ICPC North America Regionals 2019

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Levenshtein Distance

Time limit: 1 second

The *Levenshtein Distance* between two strings is the smallest number of simple one-letter operations needed to change one string to the other. The operations are:

- Adding a letter anywhere in the string.
- Removing a letter from anywhere in the string.
- Changing any letter in the string to any other letter.

Given a specific alphabet and a particular query string, find all other unique strings from that alphabet that are at a *Levenshtein Distance* of 1 from the given string, and list them in alphabetical order, with no duplicates.

Note that the query string must not be in the list. Its *Levenshtein Distance* from itself is 0, not 1.

Input

Input consists of exactly two lines. The first line of input contains a sequence of unique lower-case letters, in alphabetical order, with no spaces between them. This is the alphabet to use.

The second line contains a string s ($2 \leq |s| \leq 100$), which consists only of lower-case letters from the given alphabet. This is the query string.

Output

Output a list, in alphabetical order, of all strings which are a *Levenshtein Distance* of 1 from the query string s. Output one word per line, with no duplicates.

Sample Input	Sample Output
eg egg	eeg eegg eg ege egeg egge eggg gegg gg ggg