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From A to Z

15 points

Introduction

In school you memorized the alphabet from “a” to “z” by running the letters in order “abcdef...”. It has been the same for thousands of years, but what if the order of the letters were different? For example, if the letter “b” was before the letter “a” or the letter “y” was after the letter “z”. Well, now you have the chance of consider this scenario by coding a program to sort words in an alternative alphabet.

HINT: If two words contain the same letters in the same positions, then the shortest word comes first.

Input

The input consists of several lines ending with a line with a single hashtag sign “#”.

- The first line contains the letters of the alphabet with a new order. The position in the line defines the order from left to right.
- The following lines contain a single word.

Output

The output prints in a single line the words ordered according to the new alphabetical order.

Example**Input**

```
xdhwjtklnoapqersuivmygzbcf
me
here
crazy
is
alphabet
world
making
hello
this
hereafter
```

#

Output

hello here hereafter world this alphabet is making me crazy