

B. Complete the Word

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

ZS the Coder loves to read the dictionary. He thinks that a word is *nice* if there exists a **substring** (contiguous segment of letters) of it of length 26 where each letter of English alphabet appears exactly once. In particular, if the string has length strictly less than 26, no such substring exists and thus it is not nice.

Now, ZS the Coder tells you a word, where some of its letters are missing as he forgot them. He wants to determine if it is possible to fill in the missing letters so that the resulting word is nice. If it is possible, he needs you to find an example of such a word as well. Can you help him?

Input

The first and only line of the input contains a single string s ($1 \leq |s| \leq 50\,000$), the word that ZS the Coder remembers. Each character of the string is the uppercase letter of English alphabet ('A'-'Z') or is a question mark ('?'), where the question marks denotes the letters that ZS the Coder can't remember.

Output

If there is no way to replace all the question marks with **uppercase letters** such that the resulting word is nice, then print -1 in the only line.

Otherwise, print a string which denotes a possible nice word that ZS the Coder learned. This string should match the string from the input, except for the question marks replaced with uppercase English letters.

If there are multiple solutions, you may print any of them.

Examples

input

ABC??FGHIJK???OPQR?TUVWXY?

output

ABCDEFGHIJKLMNQPQRZTUVWXY

input

WELCOMETOCODEFORCESROUNDTTHREEHUNDREDANDSEVENTYTWO

output

-1

input

????????????????????

output

MNBVCXZLKJHGFDSAQPWOEIRUYT

input

AABCDEFGHIJKLMNQRSTUUV??M

output

-1

Note

In the first sample case, ABCDEFGHIJKLMNOPQRZTUVWXYs is a valid answer because it contains a substring of length 26 (the whole string in this case) which contains all the letters of the English alphabet exactly once. Note that there are many possible solutions, such as ABCDEFGHIJKLMNOPQRSTUVWXYZ or ABCDEFGHIJKLMNOPQRZTUVWXYZ.

In the second sample case, there are no missing letters. In addition, the given string does not have a substring of length 26 that contains all the letters of the alphabet, so the answer is - 1.

In the third sample case, any string of length 26 that contains all letters of the English alphabet fits as an answer.