

Problem 3463: Check If Digits Are Equal in String After Operations II

Problem Information

Difficulty: Hard

Acceptance Rate: 0.00%

Paid Only: No

Problem Description

You are given a string

s

consisting of digits. Perform the following operation repeatedly until the string has

exactly

two digits:

For each pair of consecutive digits in

s

, starting from the first digit, calculate a new digit as the sum of the two digits

modulo

10.

Replace

s

with the sequence of newly calculated digits,

maintaining the order
in which they are computed.

Return
true
if the final two digits in

s
are the
same
;
otherwise, return
false

.

Example 1:

Input:

s = "3902"

Output:

true

Explanation:

Initially,

s = "3902"

First operation:

$$(s[0] + s[1]) \% 10 = (3 + 9) \% 10 = 2$$

$$(s[1] + s[2]) \% 10 = (9 + 0) \% 10 = 9$$

$$(s[2] + s[3]) \% 10 = (0 + 2) \% 10 = 2$$

s

becomes

"292"

Second operation:

$$(s[0] + s[1]) \% 10 = (2 + 9) \% 10 = 1$$

$$(s[1] + s[2]) \% 10 = (9 + 2) \% 10 = 1$$

s

becomes

"11"

Since the digits in

"11"

are the same, the output is

true

.

Example 2:

Input:

s = "34789"

Output:

false

Explanation:

Initially,

s = "34789"

After the first operation,

s = "7157"

After the second operation,

s = "862"

After the third operation,

s = "48"

Since

'4' != '8'

, the output is

false

Constraints:

$3 \leq s.length \leq 10$

5

s

consists of only digits.

Code Snippets

C++:

```
class Solution {  
public:  
    bool hasSameDigits(string s) {  
  
    }  
};
```

Java:

```
class Solution {  
public boolean hasSameDigits(String s) {  
  
}  
}
```

Python3:

```
class Solution:  
    def hasSameDigits(self, s: str) -> bool:
```

Python:

```
class Solution(object):  
    def hasSameDigits(self, s):  
        """  
        :type s: str  
        :rtype: bool  
        """
```

JavaScript:

```
/**  
 * @param {string} s  
 * @return {boolean}  
 */  
var hasSameDigits = function(s) {  
};
```

TypeScript:

```
function hasSameDigits(s: string): boolean {  
};
```

C#:

```
public class Solution {  
    public bool HasSameDigits(string s) {  
    }  
}
```

C:

```
bool hasSameDigits(char* s) {  
}
```

Go:

```
func hasSameDigits(s string) bool {  
}
```

Kotlin:

```
class Solution {  
    fun hasSameDigits(s: String): Boolean {  
  
    }  
}
```

Swift:

```
class Solution {  
    func hasSameDigits(_ s: String) -> Bool {  
  
    }  
}
```

Rust:

```
impl Solution {  
    pub fn has_same_digits(s: String) -> bool {  
  
    }  
}
```

Ruby:

```
# @param {String} s  
# @return {Boolean}  
def has_same_digits(s)  
  
end
```

PHP:

```
class Solution {  
  
    /**  
     * @param String $s  
     * @return Boolean  
     */  
    function hasSameDigits($s) {  
  
    }
```

```
}
```

Dart:

```
class Solution {  
  bool hasSameDigits(String s) {  
    }  
}
```

Scala:

```
object Solution {  
  def hasSameDigits(s: String): Boolean = {  
    }  
}
```

Elixir:

```
defmodule Solution do  
  @spec has_same_digits(s :: String.t) :: boolean  
  def has_same_digits(s) do  
  
  end  
end
```

Erlang:

```
-spec has_same_digits(S :: unicode:unicode_binary()) -> boolean().  
has_same_digits(S) ->  
.
```

Racket:

```
(define/contract (has-same-digits s)  
  (-> string? boolean?)  
)
```

Solutions

C++ Solution:

```
/*
 * Problem: Check If Digits Are Equal in String After Operations II
 * Difficulty: Hard
 * Tags: string, math
 *
 * Approach: String manipulation with hash map or two pointers
 * Time Complexity: O(n) or O(n log n)
 * Space Complexity: O(1) to O(n) depending on approach
 */

class Solution {
public:
    bool hasSameDigits(string s) {

    }
};
```

Java Solution:

```
/**
 * Problem: Check If Digits Are Equal in String After Operations II
 * Difficulty: Hard
 * Tags: string, math
 *
 * Approach: String manipulation with hash map or two pointers
 * Time Complexity: O(n) or O(n log n)
 * Space Complexity: O(1) to O(n) depending on approach
 */

class Solution {
    public boolean hasSameDigits(String s) {

    }
}
```

Python3 Solution:

```
"""
Problem: Check If Digits Are Equal in String After Operations II
Difficulty: Hard
Tags: string, math
```

```
Approach: String manipulation with hash map or two pointers
Time Complexity: O(n) or O(n log n)
Space Complexity: O(1) to O(n) depending on approach
"""

```

```
class Solution:
    def hasSameDigits(self, s: str) -> bool:
        # TODO: Implement optimized solution
        pass
```

Python Solution:

```
class Solution(object):
    def hasSameDigits(self, s):
        """
        :type s: str
        :rtype: bool
        """

```

JavaScript Solution:

```
/**
 * Problem: Check If Digits Are Equal in String After Operations II
 * Difficulty: Hard
 * Tags: string, math
 *
 * Approach: String manipulation with hash map or two pointers
 * Time Complexity: O(n) or O(n log n)
 * Space Complexity: O(1) to O(n) depending on approach
 */

/**
 * @param {string} s
 * @return {boolean}
 */
var hasSameDigits = function(s) {

};
```

TypeScript Solution:

```

/**
 * Problem: Check If Digits Are Equal in String After Operations II
 * Difficulty: Hard
 * Tags: string, math
 *
 * Approach: String manipulation with hash map or two pointers
 * Time Complexity: O(n) or O(n log n)
 * Space Complexity: O(1) to O(n) depending on approach
 */

function hasSameDigits(s: string): boolean {

};

```

C# Solution:

```

/*
 * Problem: Check If Digits Are Equal in String After Operations II
 * Difficulty: Hard
 * Tags: string, math
 *
 * Approach: String manipulation with hash map or two pointers
 * Time Complexity: O(n) or O(n log n)
 * Space Complexity: O(1) to O(n) depending on approach
 */

public class Solution {
    public bool HasSameDigits(string s) {

    }
}

```

C Solution:

```

/*
 * Problem: Check If Digits Are Equal in String After Operations II
 * Difficulty: Hard
 * Tags: string, math
 *
 * Approach: String manipulation with hash map or two pointers
 * Time Complexity: O(n) or O(n log n)
 * Space Complexity: O(1) to O(n) depending on approach

```

```
*/  
  
bool hasSameDigits(char* s) {  
  
}
```

Go Solution:

```
// Problem: Check If Digits Are Equal in String After Operations II  
// Difficulty: Hard  
// Tags: string, math  
  
// Approach: String manipulation with hash map or two pointers  
// Time Complexity: O(n) or O(n log n)  
// Space Complexity: O(1) to O(n) depending on approach  
  
func hasSameDigits(s string) bool {  
  
}
```

Kotlin Solution:

```
class Solution {  
    fun hasSameDigits(s: String): Boolean {  
  
    }  
}
```

Swift Solution:

```
class Solution {  
    func hasSameDigits(_ s: String) -> Bool {  
  
    }  
}
```

Rust Solution:

```
// Problem: Check If Digits Are Equal in String After Operations II  
// Difficulty: Hard  
// Tags: string, math
```

```

// 
// Approach: String manipulation with hash map or two pointers
// Time Complexity: O(n) or O(n log n)
// Space Complexity: O(1) to O(n) depending on approach

impl Solution {
    pub fn has_same_digits(s: String) -> bool {
        }

    }
}

```

Ruby Solution:

```

# @param {String} s
# @return {Boolean}
def has_same_digits(s)

end

```

PHP Solution:

```

class Solution {

    /**
     * @param String $s
     * @return Boolean
     */
    function hasSameDigits($s) {

    }
}

```

Dart Solution:

```

class Solution {
    bool hasSameDigits(String s) {
        }

    }
}

```

Scala Solution:

```
object Solution {  
    def hasSameDigits(s: String): Boolean = {  
        }  
        }  
    }
```

Elixir Solution:

```
defmodule Solution do  
  @spec has_same_digits(s :: String.t) :: boolean  
  def has_same_digits(s) do  
  
  end  
  end
```

Erlang Solution:

```
-spec has_same_digits(S :: unicode:unicode_binary()) -> boolean().  
has_same_digits(S) ->  
.
```

Racket Solution:

```
(define/contract (has-same-digits s)  
  (-> string? boolean?)  
)
```