Problem 3260: Find the Largest Palindrome Divisible by K

Problem Information

Difficulty: Hard
Acceptance Rate: 16.23%
Paid Only: No
Tags: Math, String, Dynamic Programming, Greedy, Number Theory

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`.

Return the**largest** integer having `n` digits (as a string) that is **k-palindromic**.

Note that the integer must **not** have leading zeros.

Example 1:

Input: n = 3, k = 5

Output: "595"

Explanation:

595 is the largest k-palindromic integer with 3 digits.

Example 2:

Input: n = 1, k = 4

Output: "8"

Explanation:

4 and 8 are the only k-palindromic integers with 1 digit.

Example 3:

Input: n = 5, k = 6

Output: "89898"

Constraints:

* `1 <= n <= 105` * `1 <= k <= 9`

Code Snippets

C++:

```
class Solution {
public:
string largestPalindrome(int n, int k) {

}
};
```

Java:

```
class Solution {
public String largestPalindrome(int n, int k) {

}
}
```

Python3:

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