# Problem 2327: Number of People Aware of a Secret

## Problem Information

**Difficulty:** Medium
**Acceptance Rate:** 61.01%
**Paid Only:** No
**Tags:** Dynamic Programming, Queue, Simulation

## Problem Description

On day `1`, one person discovers a secret.

You are given an integer `delay`, which means that each person will **share** the secret with a new person **every day** , starting from `delay` days after discovering the secret. You are also given an integer `forget`, which means that each person will **forget** the secret `forget` days after discovering it. A person **cannot** share the secret on the same day they forgot it, or on any day afterwards.

Given an integer `n`, return _the number of people who know the secret at the end of day_`n`. Since the answer may be very large, return it **modulo** `109 + 7`.

**Example 1:**

**Input:** n = 6, delay = 2, forget = 4 **Output:** 5 **Explanation:** Day 1: Suppose the first person is named A. (1 person) Day 2: A is the only person who knows the secret. (1 person) Day 3: A shares the secret with a new person, B. (2 people) Day 4: A shares the secret with a new person, C. (3 people) Day 5: A forgets the secret, and B shares the secret with a new person, D. (3 people) Day 6: B shares the secret with E, and C shares the secret with F. (5 people)

**Example 2:**

**Input:** n = 4, delay = 1, forget = 3 **Output:** 6 **Explanation:** Day 1: The first person is named A. (1 person) Day 2: A shares the secret with B. (2 people) Day 3: A and B share the secret with 2 new people, C and D. (4 people) Day 4: A forgets the secret. B, C, and D share

the secret with 3 new people. (6 people)

**Constraints:**

* `2 <= n <= 1000` * `1 <= delay < forget <= n`

## Code Snippets

**C++:**

```
class Solution {
public:
int peopleAwareOfSecret(int n, int delay, int forget) {

}
};
```

**Java:**

```
class Solution {
public int peopleAwareOfSecret(int n, int delay, int forget) {

}
}
```

**Python3:**

```
class Solution:
def peopleAwareOfSecret(self, n: int, delay: int, forget: int) -> int:
```