No of Recent Calles

$$t \Rightarrow \quad [t - 3000, t]$$

|————— Return No of Request —————|
$t - 3000$ t

ex -> ping

$t = 1$ $\qquad [- 2999, 1]$

|————————————————————| Request -> 1
-2999 $\qquad\qquad\qquad\qquad 1$

② -> $t = 100$

$$[- 2900, 100]$$

|————————|————————|
-2900 $\qquad 1 \qquad\qquad 100$

Request -> 2

③ -> $t = 3001$

$\qquad \hookrightarrow [1, 3001]$

|————————|————————|
$1 \qquad\qquad 100 \qquad\qquad 3001$

Request = 3

(4) → 3002   [2, 3002]

```
    |           |        ^              |
    2          100     3001          3002
```

Request = 2

final Answer [1, 2, 2, 2]

Algo → [1], [100], [300 1], [3002]

(1) → $t = 1$

   (1) → push

   (1) → valid: $[t - 3000, t]$

      $[-2999, 1]$

   check valid req in Queue

    (2) → Return size of Queue

Queue: No of Recent req within $[t - 3000, t00]$

| 1 | 100 | 3001 | 300 2 |

$t = 100$, $[-2900, 100]$
   ans → 2

$t = 5001$,
   $t - 3000 ⇒ 1$
   $1 < 1$ ⇒ false   no
ans ⇒ 3   pop

$t = 3002$
   $t - 3000 = 2$
   $1 < 2$ → pop
   ans ⇒ 3

(S-1) → Push (t)

(S-2) → Pop invalid Req older than $t - 3000$

   $t - 3000 > q_0.front( )$

(S-3) → Return q_0 size