

B. Lucky Common Subsequence

time limit per test: 3 seconds

memory limit per test: 512 megabytes

input: standard input

output: standard output

In mathematics, a *subsequence* is a sequence that can be derived from another sequence by deleting some elements without changing the order of the remaining elements. For example, the sequence BDF is a subsequence of ABCDEF. A *substring* of a string is a continuous subsequence of the string. For example, BCD is a substring of ABCDEF.

You are given two strings s_1 , s_2 and another string called *virus*. Your task is to find the longest common subsequence of s_1 and s_2 , such that it doesn't contain *virus* as a substring.

Input

The input contains three strings in three separate lines: s_1 , s_2 and *virus* ($1 \leq |s_1|, |s_2|, |virus| \leq 100$). Each string consists only of uppercase English letters.

Output

Output the longest common subsequence of s_1 and s_2 without *virus* as a substring. If there are multiple answers, any of them will be accepted.

If there is no valid common subsequence, output 0.

Examples

input
AJKEQSLOBR0FGZ 0VGURWZLWVLUXTH 0Z
output
0RZ

input
AA A A
output
0