Problem 2243: Calculate Digit Sum of a String

Problem Information

Difficulty: Easy
Acceptance Rate: 67.14%
Paid Only: No
Tags: String, Simulation

Problem Description

You are given a string `s` consisting of digits and an integer `k`.

A **round** can be completed if the length of `s` is greater than `k`. In one round, do the following:

1. **Divide** `s` into **consecutive groups** of size `k` such that the first `k` characters are in the first group, the next `k` characters are in the second group, and so on. **Note** that the size of the last group can be smaller than `k`. 2. **Replace** each group of `s` with a string representing the sum of all its digits. For example, `"346"` is replaced with `"13"` because `3 + 4 + 6 = 13`. 3. **Merge** consecutive groups together to form a new string. If the length of the string is greater than `k`, repeat from step `1`.

Return `s` _after all rounds have been completed_.

Example 1:

Input: s = "11111222223", k = 3 **Output:** "135" **Explanation:** - For the first round, we divide s into groups of size 3: "111", "112", "222", and "23". Then we calculate the digit sum of each group: 1 + 1 + 1 = 3, 1 + 1 + 2 = 4, 2 + 2 + 2 = 6, and 2 + 3 = 5. So, s becomes "3" + "4" + "6" + "5" = "3465" after the first round. - For the second round, we divide s into "346" and "5". Then we calculate the digit sum of each group: 3 + 4 + 6 = 13, 5 = 5. So, s becomes "13" + "5" = "135" after second round. Now, s.length <= k, so we return "135" as the answer.

Example 2:

Input: s = "00000000", k = 3 **Output:** "000" **Explanation:** We divide s into "000", "000", and "00". Then we calculate the digit sum of each group: 0 + 0 + 0 = 0, 0 + 0 + 0 = 0, and 0 + 0 = 0. s becomes "0" + "0" + "0" = "000", whose length is equal to k, so we return "000".

Constraints:

* `1 <= s.length <= 100` * `2 <= k <= 100` * `s` consists of digits only.

Code Snippets

C++:

```cpp
class Solution {
public:
string digitSum(string s, int k) {


}
};
```

Java:

```java
class Solution {
public String digitSum(String s, int k) {


}
}
```

Python3:

```python
class Solution:
    def digitSum(self, s: str, k: int) -> str:
```