

Top-20 Training Program (Dynamic Programming Problems)

Apply the solution building strategies discussed in class to solve following problems.

Group1: Counting Problems

Tiling Grid-I:

https://uva.onlinejudge.org/index.php?option=onlinejudge&page=show_problem&proble m=1300

Tiling Grid-II: https://uva.onlinejudge.org/external/109/p10918.pdf

Domino & Tromino Tiling: https://leetcode.com/problems/domino-and-tromino-tiling/description/

Count Stair Climbing Ways: https://leetcode.com/problems/unique-binary-search-trees/description/
Unique paths in grid: https://leetcode.com/problems/unique-paths/description/
Unique paths in grid-II: https://leetcode.com/problems/unique-paths-ii/description/

Group2: Path Sum Variations

Max Non-adjacent Sum: Given an array of integers, find a maximum sum of non-adjacent elements.

Min Cost Climbing: https://leetcode.com/problems/min-cost-climbing-stairs/description/
Minimum Path Sum in Rectangular Grid: https://leetcode.com/problems/minimum-path-sum/description/

Minimum Path Sum in Triangular Grid:

https://leetcode.com/problems/triangle/description/

Group3: LIS & Max subarray Variations

Longest Increasing Subsequence: https://leetcode.com/problems/longest-increasing-subsequence/description/

Russian Doll Envelopes: https://leetcode.com/problems/russian-doll-envelopes/description/

Maximum Pair Chain: https://leetcode.com/problems/maximum-length-of-pair-chain/description/

Number of LISs: https://leetcode.com/problems/number-of-longest-increasing-subsequence/solution/

Maximum Sum Subarray: http://www.lintcode.com/en/problem/maximum-subarray/
Maximum Product Subarray: https://leetcode.com/problems/maximum-product-subarray/description/

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