

∞ NUMBERCARDS ∞

Peter loves numbers more than anything. On his recent birthday, he received a set of N number cards as a gift, and he was overjoyed. Each card shows a single digit. He wants to arrange all the cards to form the smallest possible N -digit number, subject to one condition: the number must not start with digit 0.

Input

The first line contains an integer N ($2 \leq N \leq 100$), the number of cards. The second line contains N digits, separated by a space, representing the digits (0–9) on the number cards. It is guaranteed that at least one of the digits is not 0.

Output

Output the smallest possible N -digit number (with no leading zero) formed by arranging all the given digits. Do not put spaces between digits.

Example

Input	Output
4 9 4 6 2	2469
6 3 0 8 1 3 3	103338