Problem B. Replacing Digits

Time limit 2000 ms
Mem limit 262144 kB

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.

Sample 1

Input	Output
1024 010	1124

Sample 2

Input	Output
987 1234567	987