

Minimal Possible String

Given two strings A and B, your are to find the lexicographically smallest string after inserting B into A.

For example, string A is "369", and string B is "4799". There are 4 ways that I can insert B into A, and I'll get 4 different results: 4799369, 3479969, 3647999, 3694799. Thus, 3479969 is the lexicographically smallest one.

Input

Input contains several cases. Each case has 2 strings A and B with length no longer than 100000 in 2 lines. Process the input until EOF. The strings consist of only digit 1-9.

Output

For each case, output the minimal possible result.

Example

Input:

```
369
4799
666
12345
```

Output:

```
3479969
12345666
```