

Problem 2169: Count Operations to Obtain Zero

Problem Information

Difficulty: Easy

Acceptance Rate: 79.90%

Paid Only: No

Tags: Math, Simulation

Problem Description

You are given two **non-negative** integers `num1` and `num2`.

In one **operation**, if `num1 >= num2`, you must subtract `num2` from `num1`, otherwise subtract `num1` from `num2`.

* For example, if `num1 = 5` and `num2 = 4`, subtract `num2` from `num1`, thus obtaining `num1 = 1` and `num2 = 4`. However, if `num1 = 4` and `num2 = 5`, after one operation, `num1 = 4` and `num2 = 1`.

Return **the number of operations** required to make either `num1 = 0` or `num2 = 0`.

Example 1:

Input: num1 = 2, num2 = 3 **Output:** 3 **Explanation:** - Operation 1: num1 = 2, num2 = 3. Since num1 < num2, we subtract num1 from num2 and get num1 = 2, num2 = 3 - 2 = 1. - Operation 2: num1 = 2, num2 = 1. Since num1 > num2, we subtract num2 from num1. - Operation 3: num1 = 1, num2 = 1. Since num1 == num2, we subtract num2 from num1. Now num1 = 0 and num2 = 1. Since num1 == 0, we do not need to perform any further operations. So the total number of operations required is 3.

Example 2:

Input: num1 = 10, num2 = 10 **Output:** 1 **Explanation:** - Operation 1: num1 = 10, num2 = 10. Since num1 == num2, we subtract num2 from num1 and get num1 = 10 - 10 = 0. Now num1 = 0 and num2 = 10. Since num1 == 0, we are done. So the total number of operations required is 1.

****Constraints:****

* `0 <= num1, num2 <= 105`

Code Snippets

C++:

```
class Solution {  
public:  
    int countOperations(int num1, int num2) {  
  
    }  
};
```

Java:

```
class Solution {  
public int countOperations(int num1, int num2) {  
  
}  
}
```

Python3:

```
class Solution:  
    def countOperations(self, num1: int, num2: int) -> int:
```