Problem 234: Which is Larger

Difficulty: Medium

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Problem Background

We've often presented problems that require you to sort numbers in order to find the largest number… but can you combine them in a way that makes them even larger?

Problem Description

Given a list of positive integers, determine the largest number that can be formed by concatenating them together. For example, given 5, 12, and 4, the largest number that can be formed is 5412 ("5" + "4" + "12").

Sample Input

The first line of your program's input, received from the standard input channel, will contain a positive integer representing the number of test cases. Each test case will include a single line with a list of at least two non-negative integers, separated by spaces.

```
5
10 7 76 415
1 3 5 7 9
8 99 45 910
3 5 2
34 78 56 0 12 89 7
```

Sample Output

For each test case, your program must print the largest number that can be formed by concatenating all numbers in the given list.

```
77641510
97531
99910845
532
897875634120
```