## Patterns P94030_en

In this problem, we will say that a pattern is a string made up of lowercase letters and symbols '`?`', such as "`??me`". Each instance of '`?`' must be replaced by exactly one lowercase letter. We say that a string matches a pattern if we can transform the pattern into the string by replacing the question marks by the appropriate letters. For instance, "`same`", "`some`" and "`home`" all match the pattern "`??me`".

Given several words, can you find a pattern matched by all the words? This pattern should contain the minimum number of '`?`'.

### Input

Input consists of several cases. Each case starts with $n$, followed by $n$ words, all of the same length, which will be between 1 and 1000. You can assume $1 \leq n \leq 1000$, and that the words only consist of lowercase letters.

### Output

For every case, print a pattern with the least amount of '`?`' which is matched by all the words. If there is more than one answer, print "`I should rethink this problem.`".

### Sample input 1

```
3 same some home
2 cat gas
2 hello hello
2 xyz abc
```

### Sample output 1

```
??me
?a?
hello
???
```

### Problem information

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