Problem

You are given a string S containing only lowercase alphabets. You can swap two adjacent characters any number of times (including 0).

A string is called **anti-palindrome** if it is not a palindrome. If it is possible to make a string anti-palindrome, then find the **lexicographically smallest anti-palindrome**. Otherwise, print -1.

Input format

- The first line contains a single integer T denoting the number of test cases. The description of T test cases follows.
- Each line contains a string S of lower case alphabets only.

Output format

For each test case, print the answer in a new line.

Constraints

$1 \leq T \leq 100$

$2 \leq |S| \leq 2 \times 10^5$

S contains only lowercase alphabets.

Sample Input	Sample Output
4 bpc pp deep zyx	bcp -1 deep xyz

Time Limit: 1

Memory Limit: 256

Source Limit: