

Department of Electrical and Computer Engineering
North South University

Assignment 3: Solving the LCS problem

Semester: Spring 2020

CSE 373

Section 1 & 2

Deadline: 16th April 2020

Instruction

Please submit your assignment by the given deadline. Your report should include (1) an algorithm to solve the given problem, (2) code that you have written, and (3) the time and space complexity of your solution. You can use any high-level programming language to solve the problem. Your report should be compiled **into a single pdf file** and should be submitted via the Google Classroom.

Problem

In this assignment, you need to write a solution to determine the longest common subsequence (LCS) of two strings. The **longest common subsequence (LCS) problem** is the problem of finding the longest subsequence common to all sequences in a set of sequences (often just two sequences). For this assignment, you should be taking two strings in infinite loop and determine both the length and LCS of the two strings. You may assume that there exists no space in any string and each string has a length greater than zero. Two strings are separated by a space. Please note that there may exist more than one LCS for a given pair of strings. You need to find only one solution – not all of them.

Sample Input

ABCB DAB BDCABA

ABC AB

Sample Output

LCS = BCBA, length = 4

LCS = AB, length = 2