

Bros

2024/2025 SEASON – FOURTH ROUND



Everybody knows when two bros meet, they have to dap up.

Currently we meet N bros standing in a line, numbered from 1 to N , in left-to-right order. In a few minutes every bro is going to start walking either left or right with equal speeds and is going to dap up every bro he bumps into.



You are given the directions of walking and Q queries l_i, r_i . For every query print the amount of dap ups that are going to happen between bros whose positions are between l_i and r_i inclusively.

Input

The first line of the file **bros.in** contains a string with length N where if the letter in position i is R , then bro i will move right, and if it is L – he will move left. The next line contains Q – the amount of queries. The next Q lines contain two numbers l_i, r_i – the left and right borders of the queries.

Output

On all of the Q lines of the file **bros.out** print 1 number – the answer for the corresponding query.

Constraints

$$1 \leq N, Q \leq 10^5$$

$$1 \leq l_i, r_i \leq N$$

Time Limit: 0.4 sec.

Memory Limit: 256 MB.

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Sample Test

| Input (bros.in) | Output (bros.out) |
|-----------------|-------------------|
| RLLRLL | 2 |
| 3 | 4 |
| 4 7 | 0 |
| 1 4 | |
| 3 4 | |

Sample Explanation

All pairs of bros who are going to dap up are:
(1,3),(1,4),(1,6),(1,7),(2,3),(2,4),(2,6),(2,7),(5,6),(5,7).

It can be seen that in positions between 4 and 7 there are only 2 pairs. In positions between 1 and 4 there are only 4 pairs and there aren't any pairs in positions between 3 and 4.