2211. Count Collisions on a Road

Description

There are `n` cars on an infinitely long road. The cars are numbered from `0` to `n - 1` from left to right and each car is present at a **unique** point.

You are given a **0-indexed** string `directions` of length `n`. `directions[i]` can be either `'L'`, `'R'`, or `'S'` denoting whether the `i th` car is moving towards the **left**, towards the **right**, or **staying** at its current point respectively. Each moving car has the **same speed**.

The number of collisions can be calculated as follows:

- When two cars moving in **opposite** directions collide with each other, the number of collisions increases by `2`.
- When a moving car collides with a stationary car, the number of collisions increases by `1`.

After a collision, the cars involved can no longer move and will stay at the point where they collided. Other than that, cars cannot change their state or direction of motion.

Return *the* ***total number of collisions*** *that will happen on the road*.

Example 1:

```
Input: directions = "RLRSLL"
Output: 5
Explanation:
The collisions that will happen on the road are:
- Cars 0 and 1 will collide with each other. Since they are moving in opposite directions, the number of collisions becomes 0 + 2 = 2.
- Cars 2 and 3 will collide with each other. Since car 3 is stationary, the number of collisions becomes 2 + 1 = 3.
- Cars 3 and 4 will collide with each other. Since car 3 is stationary, the number of collisions becomes 3 + 1 = 4.
- Cars 4 and 5 will collide with each other. After car 4 collides with car 3, it will stay at the point of collision and get hit by car 5. The number of collisions becomes 4 + 1 = 5.
Thus, the total number of collisions that will happen on the road is 5.
```

Example 2:

```
Input: directions = "LLRR"
Output: 0
Explanation:
No cars will collide with each other. Thus, the total number of collisions that will happen on the road is 0.
```

Constraints:

- `1 <= directions.length <= 10^5`
- `directions[i]` is either `'L'`, `'R'`, or `'S'`.