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&problem=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/climbing-stairs/description/
Unique BSTs: 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/