

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:
```