B. Replacing Digits

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

You are given an integer a that consists of n digits. You are also given a sequence of digits s of length m. The digit in position j ($1 \le j \le m$) of sequence s means that you can choose an arbitrary position i ($1 \le i \le n$) in a and replace the digit in the chosen position i with s_j. Each element in the sequence s can participate in no more than one replacing operation.

Your task is to perform such sequence of replacements, that the given number a gets maximum value. You are allowed to use not all elements from s.

Input

The first line contains positive integer a. Its length n is positive and doesn't exceed 10^5. The second line contains sequence of digits s. Its length m is positive and doesn't exceed 10^5. The digits in the sequence s are written consecutively without any separators.

The given number a doesn't contain leading zeroes.

Output

Print the maximum value that can be obtained from a after a series of replacements. You are allowed to use not all elements from s. The printed number shouldn't contain any leading zeroes.

Examples

input
1024 010

output
1124

input
987 1234567

output
987