

933. Number of Recent Calls

Description

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:

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

