There is a safe protected by a password. The password is a sequence of n digits where each digit can be in the range [0, k - 1].

The safe has a peculiar way of checking the password. When you enter in a sequence, it checks the **most recent**n**digits** that were entered each time you type a digit.

* For example, the correct password is "345" and you enter in "012345":
  + After typing 0, the most recent 3 digits is "0", which is incorrect.
  + After typing 1, the most recent 3 digits is "01", which is incorrect.
  + After typing 2, the most recent 3 digits is "012", which is incorrect.
  + After typing 3, the most recent 3 digits is "123", which is incorrect.
  + After typing 4, the most recent 3 digits is "234", which is incorrect.
  + After typing 5, the most recent 3 digits is "345", which is correct and the safe unlocks.

Return *any string of****minimum length****that will unlock the safe****at some point****of entering it*.

**Example 1:**

**Input:** n = 1, k = 2

**Output:** "10"

**Explanation:** The password is a single digit, so enter each digit. "01" would also unlock the safe.

**Example 2:**

**Input:** n = 2, k = 2

**Output:** "01100"

**Explanation:** For each possible password:

- "00" is typed in starting from the 4th digit.

- "01" is typed in starting from the 1st digit.

- "10" is typed in starting from the 3rd digit.

- "11" is typed in starting from the 2nd digit.

Thus "01100" will unlock the safe. "01100", "10011", and "11001" would also unlock the safe.

**Constraints:**

* 1 <= n <= 4
* 1 <= k <= 10
* 1 <= kn <= 4096