A. Generate Login

The preferred way to generate user login in Polygon is to concatenate a prefix of the user's first name and a prefix of their last name, in that order. Each prefix must be non-empty, and any of the prefixes can be the full name. Typically there are multiple possible logins for each person.

You are given the first and the last name of a user. Return the alphabetically earliest login they can get (regardless of other potential Polygon users).

As a reminder, a prefix of a string s is its substring which occurs at the beginning of s: "a", "ab", "abc" etc. are prefixes of string "{abcdef}" but "b" and 'bc' are not. A string a is alphabetically earlier than a string b, if a is a prefix of b, or a and b coincide up to some position, and then a has a letter that is alphabetically earlier than the corresponding letter in b: "a" and "ab" are alphabetically earlier than "ac" but "b" and "ba" are alphabetically later than "ac".

Input
The input consists of a single line containing two space-separated strings: the first and the last names. Each character of each string is a lowercase English letter. The length of each string is between 1 and 10, inclusive.

Output
Output a single string — alphabetically earliest possible login formed from these names. The output should be given in lowercase as well.

Examples

input
harry potter
output
hap

input
tom riddle
output
tomr