



You haven't any signature yet.
[Logout](#)

[Home](#) [Problems](#) [Contests](#) [Courses](#) [Ranklist](#) [Contest Results](#) [Submit](#) [Setting](#) [Status](#) [Discuss](#) [<->](#)

1198. Substring

Total: 17467 Accepted: 5122 Rating: 3.1/5.0(70 votes) 0 ▼

Description

Time Limit: 1sec Memory Limit: 32MB

Dr lee cuts a string S into N pieces, $s[1], \dots, s[N]$.

Now, Dr lee gives you these N sub-strings: $s[1], \dots, s[N]$. There might be several possibilities that the string S could be. For example, if Dr. lee gives you three sub-strings {"a", "ab", "ac"}, the string S could be "aabac", "aacab", "abaac", ...

Your task is to output the lexicographically smallest S.

Input

The first line of the input is a positive integer T. T is the number of the test cases followed.

The first line of each test case is a positive integer N ($1 \leq N \leq 8$) which represents the number of sub-strings. After that, N lines followed. The i-th line is the i-th sub-string $s[i]$. Assume that the length of each sub-string is positive and less than 100.

Output

The output of each test is the lexicographically smallest S. No redundant spaces are needed.

Sample Input

[Copy](#)

```
1
3
a
ab
ac
```

Sample Output

[Copy](#)

```
aabac
```

Problem Source: ZSUACM Team Member

[Status](#) [Submit](#) [Source Code](#)

Sicily Online Judge System (Rev 20120716-961)

[中文](#) | [English](#) | [Help](#) | [About](#)

Copyright © 2005 - 2018 Informatic Lab in SYSU. All rights reserved.