

Problem 3272: Find the Count of Good Integers

Problem Information

Difficulty: Hard

Acceptance Rate: 69.47%

Paid Only: No

Tags: Hash Table, Math, Combinatorics, Enumeration

Problem Description

You are given two **positive** integers n and k .

An integer x is called **k-palindromic** if:

* x is a palindrome. * x is divisible by k .

An integer is called **good** if its digits can be rearranged to form a **k-palindromic** integer. For example, for $k = 2$, 2020 can be rearranged to form the k-palindromic integer 2002, whereas 1010 cannot be rearranged to form a k-palindromic integer.

Return the count of **good** integers containing n digits.

Note that any integer must **not** have leading zeros, **neither** before **nor** after rearrangement. For example, 1010 cannot be rearranged to form 101.

Example 1.

Input: $n = 3, k = 5$

Output: 27

Explanation:

Some of the good integers are:

* 551 because it can be rearranged to form 515. * 525 because it is already k-palindromic.

****Example 2:****

****Input:**** n = 1, k = 4

****Output:**** 2

****Explanation:****

The two good integers are 4 and 8.

****Example 3:****

****Input:**** n = 5, k = 6

****Output:**** 2468

****Constraints:****

* `1 <= n <= 10` * `1 <= k <= 9`

Code Snippets

C++:

```
class Solution {
public:
    long long countGoodIntegers(int n, int k) {

    }
};
```

Java:

```
class Solution {
    public long countGoodIntegers(int n, int k) {

    }
}
```

```
}
```

Python3:

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