number of jumps to reach end](https://www.geeksforgeeks.org/minimum-number-of-jumps-to-reach-end-of-a-given-array/)
23. [Minimum cost to fill given weight in a bag](https://www.geeksforgeeks.org/minimum-cost-to-fill-given-weight-in-a-bag/)
24. [Minimum sum of multiplications of n numbers](https://www.geeksforgeeks.org/minimum-sum-of-multiplications-of-n-numbers/)
25. [Minimum removals from array to make max – min <= K](https://www.geeksforgeeks.org/minimum-removals-array-make-max-min-k/)
26. [Minimum steps to minimize n as per given condition](https://www.geeksforgeeks.org/minimum-steps-minimize-n-per-given-condition/)
27. [Minimum number of edits ( operations ) require to convert string 1 to string 2](https://www.geeksforgeeks.org/dynamic-programming-set-5-edit-distance/)
28. [Minimum time to write characters using insert, delete and copy operation](https://www.geeksforgeeks.org/minimum-time-write-characters-using-insert-delete-copy-operation/)
29. [Longest Common Substring](https://www.geeksforgeeks.org/longest-common-substring/)
30. [Longest Common Substring (Space optimized DP solution)](https://www.geeksforgeeks.org/longest-common-substring-space-optimized-dp-solution/)
31. [Sum of all substrings of a string representing a number | Set 1](https://www.geeksforgeeks.org/sum-of-all-substrings-of-a-string-representing-a-number/)
32. [Find number of endless points](https://www.geeksforgeeks.org/find-number-endless-points/)
33. [Find n-th element from Stern’s Diatomic Series](https://www.geeksforgeeks.org/find-n-th-element-from-sterns-diatomic-series/)
34. [Find maximum possible stolen value from houses](https://www.geeksforgeeks.org/find-maximum-possible-stolen-value-houses/)
35. [Find number of solutions of a linear equation of n variables](https://www.geeksforgeeks.org/find-number-of-solutions-of-a-linear-equation-of-n-variables/)
36. [Count number of ways to reach a given score in a game](https://www.geeksforgeeks.org/count-number-ways-reach-given-score-game/)
37. [Count ways to reach the nth stair using step 1, 2 or 3](https://www.geeksforgeeks.org/count-ways-reach-nth-stair-using-step-1-2-3/)
38. [Count of different ways to express N as the sum of 1, 3 and 4](https://www.geeksforgeeks.org/count-ofdifferent-ways-express-n-sum-1-3-4/)
39. [Count ways to build street under given constraints](https://www.geeksforgeeks.org/count-ways-build-street-given-constraints/)
40. [Count Balanced Binary Trees of Height h](https://www.geeksforgeeks.org/count-balanced-binary-trees-height-h/)
41. [Counting pairs when a person can form pair with at most one](https://www.geeksforgeeks.org/counting-pairs-person-can-form-pair-one/)
42. [Counts paths from a point to reach Origin](https://www.geeksforgeeks.org/counts-paths-point-reach-origin/)
43. [Count number of ways to cover a distance](https://www.geeksforgeeks.org/count-number-of-ways-to-cover-a-distance/)
44. [Count of arrays having consecutive element with different values](https://www.geeksforgeeks.org/count-arrays-consecutive-element-different-values/)
45. [Count ways to divide circle using N non-intersecting chords](https://www.geeksforgeeks.org/count-ways-divide-circle-using-n-non-intersecting-chords/)
46. [Count the number of ways to tile the floor of size n x m using 1 x m size tiles](https://www.geeksforgeeks.org/count-number-ways-tile-floor-size-n-x-m-using-1-x-m-size-tiles/)
47. [Count all possible paths from top left to bottom right of a mXn matrix](https://www.geeksforgeeks.org/count-possible-paths-top-left-bottom-right-nxm-matrix/)
48. [Count number of ways to fill a “n x 4” grid using “1 x 4” tiles](https://www.geeksforgeeks.org/count-number-of-ways-to-fill-a-n-x-4-grid-using-1-x-4-tiles/)
49. [Largest Sum Contiguous Subarray](https://www.geeksforgeeks.org/largest-sum-contiguous-subarray/)
50. [Smallest sum contiguous subarray](https://www.geeksforgeeks.org/smallest-sum-contiguous-subarray/)
51. [Size of array after repeated deletion of LIS](https://www.geeksforgeeks.org/size-array-repeated-deletion-lis/)
52. [Remove array end element to maximize the sum of product](https://www.geeksforgeeks.org/remove-array-end-element-maximize-sum-product/)
53. [Convert to Strictly increasing array with minimum changes](https://www.geeksforgeeks.org/convert-strictly-increasing-array-minimum-changes/)
54. [Longest alternating (positive and negative) subarray starting at every index](https://www.geeksforgeeks.org/longest-alternating-positive-negative-subarray-starting-every-index/)
55. [Ways to sum to N using array elements with repetition allowed](https://www.geeksforgeeks.org/ways-sum-n-using-array-elements-repetition-allowed/)
56. [Unique paths in a Grid with Obstacles](https://www.geeksforgeeks.org/unique-paths-in-a-grid-with-obstacles/)
57. [Number of n-digits non-decreasing integers](https://www.geeksforgeeks.org/number-n-digits-non-decreasing-integers/)
58. [Number of ways to arrange N items under given constraints](https://www.geeksforgeeks.org/number-of-ways-to-arrange-n-items-under-given-constraints/)
59. [Probability of reaching a point with 2 or 3 steps at a time](https://www.geeksforgeeks.org/probability-reaching-point-2-3-steps-time/)
60. [Value of continuous floor function : F(x) = F(floor(x/2)) + x](https://www.geeksforgeeks.org/value-continuous-floor-function-fx-ffloorx2-x/)
61. [Number of decimal numbers of length k, that are strict monotone](https://www.geeksforgeeks.org/number-decimal-numbers-length-k-strict-monotone/)
62. [Different ways to sum n using numbers greater than or equal to m](https://www.geeksforgeeks.org/different-ways-sum-n-using-numbers-greater-equal-m/)

**Intermediate Problems :**

1. [Lobb Number](https://www.geeksforgeeks.org/lobb-number/)
2. [Eulerian Number](https://www.geeksforgeeks.org/eulerian-number/)
3. [Delannoy Number](https://www.geeksforgeeks.org/delannoy-number/)
4. [Entringer Number](https://www.geeksforgeeks.org/entringer-number/)
5. [Rencontres Number](https://www.geeksforgeeks.org/rencontres-number-counting-partial-derangements/)
6. [Jacobsthal and Jacobsthal-Lucas numbers](https://www.geeksforgeeks.org/jacobsthal-and-jacobsthal-lucas-numbers/)
7. [Super Ugly Number (Number whose prime factors are in given set)](https://www.geeksforgeeks.org/super-ugly-number-number-whose-prime-factors-given-set/)
8. [Floyd Warshall Algorithm](https://www.geeksforgeeks.org/dynamic-programming-set-16-floyd-warshall-algorithm/)
9. [Bellman–Ford Algorithm](https://www.geeksforgeeks.org/dynamic-programming-set-23-bellman-ford-algorithm/)
10. [0-1 Knapsack Problem](https://www.geeksforgeeks.org/knapsack-problem/)
11. [Printing Items in 0/1 Knapsack](https://www.geeksforgeeks.org/printing-items-01-knapsack/)
12. [Unbounded Knapsack (Repetition of items allowed)](https://www.geeksforgeeks.org/unbounded-knapsack-repetition-items-allowed/)
13. [Temple Offerings](https://www.geeksforgeeks.org/temple-offerings/)
14. [Egg Dropping Puzzle](https://www.geeksforgeeks.org/dynamic-programming-set-11-egg-dropping-puzzle/)
15. [Dice Throw Problem](https://www.geeksforgeeks.org/dice-throw-problem/)
16. [Word Break Problem](https://www.geeksforgeeks.org/dynamic-programming-set-32-word-break-problem/)
17. [Vertex Cover Problem](https://www.geeksforgeeks.org/vertex-cover-problem-set-2-dynamic-programming-solution-tree/)
18. [Tile Stacking Problem](https://www.geeksforgeeks.org/tile-stacking-problem/)
19. [Box-Stacking Problem](https://www.geeksforgeeks.org/dynamic-programming-set-21-box-stacking-problem/)
20. [Highway Billboard Problem](https://www.geeksforgeeks.org/highway-billboard-problem/)
21. [Largest Independent Set Problem](https://www.geeksforgeeks.org/largest-independent-set-problem/)
22. [Partition Problem](https://www.geeksforgeeks.org/dynamic-programming-set-18-partition-problem/)
23. [Print equal sum sets of array (Partition problem) | Set 1](https://www.geeksforgeeks.org/print-equal-sum-sets-array-partition-problem/)
24. [Print equal sum sets of array (Partition Problem) | Set 2](https://www.geeksforgeeks.org/print-equal-sum-sets-array-partition-problem-set-2/)
25. [High-effort vs. Low-effort Tasks Problem](https://www.geeksforgeeks.org/dynamic-programming-high-effort-vs-low-effort-tasks-problem/)
26. [Travelling Salesman Problem | Set 1 (Naive and Dynamic Programming)](https://www.geeksforgeeks.org/travelling-salesman-problem-set-1/)
27. [Longest Bitonic Subsequence](https://www.geeksforgeeks.org/dynamic-programming-set-15-longest-bitonic-subsequence/)
28. [Printing Longest Bitonic Subsequence](https://www.geeksforgeeks.org/printing-longest-bitonic-subsequence/)
29. [Longest Palindromic Subsequence](https://www.geeksforgeeks.org/dynamic-programming-set-12-longest-palindromic-subsequence/)
30. [Print Longest Palindromic Subsequence](https://www.geeksforgeeks.org/print-longest-palindromic-subsequence/)
31. [Longest palindrome subsequence with O(n) space](https://www.geeksforgeeks.org/longest-palindrome-subsequence-space/)
32. [Count All Palindromic Subsequence in a given String](https://www.geeksforgeeks.org/count-palindromic-subsequence-given-string/)
33. [Longest Palindromic Substring | Set 1](https://www.geeksforgeeks.org/longest-palindrome-substring-set-1/)
34. [Count All Palindrome Sub-Strings in a String | Set 1](https://www.geeksforgeeks.org/count-palindrome-sub-strings-string/)
35. [Number of palindromic subsequences of length k](https://www.geeksforgeeks.org/number-palindromic-subsequences-length-k/)
36. [Count of Palindromic substrings in an Index range](https://www.geeksforgeeks.org/count-of-palindromic-substrings-in-an-index-range/)
37. [Shortest Common Supersequence](https://www.geeksforgeeks.org/shortest-common-supersequence/)
38. [Maximum sum alternating subsequence](https://www.geeksforgeeks.org/maximum-sum-alternating-subsequence-sum/)
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42. [Count Distinct Subsequences](https://www.geeksforgeeks.org/count-distinct-subsequences/)
43. [Count distinct occurrences as a subsequence](https://www.geeksforgeeks.org/count-distinct-occurrences-as-a-subsequence/)
44. [Longest Common Increasing Subsequence (LCS + LIS)](https://www.geeksforgeeks.org/longest-common-increasing-subsequence-lcs-lis/)
45. [Variations of LIS](https://www.geeksforgeeks.org/dynamic-programming-set-14-variations-of-lis/)
46. [LCS formed by consecutive segments of at least length K](https://www.geeksforgeeks.org/lcs-formed-consecutive-segments-least-length-k/)
47. [Printing Maximum Sum Increasing Subsequence](https://www.geeksforgeeks.org/printing-maximum-sum-increasing-subsequence/)
48. [Longest Increasing Odd Even Subsequence](https://www.geeksforgeeks.org/longest-increasing-odd-even-subsequence/)
49. [Count number of increasing subsequences of size k](https://www.geeksforgeeks.org/count-number-increasing-subsequences-size-k/)
50. [Printing longest Increasing consecutive subsequence](https://www.geeksforgeeks.org/printing-longest-increasing-consecutive-subsequence/)
51. [Construction of Longest Increasing Subsequence using Dynamic Programming](https://www.geeksforgeeks.org/construction-of-longest-increasing-subsequence-using-dynamic-programming/)
52. [Longest Zig-Zag Subsequence](https://www.geeksforgeeks.org/longest-zig-zag-subsequence/)
53. [Largest sum Zigzag sequence in a matrix](https://www.geeksforgeeks.org/largest-sum-zig-zag-sequence-in-a-matrix/)
54. [Find all distinct subset (or subsequence) sums of an array](https://www.geeksforgeeks.org/find-distinct-subset-subsequence-sums-array/)
55. [Print all longest common sub-sequences in lexicographical order](https://www.geeksforgeeks.org/print-longest-common-sub-sequences-lexicographical-order/)
56. [Printing Longest Common Subsequence | Set 2 (Printing All)](https://www.geeksforgeeks.org/printing-longest-common-subsequence-set-2-printing/)
57. [Length of Longest Balanced Subsequence](https://www.geeksforgeeks.org/length-longest-balanced-subsequence/)
58. [Non-decreasing subsequence of size k with minimum sum](https://www.geeksforgeeks.org/non-decreasing-subsequence-of-size-k-with-minimum-sum/)
59. [Longest Common Subsequence with at most k changes allowed](https://www.geeksforgeeks.org/longest-common-subsequence-with-at-most-k-changes-allowed/)
60. [Weighted job scheduling](https://www.geeksforgeeks.org/weighted-job-scheduling/)
61. [Weighted Job Scheduling | Set 2 (Using LIS)](https://www.geeksforgeeks.org/weighted-job-scheduling-set-2-using-lis/)
62. [Weighted Job Scheduling in O(n Log n) time](https://www.geeksforgeeks.org/weighted-job-scheduling-log-n-time/)
63. [Number of paths with exactly k coins](https://www.geeksforgeeks.org/number-of-paths-with-exactly-k-coins/)
64. [Minimum number of coins that make a given value](https://www.geeksforgeeks.org/find-minimum-number-of-coins-that-make-a-change/)
65. [Collect maximum coins before hitting a dead end](https://www.geeksforgeeks.org/collect-maximum-coins-before-hitting-a-dead-end/)
66. [Coin game winner where every player has three choices](https://www.geeksforgeeks.org/coin-game-winner-every-player-three-choices/)
67. [Probability of getting at least K heads in N tosses of Coins](https://www.geeksforgeeks.org/probability-getting-least-k-heads-n-tosses-coins/)
68. [Count all increasing subsequences](https://www.geeksforgeeks.org/count-all-increasing-subsequences/)
69. [Count number of paths with at-most k turns](https://www.geeksforgeeks.org/count-number-of-paths-with-k-turns/)
70. [Count possible ways to construct buildings](https://www.geeksforgeeks.org/count-possible-ways-to-construct-buildings/)
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72. [Count number of ways to reach destination in a Maze](https://www.geeksforgeeks.org/count-number-ways-reach-destination-maze/)
73. [Count all triplets whose sum is equal to a perfect cube](https://www.geeksforgeeks.org/count-triplets-whose-sum-equal-perfect-cube/)
74. [Count number of binary strings without consecutive 1’s](https://www.geeksforgeeks.org/count-number-binary-strings-without-consecutive-1s/)
75. [Count number of subsets having a particular XOR value](https://www.geeksforgeeks.org/count-number-of-subsets-having-a-particular-xor-value/)
76. [Count Possible Decodings of a given Digit Sequence](https://www.geeksforgeeks.org/count-possible-decodings-given-digit-sequence/)
77. [Count number of ways to partition a set into k subsets](https://www.geeksforgeeks.org/count-number-of-ways-to-partition-a-set-into-k-subsets/)
78. [Count of n digit numbers whose sum of digits equals to given sum](https://www.geeksforgeeks.org/count-of-n-digit-numbers-whose-sum-of-digits-equals-to-given-sum/)
79. [Count ways to assign unique cap to every person](https://www.geeksforgeeks.org/bitmasking-and-dynamic-programming-set-1-count-ways-to-assign-unique-cap-to-every-person/)
80. [Count binary strings with k times appearing adjacent two set bits](https://www.geeksforgeeks.org/count-binary-strings-k-times-appearing-adjacent-two-set-bits/)
81. [Count of strings that can be formed using a, b and c under given constraints](https://www.geeksforgeeks.org/count-strings-can-formed-using-b-c-given-constraints/)
82. [Count digit groupings of a number with given constraints](https://www.geeksforgeeks.org/count-groupings-number-sum-digits-every-sub-group-less-equals-immediate-right-sub-group/)
83. [Count all possible walks from a source to a destination with exactly k edges](https://www.geeksforgeeks.org/count-possible-paths-source-destination-exactly-k-edges/)
84. [Count Derangements (Permutation such that no element appears in its original position)](https://www.geeksforgeeks.org/count-derangements-permutation-such-that-no-element-appears-in-its-original-position/)
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86. [Maximum Product Cutting](https://www.geeksforgeeks.org/dynamic-programming-set-36-cut-a-rope-to-maximize-product/)
87. [Maximum profit from sale of wines](https://www.geeksforgeeks.org/maximum-profit-sale-wines/)
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89. [Maximum difference of zeros and ones in binary string](https://www.geeksforgeeks.org/maximum-difference-zeros-ones-binary-string/)
90. [Maximum and Minimum Values of an Algebraic Expression](https://www.geeksforgeeks.org/maximum-minimum-values-algebraic-expression/)
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92. [Maximize array elements upto given number](https://www.geeksforgeeks.org/maximize-array-elements-upto-given-number/)
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94. [Maximum sum subarray removing at most one element](https://www.geeksforgeeks.org/maximum-sum-subarray-removing-one-element/)
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96. [Maximum Product Subarray | Added negative product case](https://www.geeksforgeeks.org/maximum-product-subarray-added-negative-product-case/)
97. [Find maximum sum array of length less than or equal to m](https://www.geeksforgeeks.org/find-maximum-sum-array-length-less-equal-m/)
98. [Find Maximum dot product of two arrays with insertion of 0’s](https://www.geeksforgeeks.org/find-maximum-dot-product-two-arrays-insertion-0s/)
99. [Choose maximum weight with given weight and value ratio](https://www.geeksforgeeks.org/choose-maximum-weight-given-weight-value-ratio/)
100. [Maximum sum subsequence with at-least k distant elements](https://www.geeksforgeeks.org/maximum-sum-subsequence-least-k-distant-elements/)
101. [Maximum profit by buying and selling a share at most twice](https://www.geeksforgeeks.org/maximum-profit-by-buying-and-selling-a-share-at-most-twice/)
102. [Maximum sum path in a matrix from top to bottom](https://www.geeksforgeeks.org/maximum-sum-path-matrix-top-bottom/)
103. [Maximum decimal value path in a binary matrix](https://www.geeksforgeeks.org/maximum-decimal-value-path-in-a-binary-matrix/)
104. [Finding the maximum square sub-matrix with all equal elements](https://www.geeksforgeeks.org/finding-the-maximum-square-sub-matrix-with-all-equal-elements/)
105. [Maximum points collected by two persons allowed to meet once](https://www.geeksforgeeks.org/maximum-points-collected-by-two-persons-allowed-to-meet-once/)
106. [Maximum number of trailing zeros in the product of the subsets of size k](https://www.geeksforgeeks.org/maximum-number-of-trailing-zeros-in-the-product-of-the-subsets-of-size-k/)
107. [Minimum Sum Path In 3-D Array](https://www.geeksforgeeks.org/minimum-sum-path-3-d-array/)
108. [Minimum insertions to sort an array](https://www.geeksforgeeks.org/minimum-insertions-sort-array/)
109. [Minimum sum submatrix in a given 2D array](https://www.geeksforgeeks.org/minimum-sum-submatrix-given-2d-array/)
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111. [Minimum Cost To Make Two Strings Identical](https://www.geeksforgeeks.org/minimum-cost-make-two-strings-identical/)
112. [Paper Cut into Minimum Number of Squares | Set 2](https://www.geeksforgeeks.org/paper-cut-minimum-number-squares-set-2/)
113. [Minimum and Maximum values of an expression with \* and +](https://www.geeksforgeeks.org/minimum-maximum-values-expression/)
114. [Minimum insertions to form a palindrome](https://www.geeksforgeeks.org/dynamic-programming-set-28-minimum-insertions-to-form-a-palindrome/)
115. [Minimum number of deletions to make a string palindrome](https://www.geeksforgeeks.org/minimum-number-deletions-make-string-palindrome/)
116. [Minimum number of deletions to make a string palindrome | Set 2](https://www.geeksforgeeks.org/minimum-number-deletions-make-string-palindrome-set-2/)
117. [Minimum jumps to reach last building in a matrix](https://www.geeksforgeeks.org/minimum-jumps-to-reach-last-building-in-a-matrix/)
118. [Sub-tree with minimum color difference in a 2-coloured tree](https://www.geeksforgeeks.org/sub-tree-minimum-color-difference-2-coloured-tree/)
119. [Minimum number of deletions to make a sorted sequence](https://www.geeksforgeeks.org/minimum-number-deletions-make-sorted-sequence/)
120. [Minimum number of squares whose sum equals to given number n](https://www.geeksforgeeks.org/minimum-number-of-squares-whose-sum-equals-to-given-number-n/)
121. [Remove minimum elements from either side such that 2\*min becomes more than max](https://www.geeksforgeeks.org/remove-minimum-elements-either-side-2min-max/)
122. [Minimal moves to form a string by adding characters or appending string itself](https://www.geeksforgeeks.org/minimal-moves-form-string-adding-characters-appending-string/)
123. [Minimum steps to delete a string after repeated deletion of palindrome substrings](https://www.geeksforgeeks.org/minimum-steps-to-delete-a-string-after-repeated-deletion-of-palindrome-substrings/)
124. [Clustering/Partitioning an array such that sum of square differences is minimum](https://www.geeksforgeeks.org/clusteringpartitioning-an-array-such-that-sum-of-square-differences-is-minimum/)
125. [Minimum sum subsequence such that at least one of every four consecutive elements is picked](https://www.geeksforgeeks.org/minimum-sum-subsequence-least-one-every-four-consecutive-elements-picked/)
126. [Minimum cost to make Longest Common Subsequence of length k](https://www.geeksforgeeks.org/minimum-cost-make-longest-common-subsequence-length-k/)
127. [Minimum cost to make two strings identical by deleting the digits](https://www.geeksforgeeks.org/minimum-cost-make-two-strings-identical-deleting-digits/)
128. [Minimum time to finish tasks without skipping two consecutive](https://www.geeksforgeeks.org/minimum-time-to-finish-tasks-without-skipping-two-consecutive/)
129. [Minimum cells required to reach destination with jumps equal to cell values](https://www.geeksforgeeks.org/minimum-cells-required-reach-destination-jumps-equal-cell-values/)
130. [Minimum number of deletions and insertions to transform one string into another](https://www.geeksforgeeks.org/minimum-number-deletions-insertions-transform-one-string-another/)
131. [Find minimum adjustment cost of an array](https://www.geeksforgeeks.org/find-minimum-adjustment-cost-of-an-array/)
132. [Find if string is K-Palindrome or not | Set 1](https://www.geeksforgeeks.org/find-if-string-is-k-palindrome-or-not/)
133. [Find if string is K-Palindrome or not | Set 2](https://www.geeksforgeeks.org/find-if-string-is-k-palindrome-or-not-set-2/)
134. [Find Jobs involved in Weighted Job Scheduling](https://www.geeksforgeeks.org/find-jobs-involved-in-weighted-job-scheduling/)
135. [Find the Longest Increasing Subsequence in Circular manner](https://www.geeksforgeeks.org/find-longest-increasing-subsequence-circular-manner/)
136. [Find the longest path in a matrix with given constraints](https://www.geeksforgeeks.org/find-the-longest-path-in-a-matrix-with-given-constraints/)
137. [Find the minimum cost to reach destination using a train](https://www.geeksforgeeks.org/find-the-minimum-cost-to-reach-a-destination-where-every-station-is-connected-in-one-direction/)
138. [Find minimum sum such that one of every three consecutive elements is taken](https://www.geeksforgeeks.org/find-minimum-sum-one-every-three-consecutive-elements-taken/)
139. [Find number of times a string occurs as a subsequence in given string](https://www.geeksforgeeks.org/find-number-times-string-occurs-given-string/)
140. [Find length of the longest consecutive path from a given starting character](https://www.geeksforgeeks.org/find-length-of-the-longest-consecutive-path-in-a-character-matrix/)
141. [Find length of longest subsequence of one string which is substring of another string](https://www.geeksforgeeks.org/find-length-longest-subsequence-one-string-substring-another-string/)
142. [Find longest bitonic sequence such that increasing and decreasing parts are from two different arrays](https://www.geeksforgeeks.org/find-longest-bitonic-sequence-increasing-decreasing-parts-two-different-arrays/)
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148. [Check if possible to cross the matrix with given power](https://www.geeksforgeeks.org/check-possible-cross-matrix-given-power/)
149. [Check if it is possible to transform one string to another](https://www.geeksforgeeks.org/check-possible-transform-one-string-another/)
150. [Given a large number, check if a subsequence of digits is divisible by 8](https://www.geeksforgeeks.org/given-large-number-check-subsequence-digits-divisible-8/)
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162. [Prefix Sum of Matrix (Or 2D Array)](https://www.geeksforgeeks.org/prefix-sum-2d-array/)
163. [Multistage Graph (Shortest Path)](https://www.geeksforgeeks.org/multistage-graph-shortest-path/)
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166. [Number of ordered pairs such that (Ai & Aj) = 0](https://www.geeksforgeeks.org/number-ordered-pairs-ai-aj-0/)
167. [Number of ways to form a heap with n distinct integers](https://www.geeksforgeeks.org/number-ways-form-heap-n-distinct-integers/)
168. [Ways to write n as sum of two or more positive integers](https://www.geeksforgeeks.org/ways-to-write-n-as-sum-of-two-or-more-positive-integers/)
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170. [Sum of products of all combination taken (1 to n) at a time](https://www.geeksforgeeks.org/sum-products-combination-taken-1-n-time/)
171. [Maximize the binary matrix by filpping submatrix once](https://www.geeksforgeeks.org/maximize-binary-matrix-filpping-submatrix/)
172. [Length of the longest substring without repeating characters](https://www.geeksforgeeks.org/length-of-the-longest-substring-without-repeating-characters/)
173. [Longest Even Length Substring such that Sum of First and Second Half is same](https://www.geeksforgeeks.org/longest-even-length-substring-sum-first-second-half/)
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178. [Longest alternating sub-array starting from every index in a Binary Array](https://www.geeksforgeeks.org/longest-alternating-sub-array-starting-every-index-binary-array/)
179. [Partition a set into two subsets such that the difference of subset sums is minimum](https://www.geeksforgeeks.org/partition-a-set-into-two-subsets-such-that-the-difference-of-subset-sums-is-minimum/)
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**Hard Problems :**

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3. [Mobile Numeric Keypad Problem](https://www.geeksforgeeks.org/mobile-numeric-keypad-problem/)
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5. [Boolean Parenthesization Problem](https://www.geeksforgeeks.org/dynamic-programming-set-37-boolean-parenthesization-problem/)
6. [Program for Bridge and Torch problem](https://www.geeksforgeeks.org/program-bridge-torch-problem/)
7. [A Space Optimized DP solution for 0-1 Knapsack Problem](https://www.geeksforgeeks.org/space-optimized-dp-solution-0-1-knapsack-problem/)
8. [Matrix Chain Multiplication](https://www.geeksforgeeks.org/dynamic-programming-set-8-matrix-chain-multiplication/)
9. [Printing brackets in Matrix Chain Multiplication Problem](https://www.geeksforgeeks.org/printing-brackets-matrix-chain-multiplication-problem/)
10. [Number of palindromic paths in a matrix](https://www.geeksforgeeks.org/number-of-palindromic-paths-in-a-matrix/)
11. [Largest rectangular sub-matrix whose sum is 0](https://www.geeksforgeeks.org/largest-rectangular-sub-matrix-whose-sum-0/)
12. [Largest rectangular sub-matrix having sum divisible by k](https://www.geeksforgeeks.org/largest-rectangular-sub-matrix-sum-divisible-k/)
13. [Largest area rectangular sub-matrix with equal number of 1’s and 0’s](https://www.geeksforgeeks.org/largest-area-rectangular-sub-matrix-equal-number-1s-0s/)
14. [Maximum sum bitonic subarray](https://www.geeksforgeeks.org/maximum-sum-bitonic-subarray/)
15. [Maximum sum rectangle in a 2D matrix](https://www.geeksforgeeks.org/dynamic-programming-set-27-max-sum-rectangle-in-a-2d-matrix/)
16. [Maximum Subarray Sum Excluding Certain Elements](https://www.geeksforgeeks.org/maximum-subarray-sum-excluding-certain-elements/)
17. [Maximum weight transformation of a given string](https://www.geeksforgeeks.org/maximum-weight-transformation-of-a-given-string/)
18. [Collect maximum points in a grid using two traversals](https://www.geeksforgeeks.org/collect-maximum-points-in-a-grid-using-two-traversals/)
19. [K maximum sums of overlapping contiguous sub-arrays](https://www.geeksforgeeks.org/k-maximum-sum-overlapping-contiguous-sub-arrays/)
20. [How to print maximum number of A’s using given four keys](https://www.geeksforgeeks.org/how-to-print-maximum-number-of-a-using-given-four-keys/)
21. [Maximize arr[j] – arr[i] + arr[l] – arr[k], such that i < j < k < l](https://www.geeksforgeeks.org/maximize-arrj-arri-arrl-arrk-such-that-i-j-k-l/)
22. [Maximum profit by buying and selling a share at most k times](https://www.geeksforgeeks.org/maximum-profit-by-buying-and-selling-a-share-at-most-k-times/)
23. [Maximum points from top left of matrix to bottom right and return back](https://www.geeksforgeeks.org/maximum-points-top-left-matrix-bottom-right-return-back/)
24. [Check whether row or column swaps produce maximum size binary sub-matrix with all 1s](https://www.geeksforgeeks.org/check-whether-row-column-swap-produces-maximum-size-binary-sub-matrix-1s/)
25. [Minimum Cost Polygon Triangulation](https://www.geeksforgeeks.org/minimum-cost-polygon-triangulation/)
26. [Minimum cost to sort strings using reversal operations of different costs](https://www.geeksforgeeks.org/minimum-cost-sort-strings-using-reversal-operations-different-costs/)
27. [Find minimum possible size of array with given rules for removing elements](https://www.geeksforgeeks.org/find-minimum-possible-size-of-array-with-given-rules-for-removal/)
28. [Minimum number of elements which are not part of Increasing or decreasing subsequence in array](https://www.geeksforgeeks.org/minimum-number-of-elements-which-are-not-part-of-increasing-or-decreasing-subsequence-in-array/)
29. [Count ways to increase LCS length of two strings by one](https://www.geeksforgeeks.org/count-ways-increase-lcs-length-two-strings-one/)
30. [Count of AP (Arithmetic Progression) Subsequences in an array](https://www.geeksforgeeks.org/count-arithmetic-progression-subsequences-array/)
31. [Count of arrays in which all adjacent elements are such that one of them divide the another](https://www.geeksforgeeks.org/count-arrays-adjacent-elements-one-divide-another/)
32. [Number of NGEs to the right](https://www.geeksforgeeks.org/number-nges-right/)
33. [Longest Arithmetic Progression](https://www.geeksforgeeks.org/length-of-the-longest-arithmatic-progression-in-a-sorted-array/)
34. [Longest Geometric Progression](https://www.geeksforgeeks.org/longest-geometric-progression/)
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37. [All ways to add parenthesis for evaluation](https://www.geeksforgeeks.org/all-ways-to-add-parenthesis-for-evaluation/)
38. [Shortest possible combination of two strings](https://www.geeksforgeeks.org/shortest-possible-combination-two-strings/)
39. [Check if all people can vote on two machines](https://www.geeksforgeeks.org/check-people-can-vote-two-machines/)
40. [Find if a string is interleaved of two other strings](https://www.geeksforgeeks.org/check-whether-a-given-string-is-an-interleaving-of-two-other-given-strings-set-2/)
41. [Longest repeating and non-overlapping substring](https://www.geeksforgeeks.org/longest-repeating-and-non-overlapping-substring/)
42. [Probability of Knight to remain in the chessboard](https://www.geeksforgeeks.org/probability-knight-remain-chessboard/)
43. [Number of subsequences of the form a^i b^j c^k](https://www.geeksforgeeks.org/number-subsequences-form-ai-bj-ck/)
44. [Number of subsequences in a string divisible by n](https://www.geeksforgeeks.org/number-subsequences-string-divisible-n/)
45. [Printing Shortest Common Supersequence](https://www.geeksforgeeks.org/print-shortest-common-supersequence/)
46. [Smallest length string with repeated replacement of two distinct adjacent](https://www.geeksforgeeks.org/smallest-length-string-with-repeated-replacement-of-two-distinct-adjacent/)
47. [Number of ways to insert a character to increase the LCS by one](https://www.geeksforgeeks.org/number-ways-insert-character-increase-lcs-one/)
48. [Traversal of tree with k jumps allowed between nodes of same height](https://www.geeksforgeeks.org/traversal-tree-ability-jump-nodes-height/)
49. [Find all combinations of k-bit numbers with n bits set where 1 <= n <= k in sorted order](https://www.geeksforgeeks.org/find-combinations-k-bit-numbers-n-bits-set-1-n-k-sorted-order/)