Longest Common Subsequence

Time limit: 1 sec

Given a string $S = s_1 s_2 s_3 \ldots s_n$ of length n where s_i is a single character, a subsequence of S is a string derived from S by deleting zero or more elements from S without changing the order of the element. For example, $P = s_2 s_4 s_n$ is a subsequence of S while $Q = s_4 s_1 s_2$ is not. A longest common subsequence of two strings **A** and **B** is a longest string that is a subsequence of both **A** and **B**.

Your task is to find the length of a longest common subsequence of **A** and **B**.

Input

There are two lines of input, each containing a non-empty string composes of a lower case Enlisg alphabets. The length of each string does not exceed 500.

Output

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

Example

Input	Output
acbdegcedbg begcfeubk	6
aaa bbbbbbbbb	0