

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 exactly `duration` seconds. More formally, an attack at second `t` will mean Ashe is poisoned during the **inclusive** time interval $[t, t + \text{duration} - 1]$. 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:
```