

Text replacement is a common string editing technique used in many applications. There are two main tasks in text replacement: One is to find the place of the text to be replaced, and the other one is to replace the text by the given text. In some particular cases, the substitution is required to be made repeatedly until no further replacement is available. You have to write a program for such special text replacement.

Input

The input has several cases and ends with a star symbol ‘*’. Each case contains three strings, indicating the text to be replaced, the text for replacement, and the source text. The first two strings have a maximum length of ten, while the last string has a maximum length of 50. During the process of substitution, the length will never exceed 255.

Output

For each case, output the string of text after replacement. Note that after each replacement, you should find the possibility of next replacement from the beginning of the string, and the substitution ends only if there is no possible replacement left.

Sample Input

Apple
Pen
ApplePineapple
ace
ce
iaaaace
*

Sample Output

PenPineapple
ice