

Problem A

Amalgram

An **anagram** is any arrangement of the letters of a word in which each letter of the alphabet occurs exactly as many times as in the original. For example, `clarinets` is an anagram of `larcenist`.

An **amalgram** is any arrangement of the letters of **two** words in which each letter of the alphabet occurs **at least** as many times as in either of the originals. For example, `administration` is an amalgram of `mantis` and `raisin`, although not the shortest possible because the letter `d` appears in neither.

Given two words, invent an amalgram for them that contains as few letters as possible.

Input

- One line containing lowercase Latin letters representing the word a ($1 \leq |a| \leq 10^6$).
- One line containing lowercase Latin letters representing the word b ($1 \leq |b| \leq 10^6$).

Output

Output a minimally-long sequence of letters that represents an amalgram of a and b . If there are multiple answers, you may output any of them. Your answer will be judged as correct if it contains at least all of the letters of a and all of the letters of b , and there is no other possible answer that could be shorter.

Sample Input 1

```
hello
world
```

Sample Output 1

```
wordhell
```

Sample Input 2

```
unclear
instructions
```

Sample Output 2

```
lensrustication
```

Sample Input 3

```
boring
boring
```

Sample Output 3

```
boring
```

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