Problem D. Darkside

Input file:	`stdin`
Output file:	`stdout`
Time limit:	3 seconds
Memory limit:	256 megabytes

Daring duck of mystery,
Champion of right,
Swoops out of the shadows,
Darkwing owns the night.
Somewhere some villain schemes,
But his number's up.

Cloud of smoke and he appears,
Master of surprise.
Who's that cunning mind behind
That shadowy disguise?
Nobody knows for sure,
But bad guys are out of luck.
'Cause here comes
Darkwing Duck!

From the Disney Afternoon series "Darkwing Duck"

You're so tired of this guy! He is always one step ahead that makes you think that someone wrote a program for him to know all your moves in advance! You even regret a little about joining the dark side.

But now you have a plan. Even if the city of Darkwing Duck cannot be robbed, you can still work in a suburb. The suburb is build as one long street with houses represented by ASCII symbols.

It is not a Darkwing Duck zone anymore, but another defender operates there — GizmoDuck. He's a duck named Ferton dressed in a Robotic costume. Sometimes Ferton just rests at his home, and streets are patrolled by his Robotic costume only, controlled by a specially designed program.

The program is a sequence of commands '`L`' and '`R`' after which the Robot moves for the distance of one house to the left or right respectively. The Robot's mechanics don't allow him to turn twice in a row, so substrings "`LRL`" and "`RLR`" are forbidden. Additionally, no house is visited more than twice during these moves to improve the effectiveness of patrolling.

Robot lands somewhere near one of the houses, executes the sequence of commands and flies back home. He prepares a full log with labels of all houses he visited in order of their appearance (if some house was visited twice, it also appears twice in the log).

You have found a list of symbols that looks like one of these logs, and you also have a map of the suburb. You would like to know the total number of different programs (strings consisting of "`L`" and "`R`") that could possibly generate this log. Maybe it will help you somehow.

Input

In the first line of input, there is a non-empty string consisting of English letters, digits and symbols '`,`', '`!`', '`_`', '`.`' and '`-`' representing the houses in the suburb from left to right.

In the second line of input, there is a non-empty string consisting of English letters, digits and symbols '`,`', '`!`', '`_`', '`.`' and '`-`' representing the found log.

The length of each string is no more than $2 \cdot 10^5$ symbols.

Output

Output one integer: the total number of different correct programs that can lead to the found log.

Examples

stdin	stdout
Welcome_to_the_suburbia rubu	2
aa a	1

Note

In the first example, the correct programs are "LLL" and "LLR". Robot can land at position 20 ('b'), execute one of these programs and fly back home from position 17 or 19 respectively, producing the expected log.

In the second example, the only possible program is an empty string (it can be executed from any landing position).