

# E

## Shortest Names

**Input:** Standard Input  
**Output:** Standard Output



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

### Output for Sample Input

1	5
3	
aaaaa	
bbb	
abababab	

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