

## 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'avisé 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  $\{'A', 'B', 'C', \dots, 'Z'\}$  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  $\{'A', 'B', 'C', \dots, 'Z'\}$ , 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  $\{'A', 'B', 'C', \dots, 'Z'\}$ , 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	1
BAPC	3
BAPC	0
AZA	
AZAZAZA	
VERDI	
AVERDXIVYERDIAN	