

Akash loves to play with the names of his friends. He always makes fun of his friends. He simply does one thing, he rearranges some letters from the name of a friend. While doing this he doesn't know that he's implementing something interesting. Everytime he plays with a friend's name the appearing word is lexicographically greater than the actual name. Now Akash has a friend's name w, help him to rearrange the letters of w to construct another word w in such a way that w is lexicographically greater than w so that he can make fun of his friend. If you are are getting more than one words then choose lexicographically smallest one amongst them.

Input Format

The first line of input contains t, the number of test cases. Each of the next t lines contains w.

Constraints

1<=t<=100000

1<=/**w**/<=100

 $\emph{\textbf{w}}$ will contain only lower-case English letters and its length will not exceed $\emph{\textbf{100}}$.

Output Format

For each testcase, output a string lexicographically bigger than w in a separate line. In case of multiple possible answers, print the lexicographically smallest one, and if no answer exists, print no answer.

Sample Input 0

5 akash shubham onkar mihir mahesh

Sample Output 0

akhas shubhma onkra mihri mahhes

Explanation 0 Case 1:akhas is lexicographically greater than akash. Case 2:shubhma is lexicographically greater than shubham. Case 3:onkra is lexicographically greater than onkar. Case 4:mihri is lexicographically greater than mihir. Case 5:mahhes is lexicographically greater than mahesh. Submissions: 6 Max Score: 100 Difficulty: Hard Rate This Challenge: **ተ** Моге Need Help? Get advice from the discussion forum for this challenge. Or check out the environments page Current Buffer (saved locally, editable) & 🗗 C++ 0 1 ▼ #include <cmath> 2 #include <cstdio> #include <vector> #include <iostream> 5 #include <algorithm> 6 using namespace std; 8 9 vint main() { /* Enter your code here. Read input from STDIN. Print output to STDOUT */ 10 11 return 0; 12 13 Line: 1 Col: 1 Test against custom input Submit Code **1** Upload Code as File Run Code

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