G Oulipo

Problem

The French author Georges Perec (1936–1982) once wrote a book, La disparition, without the letter `'e'`. He was a member of the *Oulipo* group. A quote from the book:

> Tout avait l'air normal, mais tout s'affirmait faux. Tout avait l'air normal, d'abord, puis surgissait l'inhumain, l'affolant. Il aurait voulu savoir où s'articulait l'association qui l'unissait au roman : sur son tapis, assaillant à tout instant son imagination, l'intuition d'un tabou, la vision d'un mal obscur, d'un quoi vacant, d'un non-dit : la vision, l'avision d'un oubli commandant tout, où s'abolissait la raison : tout avait l'air normal mais ...

Perec would probably have scored high (or rather, low) in the following contest. People are asked to write a perhaps even meaningful text on some subject with as few occurrences of a given "word" as possible. Our task is to provide the jury with a program that counts these occurrences, in order to obtain a ranking of the competitors. These competitors often write very long texts with nonsense meaning; a sequence of 500,000 consecutive `'T'`s is not unusual. And they never use spaces.

So we want to quickly find out how often a word, i.e., a given string, occurs in a text. More formally: given the alphabet {`'A'`, `'B'`, `'C'`, ..., `'Z'`} and two finite strings over that alphabet, a word W and a text T, count the number of occurrences of W in T. All the consecutive characters of W must exactly match consecutive characters of T. Occurrences may overlap.

Input

The first line of the input file contains a single number: the number of test cases to follow. Each test case has the following format:

- One line with the word W, a string over {`'A'`, `'B'`, `'C'`, ..., `'Z'`}, with $1 \leq |W| \leq 10,000$ (here $|W|$ denotes the length of the string W).
- One line with the text T, a string over {`'A'`, `'B'`, `'C'`, ..., `'Z'`}, with $|W| \leq |T| \leq 1,000,000$.

Output

For every test case in the input file, the output should contain a single number, on a single line: the number of occurrences of the word W in the text T.

Example

Input	Output
3 BAPC BAPC AZA AZAZAZA VERDI AVERDXIVYERDIAN	1 3 0