Problem 1342: Number of Steps to Reduce a Number to Zero

Problem Information

Difficulty: Easy
Acceptance Rate: 85.70%
Paid Only: No
Tags: Math, Bit Manipulation

Problem Description

Given an integer `num`, return _the number of steps to reduce it to zero_.

In one step, if the current number is even, you have to divide it by `2`, otherwise, you have to subtract `1` from it.

Example 1:

Input: num = 14 **Output:** 6 **Explanation:** Step 1) 14 is even; divide by 2 and obtain 7. Step 2) 7 is odd; subtract 1 and obtain 6. Step 3) 6 is even; divide by 2 and obtain 3. Step 4) 3 is odd; subtract 1 and obtain 2. Step 5) 2 is even; divide by 2 and obtain 1. Step 6) 1 is odd; subtract 1 and obtain 0.

Example 2:

Input: num = 8 **Output:** 4 **Explanation:** Step 1) 8 is even; divide by 2 and obtain 4. Step 2) 4 is even; divide by 2 and obtain 2. Step 3) 2 is even; divide by 2 and obtain 1. Step 4) 1 is odd; subtract 1 and obtain 0.

Example 3:

Input: num = 123 **Output:** 12

Constraints:

* `0 <= num <= 106`

Code Snippets

C++:

```
class Solution {
public:
int numberOfSteps(int num) {

}
};
```

Java:

```
class Solution {
public int numberOfSteps(int num) {

}
}
```

Python3:

```
class Solution:
def numberOfSteps(self, num: int) -> int:
```