

Problem 495: Teemo Attacking

Problem Information

Difficulty: Easy

Acceptance Rate: 57.31%

Paid Only: No

Tags: Array, Simulation

Problem Description

Our hero Teemo is attacking an enemy Ashe with poison attacks! When Teemo attacks Ashe, Ashe gets poisoned for a exactly `duration` seconds. More formally, an attack at second `t` will mean Ashe is poisoned during the **inclusive** time interval `[t, t + duration - 1]`. If Teemo attacks again **before** the poison effect ends, the timer for it is **reset**, and the poison effect will end `duration` seconds after the new attack.

You are given a **non-decreasing** integer array `timeSeries`, where `timeSeries[i]` denotes that Teemo attacks Ashe at second `timeSeries[i]`, and an integer `duration`.

Return the total number of seconds that Ashe is poisoned.

Example 1:

Input: `timeSeries = [1,4]`, `duration = 2` **Output:** 4 **Explanation:** Teemo's attacks on Ashe go as follows: - At second 1, Teemo attacks, and Ashe is poisoned for seconds 1 and 2. - At second 4, Teemo attacks, and Ashe is poisoned for seconds 4 and 5. Ashe is poisoned for seconds 1, 2, 4, and 5, which is 4 seconds in total.

Example 2:

Input: `timeSeries = [1,2]`, `duration = 2` **Output:** 3 **Explanation:** Teemo's attacks on Ashe go as follows: - At second 1, Teemo attacks, and Ashe is poisoned for seconds 1 and 2. - At second 2 however, Teemo attacks again and resets the poison timer. Ashe is poisoned for seconds 2 and 3. Ashe is poisoned for seconds 1, 2, and 3, which is 3 seconds in total.

Constraints:

*`1` <= timeSeries.length <= 104` *`0` <= timeSeries[i], duration <= 107` *`timeSeries` is sorted in **non-decreasing** order.

Code Snippets

C++:

```
class Solution {
public:
    int findPoisonedDuration(vector<int>& timeSeries, int duration) {

    }
};
```

Java:

```
class Solution {
    public int findPoisonedDuration(int[] timeSeries, int duration) {

    }
}
```

Python3:

```
class Solution:
    def findPoisonedDuration(self, timeSeries: List[int], duration: int) -> int:
```