Problem 1461: Check If a String Contains All Binary Codes of Size K

Problem Information

Difficulty: Medium
Acceptance Rate: 56.82%
Paid Only: No
Tags: Hash Table, String, Bit Manipulation, Rolling Hash, Hash Function

Problem Description

Given a binary string `s` and an integer `k`, return `true` _if every binary code of length_ `k` _is a substring of_ `s`. Otherwise, return `false`.

Example 1:

Input: s = "00110110", k = 2 **Output:** true **Explanation:** The binary codes of length 2 are "00", "01", "10" and "11". They can be all found as substrings at indices 0, 1, 3 and 2 respectively.

Example 2:

Input: s = "0110", k = 1 **Output:** true **Explanation:** The binary codes of length 1 are "0" and "1", it is clear that both exist as a substring.

Example 3:

Input: s = "0110", k = 2 **Output:** false **Explanation:** The binary code "00" is of length 2 and does not exist in the array.

Constraints:

* `1 <= s.length <= 5 * 105` * `s[i]` is either `'0'` or `'1'`. * `1 <= k <= 20`

Code Snippets

C++:

```
class Solution {
public:
bool hasAllCodes(string s, int k) {

}
};
```

Java:

```
class Solution {
public boolean hasAllCodes(String s, int k) {

}
}
```

Python3:

```
class Solution:
def hasAllCodes(self, s: str, k: int) -> bool:
```