Our Solution(s)

Run Code

Solution 1

```go
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package main

// O(n + m) time | O(m) space
func KnuthMorrisPrattAlgorithm(str, substr string) bool {
	pattern := buildPattern(substr)
	return doesMatch(str, substr, pattern)
}

func buildPattern(substr string) []int {
	pattern := make([]int, len(substr))
	for i := range substr {
		pattern[i] = -1
	}
	i, j := 1, 0
	for i < len(substr) {
		if substr[i] == substr[j] {
			pattern[i] = j
			i, j = i+1, j+1
		} else if j > 0 {
			j = pattern[j-1] + 1
		} else {
			i += 1
		}
	}
	return pattern
}

func doesMatch(str, substr string, pattern []int) bool {
	i, j := 0, 0
	for i+len(substr)-j <= len(str) {
		if str[i] == substr[j] {
```

Your Solutions

Run Code

Solution 1   Solution 2   Solution 3

```go
package main

func KnuthMorrisPrattAlgorithm(str, substr string) bool {
	// Write your code here.
	return false
}
```

Our Tests

Custom Output

Submit Code

Run or submit code when you're ready.