加分題：

一、（3 分）933. Number of Recent Calls, Easy

You have a `RecentCounter` class which counts the number of recent requests within a certain time frame.

Implement the `RecentCounter` class:

- `RecentCounter()` Initializes the counter with zero recent requests.
- `int ping(int t)` Adds a new request at time `t`, where `t` represents some time in milliseconds, and returns the number of requests that has happened in the past `3000` milliseconds (including the new request). Specifically, return the number of requests that have happened in the inclusive range `[t - 3000, t]`.

It is **guaranteed** that every call to `ping` uses a strictly larger value of `t` than the previous call.

Example 1:

```
Input
["RecentCounter", "ping", "ping", "ping", "ping"]
[[], [1], [100], [3001], [3002]]
Output
[null, 1, 2, 3, 3]

Explanation
RecentCounter recentCounter = new RecentCounter();
recentCounter.ping(1);     // requests = [1], range is [-2999,1], return 1
recentCounter.ping(100);   // requests = [1, 100], range is [-2900,100], return 2
recentCounter.ping(3001);  // requests = [1, 100, 3001], range is [1,3001], return 3
recentCounter.ping(3002);  // requests = [1, 100, 3001, 3002], range is [2,3002], return 3
```

Constraints:

- $1 <= t <= 10^9$
- Each test case will call `ping` with **strictly increasing** values of `t`.
- At most 10^4 calls will be made to `ping`.

■ 翻譯：

題目要你弄一個 RecentCounter Constructor，呼叫初始值會給空陣列；然後要你再寫一個 ping 函式，ping 函式每次會接收一個參數 t，然後把範圍限制在 [t – 3000, t] millisecond，接下來 ping 函式會吐回已接受的歷史參數中，有在這個範圍的參數**總數**。

一-1、評分標準：

1 測資（1 分）

2 演算法說明（1 分）

3 通過 LeetCode 測試（1 分）

二、（3 分）1041. Robot Bounded In Circle, Medium

On an infinite plane, a robot initially stands at `(0, 0)` and faces north. The robot can receive one of three instructions:

- `"G"` : go straight 1 unit;
- `"L"` : turn 90 degrees to the left;
- `"R"` : turn 90 degress to the right.

The robot performs the `instructions` given in order, and repeats them forever.

Return `true` if and only if there exists a circle in the plane such that the robot never leaves the circle.

Example 1:

```
Input: "GGLLGG"
Output: true
Explanation:
The robot moves from (0,0) to (0,2), turns 180 degrees, and then returns to (0,0).
When repeating these instructions, the robot remains in the circle of radius 2 centered at the origin.
```

Example 2:

```
Input: "GG"
Output: false
Explanation:
The robot moves north indefinitely.
```

Example 3:

```
Input: "GL"
Output: true
Explanation:
The robot moves from (0, 0) -> (0, 1) -> (-1, 1) -> (-1, 0) -> (0, 0) -> ...
```

Note:

1. `1 <= instructions.length <= 100`
2. `instructions[i]` is in `{'G', 'L', 'R'}`

■ 翻譯：

有一個機器人會無限迴圈執行你給的指令，其中，

G：會直走一單位
L：90 度左轉彎
R：90 度右轉彎

如果你給的指令可以成功把機器人限制在一個圓圈內（不管多大都可以），就回傳 true，否則回傳 false。

二-1 評分標準：

1 測資（1 分）
2 演算法說明（1 分）
3 通過 LeetCode 測試（1 分）