

Alphabet

A list of words written in some unknown alphabet was found. It is known, however, that these words are in alphabetic order.

Write a program that will find the unique alphabetic ordering of used letters, or determine that no such ordering exists or that there is more than one possible solution.

Input

The first line of input contains a positive integer N ($N \leq 100$), the number of words. The following N lines contain the list of words found, one word per line. Each word consists of at most 10 lowercase letters.

Output

The first and only line of output should contain all letters in alphabetic order. If no such ordering exists, output '!'. If there is more than one solution, output '?'.

Sample input

Sample output

5 ula uka klua kula al	luka
4 jaja baba baja beba	!
3 marko darko zarko	?