

## Problem 2. Deciphering

*Now that Gencho has filled his dictionary, he starts deciphering the old books to find in which one the relics and their locations are documented.*

You will receive **two lines**. The first one will have an **encrypted string**, which you will have to decode. On the second line you will receive **two letters or substrings**, separated by a **single space**.

First you will have to decode the first line by **reducing** the ASCII value of each character in it **by 3**. Then you should get the **two substrings** of the second line. You must find **every** occurrence of the **first substring** in the now decrypted text and replace it with the **second substring**.

Also, you don't know which book you have taken, so you must check if it is **valid**. A valid text contains only lowercase letters, from '**d**' onwards, and the symbols '{', '}', '|', '#'. If the text is invalid, you should not try to decipher it and you should print **"This is not the book you are looking for."**

### Input

Two lines, one with text to decipher and one with two substrings to replace in the text.

### Output

One line with the deciphered text.

### Examples

Input
wkhfn# rx#jhqfkr#phf#exw# rxu#uholf#lv#khfgohg#lq#hfrwkhu#sohfhw ec an
Output
thank you gencho man but your relic is handled in another planet

Input
arx#vkdw#qrw#sdvv t l
Output
This is not the book you are looking for.