

D. Match & Catch

time limit per test: 1 second

memory limit per test: 512 megabytes

input: standard input

output: standard output

Police headquarter is monitoring signal on different frequency levels. They have got two suspiciously encoded strings s_1 and s_2 from two different frequencies as signals. They are suspecting that these two strings are from two different criminals and they are planning to do some evil task.

Now they are trying to find a common substring of minimum length between these two strings. The substring must occur only once in the first string, and also it must occur only once in the second string.

Given two strings s_1 and s_2 consist of lowercase Latin letters, find the smallest (by length) common substring p of both s_1 and s_2 , where p is a unique substring in s_1 and also in s_2 . See notes for formal definition of substring and uniqueness.

Input

The first line of input contains s_1 and the second line contains s_2 ($1 \leq |s_1|, |s_2| \leq 5000$). Both strings consist of lowercase Latin letters.

Output

Print the length of the smallest common unique substring of s_1 and s_2 . If there are no common unique substrings of s_1 and s_2 print -1.

Examples

input
apple pepperoni
output
2

input
lover driver
output
1

input
bidhan roy
output
-1

input
testsetses teeptes
output

Codeforces Round #244 (Div. 2)

Finished

Practice



→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

[Start virtual contest](#)

→ Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.

→ Submit?

Language: GNU G++ 5.1.0

Choose file: [Choose File](#) No file chosen

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

[Submit](#)

→ Last submissions

Submission	Time	Verdict
15231751	Jan/08/2016 06:27	Time limit exceeded on test 14
15231748	Jan/08/2016 06:26	Wrong answer on test 2
15231723	Jan/08/2016 06:21	Time limit exceeded on test 14

→ Problem tags


Note

Imagine we have string $a = a_1a_2a_3\dots a_{|a|}$, where $|a|$ is the length of string a , and a_i is the i^{th} letter of the string.

We will call string $a_la_{l+1}a_{l+2}\dots a_r$ ($1 \leq l \leq r \leq |a|$) the substring $[l, r]$ of the string a .

The substring $[l, r]$ is unique in a if and only if there is no pair l_1, r_1 such that $l_1 \neq l$ and the substring $[l_1, r_1]$ is equal to the substring $[l, r]$ in a .

[→ Contest materials](#)

- Announcement 
- Tutorial 