ADSA Lab Assignments on Dynamic Programming

By Dr. GC Jana

[**Note:** *After completion in GFG and LeetCode, students must submit the code through the link mentioned on my website.*]

1. **Fibonacci Sequence:** Write a function to compute the nth Fibonacci number using dynamic programming. [Read the Idea: Memoization, Tabulation], [Do programming - GFG], [Do programming-LeetCode]

2. **Climbing Stairs:** Write a function to determine how many distinct ways there are to climb a staircase with n steps if you can climb either 1 or 2 steps at a time. [Read the Idea], [Do programming - GFG], [Do programming-LeetCode]

3. **Min Cost Climbing Stairs:** Write a function to determine the minimum cost to reach the top of a staircase given a list of costs associated with each step. [Read the Idea], [Do programming - GFG], [Do programming-LeetCode]

4. **House Robber:** Write a function to determine the maximum amount of money you can rob from a row of houses without robbing two adjacent houses. [Read the Idea], [Do programming - GFG], [Do programming-LeetCode]

5. **0/1 Knapsack:** Write a function to implement 0/1 knapsack problem. [Read the Idea], [Do programming - GFG], [Do programming-LeetCode]

6. **Longest common subsequence:** Write a function to implement longest common subsequence. [Read the Idea], [Do programming - GFG], [Do programming-LeetCode]

7. **Coin change problem:** Write a function to implement Coin change problem. [Read the Idea], [Do programming - GFG], [Do programming-LeetCode]