Problem 459: Repeated Substring Pattern

Problem Information

Difficulty: Easy
Acceptance Rate: 0.00%
Paid Only: No

Problem Description

Given a string

s

, check if it can be constructed by taking a substring of it and appending multiple copies of the substring together.

Example 1:

Input:

s = "abab"

Output:

true

Explanation:

It is the substring "ab" twice.

Example 2:

Input:

s = "aba"

Output:

false

Example 3:

Input:

s = "abcabcabcabc"

Output:

true

Explanation:

It is the substring "abc" four times or the substring "abcabc" twice.

Constraints:

1 <= s.length <= 10

4

s

consists of lowercase English letters.

Code Snippets

C++:

```
class Solution {
public:
bool repeatedSubstringPattern(string s) {

}
};
```

Java:

```
class Solution {
public boolean repeatedSubstringPattern(String s) {

}
}
```

Python3:

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

Python:

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

JavaScript:

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

};
```

TypeScript:

```
function repeatedSubstringPattern(s: string): boolean {

};
```

C#:

```
public class Solution {
public bool RepeatedSubstringPattern(string s) {
```

```
}
}
```

C:

```
bool repeatedSubstringPattern(char* s) {

}
```

Go:

```
func repeatedSubstringPattern(s string) bool {

}
```

Kotlin:

```
class Solution {
fun repeatedSubstringPattern(s: String): Boolean {

}
}
```

Swift:

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

}
}
```

Rust:

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

}
}
```

Ruby:

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

end
```

PHP:

```
class Solution {

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

}
}
```

Dart:

```
class Solution {
bool repeatedSubstringPattern(String s) {

}
}
```

Scala:

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

}
}
```

Elixir:

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

end
end
```

Erlang:

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

Racket:

```
(define/contract (repeated-substring-pattern s)
(-> string? boolean?)
)
```

Solutions

C++ Solution:

```
/*
* Problem: Repeated Substring Pattern
* Difficulty: Easy
* Tags: string, tree
*
* Approach: String manipulation with hash map or two pointers
* Time Complexity: O(n) or O(n log n)
* Space Complexity: O(h) for recursion stack where h is height
*/

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

}
};
```

Java Solution:

```
/**
* Problem: Repeated Substring Pattern
* Difficulty: Easy
* Tags: string, tree
*
* Approach: String manipulation with hash map or two pointers
```

```
* Time Complexity: O(n) or O(n log n)
* Space Complexity: O(h) for recursion stack where h is height
*/

class Solution {
public boolean repeatedSubstringPattern(String s) {

}
}
```

Python3 Solution:

```
"""
Problem: Repeated Substring Pattern
Difficulty: Easy
Tags: string, tree

Approach: String manipulation with hash map or two pointers
Time Complexity: O(n) or O(n log n)
Space Complexity: O(h) for recursion stack where h is height
"""

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

Python Solution:

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

JavaScript Solution:

```
/**
* Problem: Repeated Substring Pattern
* Difficulty: Easy
```

```
* Tags: string, tree
*
* Approach: String manipulation with hash map or two pointers
* Time Complexity: O(n) or O(n log n)
* Space Complexity: O(h) for recursion stack where h is height
*/

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

};
```

TypeScript Solution:

```
/**
* Problem: Repeated Substring Pattern
* Difficulty: Easy
* Tags: string, tree
*
* Approach: String manipulation with hash map or two pointers
* Time Complexity: O(n) or O(n log n)
* Space Complexity: O(h) for recursion stack where h is height
*/

function repeatedSubstringPattern(s: string): boolean {

};
```

C# Solution:

```
/*
* Problem: Repeated Substring Pattern
* Difficulty: Easy
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* Time Complexity: O(n) or O(n log n)
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```

```
*/

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

}
}
```

C Solution:

```
/*
* Problem: Repeated Substring Pattern
* Difficulty: Easy
* Tags: string, tree
*
* Approach: String manipulation with hash map or two pointers
* Time Complexity: O(n) or O(n log n)
* Space Complexity: O(h) for recursion stack where h is height
*/

bool repeatedSubstringPattern(char* s) {

}
```

Go Solution:

```
// Problem: Repeated Substring Pattern
// Difficulty: Easy
// Tags: string, tree
//
// Approach: String manipulation with hash map or two pointers
// Time Complexity: O(n) or O(n log n)
// Space Complexity: O(h) for recursion stack where h is height

func repeatedSubstringPattern(s string) bool {

}
```

Kotlin Solution:

```
class Solution {
fun repeatedSubstringPattern(s: String): Boolean {

}
}
```

Swift Solution:

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

}
}
```

Rust Solution:

```
// Problem: Repeated Substring Pattern
// Difficulty: Easy
// Tags: string, tree
//
// Approach: String manipulation with hash map or two pointers
// Time Complexity: O(n) or O(n log n)
// Space Complexity: O(h) for recursion stack where h is height

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

}
}
```

Ruby Solution:

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

end
```

PHP Solution:

```
class Solution {
```

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

}
}
```

Dart Solution:

```
class Solution {
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