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Contest Code: SNCKQL21

Problem Code: SSTRPREF2

Read problem statements in Mandarin Chinese, Russian, and Vietnamese as well.

Given 33 strings S_1S_1 , S_2S_2 and XX , find the number of distinct ordered pairs of strings $(P,Q)(P,Q)$ such that :

- String $P+Q$ is a substring of XX .
- String PP is some prefix of S_1S_1 (possibly empty).
- String QQ is some prefix of S_2S_2 (possibly empty).

A **substring** of a string is a contiguous subsequence of that string. For example, "chef" is a substring of "codechef", but "def" is not. Also, an empty string is a substring of any string.

A **prefix** of a string SS is a substring of SS that occurs at the beginning of SS . For example, "code" is a prefix of "codechef", but "chef" is not. Also, an empty string is a prefix of any string.

Note: Since the input is large, prefer using fast input-output methods.

Input Format

- First line of the input contains T , the number of test cases. Then the test cases follow.
- Each test case contains three lines, string S_1S_1 in the first line, string S_2S_2 in the second line and string XX in the third line. All strings consist of only lowercase Latin letters.

Output Format

For each test case, print a single line containing one integer denoting the number of distinct ordered pairs $(P,Q)(P,Q)$ that satisfy the above conditions.

Constraints

- $1 \leq T \leq 105$
- $1 \leq |X|, |S_1|, |S_2| \leq 106$
- Sum of $|X|$ over all test cases doesn't exceed 106.
- Sum of $|S_1|$ over all test cases doesn't exceed 106.
- Sum of $|S_2|$ over all test cases doesn't exceed 106.

Sample Input 1

3
ab
bc
abc
aa
bb
ab
aab
acb
bcaabacbc

Sample Output 1

7
4
11

Explanation

Test case 1:

There are 77 distinct ordered pairs (P,Q)(P,Q) as follows :

- PP == "" , QQ == "" (empty string)
- PP == "" , QQ == bb
- PP == "" , QQ == bcbc
- PP == aa , QQ == ""
- PP == aa , QQ == bb
- PP == aa , QQ == bcbc
- PP == abab , QQ == ""

Test case 2:

There are 44 distinct ordered pairs as follows :

- PP == "" , QQ == ""
- PP == "" , QQ == bb
- PP == aa , QQ == ""
- PP == aa , QQ == bb

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1

Custom Input

Custom Input