

Reverse the String

Input file: **standard input**
Output file: **standard output**
Time limit: 2 seconds
Memory limit: 256 megabytes

There is a string of lowercase letters, and you want to minimize its lexicographical order. What you can do is reverse an interval or do nothing.

For example, for the string `abcdefg`, if we reverse the interval `bcdefg`, it will become `abfedcg`.

A string a is lexicographically smaller than a string b if and only if one of the following holds:

- a is a prefix of b , but $a \neq b$.
- In the first position where a and b differ, the string a has a letter that appears earlier in the alphabet than the corresponding letter in b .

Input

The first line contains an integer T ($1 \leq T \leq 20$), denoting the number of test cases.

For the following T lines, each line contains a string s of lowercase letters ($1 \leq |s| \leq 10^5$, where $|s|$ is the length of s).

It is guaranteed that $\sum |s| \leq 1.5 \times 10^6$ over all test cases.

Output

For each test case, output the string with the minimal lexicographical order in a single line.

Example

	standard input	standard output
1	abbcabaac	aaabacbbc