

Problem B. Broken Connection

Input file: *standard input*
Output file: *standard output*
Time limit: 2 seconds
Memory limit: 1024 mebibytes

This is the problem with double run

Alice shall tell to Bob non-negative integer X , that is strictly less than 10^{10} . But the internet channel between them is broken, so the digits in the number that is sent by Alice are randomly shuffled.

Alice can send arbitrary non-negative integer consisting of no more than 50 digits (the leading zeroes are allowed).

Bob receives the Alice's integer after the string representing this integer was shuffled. His task is to determine X using that information.

Input

The first line of the input contains one string — “Alice”, if the data is for Alice, and “Bob”, if the data is for Bob.

In case when the input is for Alice, the second line contains the secret integer X ($0 \leq X < 10^{10}$), given without extra leading zeroes.

In case when the input is for Bob, the second line contains a string s consisting of the digits — the integer sent by Alice with the shuffled digits. The string s cannot be empty or contain more than 50 digits.

Output

When processing the input for Alice, print non-empty digital string, consisting of no more than 50 digits.

When processing the input for Bob, print one integer — the value of the secret integer X .

Example

standard input	standard output
Alice 2022	01102022
Bob 20221010	2022

Note

Your solution will be run twice — the first time on the data for Alice, and the second time on the data for Bob.