UVa Online Judge

12506 Shortest Names

In a strange village, people have very long names. For example: *aaaaa*, *bbb* and *abababab*.

You see, it's very inconvenient to call a person, so people invented a good way: just call a prefix of the names. For example, if you want to call '*aaaaa*', you can call '*aaa*', because no other names start with '*aaa*'. However, you can't call '*a*', because two people's names start with '*a*'. The people in the village are smart enough to always call the shortest possible prefix. It is guaranteed that no name is a prefix of another name (as a result, no two names can be equal).

If someone in the village wants to call every person (including himself/herself) in the village exactly once, how many characters will he/she use?

Input

The first line contains T ($T \leq 10$), the number of test cases. Each test case begins with a line of one integer n ($1 \leq n \leq 1000$), the number of people in the village. Each of the following n lines contains a string consisting of lowercase letters, representing the name of a person. The sum of lengths of all the names in a test case does not exceed 1,000,000.

Output

For each test case, print the total number of characters needed.

Sample Input

```
1
3
aaaaa
bbb
abababab
```

Sample Output

```
5
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