

Longest Common Subsequence

Problem Code	hw04a_lcs
Running Time Limit	1 sec
Memory Limit	16 mb

Objective

- Be able to solve a problem using dynamic programming approach or better

Introduction

Given a string $S = "s_1s_2s_3, \dots s_n"$, a subsequence of S is a string derived from S by deleting some elements without changing the order of the element. For example, " $s_2s_4s_n$ " is a subsequence while " $s_3s_1s_2$ " is not. A longest common subsequence of two strings S and T is a longest string that is a subsequence of both S and T .

Task

Your task is to identify the length of the longest common subsequence of two given strings.

Input

The first line contains the string S while the second line contains the string T . Both S and T do not have any white space in them and are no longer than 500 characters.

Output

The output must contain exactly one line giving the length of the longest common subsequence of S and T .

Example

Ex1

Input	Output
ACBDEGCEDBG BEGCFEUBK	6

The longest common subsequence is "BEGCEB"