28. Find the Index of the First Occurrence in a String

⊙ Difficulty	easy	
☑	☑	
🗓 Finished	@July 13, 2023	
☰ Problem	string	
☰ Previously asked company	Google	
⊙ website	leetcode	

Question:

Given two strings `needle` and `haystack`, return the index of the first occurrence of `needle` in `haystack`, or `-1` if `needle` is not part of `haystack`.

Example 1:

```
Input: haystack = "sadbutsad", needle = "sad"
Output: 0
Explanation: "sad" occurs at index 0 and 6.
The first occurrence is at index 0, so we return 0.
```

Example 2:

```
Input: haystack = "leetcode", needle = "leeto"
Output: -1
Explanation: "leeto" did not occur in "leetcode", so we return -1.
```

Optimal solution:

Time complexity: O(m*n)

Space complexity: O(1)

```python
class Solution(object):
    def strStr(self, haystack, needle):
        if needle == '':
            return 0

        for i in range(len(haystack) - len(needle) + 1):
            if haystack[i: i + len(needle)] == needle:
                return i
        return -1
```