# Problem 1. Anagrams

Ivancho often plays with words, especially anagrams. A word is any sequence of lowercase Latin letters. Two words are considered to be anagrams if the second one could be obtained from the first one only with changing the order of the letters in it. Now Ivancho has the following task. Having an array of N words, he should answer if it there exists a word that is an anagram of the all given words.

Sadly, Ivancho can't handle this task on his own. Write a program **anagrams** that solves Ivancho's problem.

**Input**: On the first line of the input file **anagrams.in** will be written a single integer N. On the following N line will be written N words.

**Output**: The output file **anagrams.out** must contain a single word which is anagram of all given words. If such word doesn't exist, print "-1" (without the quotes). If there exist more than one such anagrams print any of them.

**Constraints:**
1 ≤ N ≤ 1000
Each word in the input will consist at most 30 letters.

**TIME LIMIT – 1.0 sec**

## Example:

| anagrams.in | anagrams.out |
|---|---|
| 3<br>abab<br>aabb<br>bbaa | `baba` |