East West University
Department of Computer Science and Engineering
Course: CSE246 Algorithm Topic: Dynamic Programming (Part-02) Lab: 06

1. **Coin change: You are given n types of coins and another number K. Your task is to determine whether it is possible to generate K using those coins if**
   i. **The number of each coin is infinite.**
   ii. **The number of each coin is finite.**

2. **LIS: Given an array of integers, your task is to find the length as well as the sequence of the longest increasing subsequence within the array.**

Sample input	Sample output
8 5 2 8 6 3 6 9 7	4 2, 3, 6, 9

3. **LCS: You are given two strings, and your task is to find the length of the longest common subsequence (LCS) between them. Also print the LCS.**

Sample input	Sample output
string1: "ABCDGH" string2: "AEDFHR"	3 "ADH"

4. **Longest Common Substring: You are given two strings, and your task is to find the length of the longest common substring between them. Also find the substring itself.**

Sample input	Sample output
string1: "ABCDGH" string2: "ACDGHR"	4 "CDGH"

5. **Longest palindromic subsequence: You are given a string, and your task is to find the length of the longest palindromic subsequence (LPS) within the string.**

Sample input	Sample output
string: "BBABCBAB"	7 "BABCBAB"