Problem 2376: Count Special Integers

Problem Information

Difficulty: Hard
Acceptance Rate: 40.96%
Paid Only: No
Tags: Math, Dynamic Programming

Problem Description

We call a positive integer **special** if all of its digits are **distinct**.

Given a **positive** integer `n`, return _the number of special integers that belong to the interval_`[1, n]`.

Example 1:

Input: n = 20 **Output:** 19 **Explanation:** All the integers from 1 to 20, except 11, are special. Thus, there are 19 special integers.

Example 2:

Input: n = 5 **Output:** 5 **Explanation:** All the integers from 1 to 5 are special.

Example 3:

Input: n = 135 **Output:** 110 **Explanation:** There are 110 integers from 1 to 135 that are special. Some of the integers that are not special are: 22, 114, and 131.

Constraints:

* `1 <= n <= 2 * 109`

Code Snippets

C++:

```
class Solution {
public:
int countSpecialNumbers(int n) {

}
};
```

Java:

```
class Solution {
public int countSpecialNumbers(int n) {

}
}
```

Python3:

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