Problem 3747: Count Distinct Integers After Removing Zeros

Problem Information

Difficulty: Medium
Acceptance Rate: 20.72%
Paid Only: No
Tags: Math, Dynamic Programming

Problem Description

You are given a **positive** integer `n`.

For every integer `x` from 1 to `n`, we write down the integer obtained by removing all zeros from the decimal representation of `x`.

Return an integer denoting the number of **distinct** integers written down.

Example 1:

Input: n = 10

Output: 9

Explanation:

The integers we wrote down are 1, 2, 3, 4, 5, 6, 7, 8, 9, 1. There are 9 distinct integers (1, 2, 3, 4, 5, 6, 7, 8, 9).

Example 2:

Input: n = 3

Output: 3

Explanation:

The integers we wrote down are 1, 2, 3. There are 3 distinct integers (1, 2, 3).

Constraints:

* `1 <= n <= 1015`

Code Snippets

C++:

```
class Solution {
public:
long long countDistinct(long long n) {

}
};
```

Java:

```
class Solution {
public long countDistinct(long n) {

}
}
```

Python3:

```
class Solution:
def countDistinct(self, n: int) -> int:
```