B. ZgukistringZ

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

Professor GukiZ doesn't accept string as they are. He likes to swap some letters in string to obtain a new one.

GukiZ has strings a, b, and c. He wants to obtain string k by swapping some letters in a, so that k should contain as many non-overlapping substrings equal either to b or c as possible. Substring of string x is a string formed by consecutive segment of characters from x. Two substrings of string x overlap if there is position i in string x occupied by both of them.

GukiZ was disappointed because none of his students managed to solve the problem. Can you help them and find one of possible strings k?

Input

The first line contains string a, the second line contains string b, and the third line contains string c ($1 \leq |a|, |b|, |c| \leq 10^5$, where $|s|$ denotes the length of string s).

All three strings consist only of lowercase English letters.

It is possible that b and c coincide.

Output

Find one of possible strings k, as described in the problem statement. If there are multiple possible answers, print any of them.

Examples

input
aaa a b
output
aaa

input
pozdravstaklenidodiri niste dobri
output
nisteaadddiikloprrvz

input
abbbaaccca ab aca
output
ababacabcc

Note

In the third sample, this optimal solutions has three non-overlaping substrings equal to either b or c on positions $1 - 2$ (ab), $3 - 4$ (ab), $5 - 7$ (aca). In this sample, there exist many other optimal solutions, one of them would be $acaababbcc$.