1198. Substring

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

Time Limit: 1sec Memory Limit:32MB

Description

Dr lee cuts a string S into N pieces,s[1],…,s[N].

Now, Dr lee gives you these N sub-strings: s[1],…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 <=N<= 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