Assignment - Day 7: 0/1 Knapsack Variations & Tabulation Practice

Dear Students,

This assignment focuses on solving 0/1 Knapsack variations using recursion, memoization, and tabulation. Additionally, you must write **tabulation-only** solutions for previously covered DP problems.

Part A: 0/1 Knapsack Variations (Recursive, Memoization & Tabulation)

1. Perfect Sum Problem (GFG)

Link: https://www.geeksforgeeks.org/problems/perfect-sum-problem5633/1
Objective: Count the number of subsets with sum equal to the target.
Requirements:
- Write Recursive Solution
- Write Memoization Solution
- Write Tabulation Solution

2. Target Sum (LeetCode 494)

Link: https://leetcode.com/problems/target-sum/description/
Objective: Count the number of ways to assign + or - to reach the target sum.
Requirements:
- Write Recursive Solution
- Write Memoization Solution
- Write Tabulation Solution

Part B: Write Tabulation Only for the Following Problems

3. Frog Jump (Coding Ninjas)

Link: https://www.naukri.com/code360/problems/frog-jump_3621012

4. House Robber (LeetCode 198)

Link: https://leetcode.com/problems/house-robber/

5. House Robber II (LeetCode 213)

Link: https://leetcode.com/problems/house-robber-ii/

6. Boredom (Codeforces 455A)

Link: https://codeforces.com/problemset/problem/455/A

7. Unique Paths (LeetCode 62)

Link: https://leetcode.com/problems/unique-paths/

8. Minimum Path Sum (LeetCode 64)

Link: https://leetcode.com/problems/minimum-path-sum/

Submission Instructions

- Submit all solutions via the Google Form link provided.
- Ensure recursive, memoized, and tabulation versions are clearly separated.
- For Part B, only tabulation solutions are required.
- Deadline: **14 Nov, 2:00 AM**.

Best regards,
Training Team