Problem I
Heaven's Coin
Time limit: 3 seconds

Believe it or not, strings can save creatures to heaven. One day Angel Tenshi found a way to save creatures to heaven. The secret is as follows. Every creature (including Tenshi) is equipped with a unique string that records the goodness and evil of this creature. This string is called the *karma*. (Of course, Tenshi's karma only has goodness.) Let us see how Tenshi can save a creature A to heaven. Let B be either Tenshi or a creature that was previously saved by Tenshi. Tenshi can save A if there is a way to match a suffix of B's karma to a prefix of A's karma, and in addition to this Tenshi has to spend some amount of *Heaven's Coin* in order to save A. (A match means that these two strings are exactly identical.) The amount of Heaven's coin that Tenshi needs for saving A is equal to the number of unmatched characters in A's karma. Notice that the saving order of creatures can drastically affect the total spend of Heaven's coin for Tenshi. Can you help Tenshi to find the minimum amount of Heaven's coin in order to save n creatures? For simplicity, we will use lowercase English letters as the characters of karmas. We use S_i to denote the karma of the ith creature, which is a finite-length string. For example, let the karma of Tenshi be `aaa`. Suppose there are 3 creatures, namely $S_1 =$ `aab`, $S_2 =$ `baa`, and $S_3 =$ `cba`, that Tenshi wants to save. If Tenshi applies the greedy strategy to save them, Tenshi would first save S_1 with cost 1. Then Tenshi will save S_2 with cost 2 because there is a length-1 suffix-to-prefix overlap between S_1 and S_2. Finally, Tehshi would save S_3 with cost 3. The total cost is $1 + 2 + 3 = 6$. However, if Tenshi follows this order S_1, S_3 and S_2, the cost for individual saving would be 1, 3 and 1, respectively. Now the total cost becomes $1 + 3 + 1 = 5$, which is better than the result of the greedy strategy. This moral tells us that greed cannot open the door to heaven.

Input Format

The test data file contains at most 10 test cases. The first line of the input gives you the number of test cases. In each test case, its first line specifies the integer n, which is the number of creatures that Tenshi needs to save, and $1 \leq n \leq 500$. Its second line is Tenshi's karma, and its third to the $(n + 2)$nd lines are the karmas of these creatures. A karma is a nonempty string of English lowercase letters and its length is at most 500 characters. The next test case follows immediately after the previous one.

Output Format

The output for each test case is the minimum amount of Heaven's coin that Tenshi needs in order to save the specified n creatures.

Sample Input

```
3
1
aaaaa
aabbb
2
ababab
abab
ababa
2
aaaa
bbbbb
ccc
```

Sample Output for the Sample Input

```
3
1
8
```