E. Test

time limit per test: 2 seconds

memory limit per test: 256 megabytes

Sometimes it is hard to prepare tests for programming problems. Now Bob is preparing tests to new problem about strings — input data to his problem is one string. Bob has 3 wrong solutions to this problem. The first gives the wrong answer if the input data contains the substring s_1, the second enters an infinite loop if the input data contains the substring s_2, and the third requires too much memory if the input data contains the substring s_3. Bob wants these solutions to fail single test. What is the minimal length of test, which couldn't be passed by all three Bob's solutions?

Input

There are exactly 3 lines in the input data. The i-th line contains string s_i. All the strings are non-empty, consists of lowercase Latin letters, the length of each string doesn't exceed 10^5.

Output

Output one number — what is minimal length of the string, containing s_1, s_2 and s_3 as substrings.

Examples

input	Copy
ab bc cd	

output	Copy
4	

input	Copy
abacaba abaaba x	

output	Copy
11	

Codeforces Beta Round 25 (Div. 2 Only)

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 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]

→ Clone Contest to Mashup   ⌄

You can clone this contest to a mashup.

[Clone Contest]

→ Submit?

Language: [GNU G++20 13.2 (64 bit, win ⌄]

Choose file: [Choose File] No file chosen

[Submit]

→ Last submissions

Submission	Time	Verdict
281052066	Sep/14/2024 03:48	Accepted
281043102	Sep/14/2024 00:28	Runtime error on test 6
281042917	Sep/14/2024 00:25	Runtime error on test 6
281035946	Sep/13/2024 22:43	Runtime error on test 6
281034385	Sep/13/2024 22:25	Runtime error on test 6
280373913	Sep/08/2024 23:45	Accepted
280372958	Sep/08/2024 23:31	Accepted
280372354	Sep/08/2024 23:22	Accepted
280372303	Sep/08/2024 23:21	Accepted