Problem E. E

Time limit	1000 ms
Mem limit	1048576 kB
OS	Windows

Given a positive integer n, you can choose two **adjacent** digits of this number and swap them. **You can perform this operation at most once (or not at all)**.

Your task is to find the maximum value of the number after the operation (or without any operation).

Input

The input consists of multiple test cases.

First, there is a line containing an integer $T(1 \leq T \leq 10^5)$, indicating the number of test cases.

For each test case, input a positive integer $n(1 \leq n < 10^{200000})$.

It is guaranteed that for all data in a test case, the **sum of the number of digits of** n does not exceed 2×10^5.

Output

Output a total of T lines.

For each test case, output an integer representing the maximum value of the given number after at most one operation.

Examples

Input	Output
3 9 14623 998544332	9 41623 998544332

Note

In the second test case, you can swap the 1st digit with the 2nd digit.

In the first and third test cases, no operation is needed.