

String Necklace

Problem Code: **STRNECK**



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You are given a sequence of characters consisting only of the following: a, b, c and ?. You need to replace every ? with one of a, b or c such that no two consecutive characters are the same. In addition, the first and the last characters of the string must not be the same.

You need to return the lexicographically smallest string which satisfies the above constraints. If you cannot build any string that satisfies the above constraints, return "Not found" (without the quotes).

Input

The first line of input contains an integer T, the number of test cases. This is followed by T lines, each containing a test case.

Each test case is represented by a string that contains characters from the set { a, b, c, ? }. Note that an input string may already contain same characters adjacent to each other. If this is the case, the output for it should be "Not found".

You will be provided with a pre-filled template when you click "Submit" for C, C++ and Java only. You may use this template. The template parses the input and calls getLexSmallestString once for each test case in the standard input. The return value of getLexSmallestString is also printed to standard output by the template.

getLexSmallestString must return "Not found" for inputs for which an answer cannot be found.

Output

Print a single line for each test case. The lexicographically smallest string, or "Not found", if no such string exists.

Constraints

String length will be between 2 and 10,000 characters. A file may contain up to 500 test cases.

Sample Input

```
3
??
aa??b
?abc?
```

Sample Output

```
ab
Not found
babca
```

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Tags: [directi_campus \(/tags/problems/directi_campus\)](#)

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Time Limit: 2.18026 secs

Source Limit: 50000 Bytes

Languages: C, CPP 4.3.2, CPP 6.3, CPP14, JAVA, PYTH, PYTH 3.5

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