Problem 2: Plagiarism

Overview

True story: one of the judges was participating in a massive, open online course (MOOC) which featured peer grading. One of the students in the class chose to submit the judge’s essay to a plagiarism detector and “caught him” as a plagiarist. He was downgraded accordingly. Upon investigation, it turned out that three of the phrases listed in his essay were found in other sources. In an essay about the age of dial-up internet, the three phrases detected were: “no longer did users need to”, “soon thereafter, costs came down considerably”, and “the new method completely supplanted the old one”. The primary sources copied from included a discussion of the invention of cured meat, a news article about the end of a manufacturing strike, and an essay on Eli Whitney’s invention of replaceable parts. The real lesson here should be about the dangers of placing too much faith in a blind string match.

Problem

Although there are serious drawbacks with the plagiarism detector in the previous example, you are to implement a version of it. In particular, given two strings, you are to compute the largest block of common (contiguous) characters that they share.

Input

The input to this problem is two lines, each containing a string to be compared. The strings will contain no special (hidden) characters.

Output

The output is a single line of text stating the length of the longest shared block of contiguous characters, formatted as in the examples. Our detector is so primitive that it will not recognize upper and lower case letters as being the same. (Note that the last word should be plural regardless of the length of the block.)
Example 1

Input

When in the course of human events
Those who do not learn from history will repeat the course.

Output

The length of the longest common block is 11 characters.

Example 2

Input

abcd efgh ijk l mnop
ponm lkji h gfe dcba

Output

The length of the longest common block is 1 characters.

Example 3

Input

Babababababcccccababab
abccbaabccba

Output

The length of the longest common block is 4 characters.