

SWE2004: Principles in Programming (Spring 2013)

Programming Lab #11
Due-date : May 30th, 11:59 PM

Description

A subsequence of a given sequence is just the given sequence with some elements (possibly none) left out. Formally, given a sequence $X = x_1x_2\dots x_m$, another sequence $Z = z_1z_2\dots z_k$ is a subsequence of X if there exists a strictly increasing sequence $\langle i_1, i_2, \dots, i_k \rangle$ of indices of X such that for all $j = 1, 2, \dots, k$, we have $x_{i_j} = z_j$. For example, $Z = **bcdb**$ is a subsequence of $X = **abcdab**$ with corresponding index sequence $\langle **2, 3, 5, 7** \rangle$.

In this problem your job is to write a program that counts the number of occurrences of Z in X as a subsequence such that each has a distinct index sequence.

Input

The first line of the input contains an integer N indicating the number of test cases to follow. The first line of each test case contains a string X , composed entirely of lowercase alphabetic characters and having length no greater than 10,000. The second line contains another string Z having length no greater than 100 and also composed of only lowercase alphabetic characters. Be assured that neither Z nor any prefix or suffix of Z will have more than 10^{100} distinct occurrences in X as a subsequence.

Output

For each test case in the input output the number of distinct occurrences of Z in X as a subsequence. Output for each input set must be on a separate line.

Sample Input

```
2
babgbag
bag
rabbit
rabbit
```

Sample Output

```
5
3
```