Code Challenge #4 Caesar Cipher Encryptor (Easy)

Caesar Cipher Encryptor

Given a non-empty string of lowercase letters and a non-negative integer representing a key, write a function that returns a new string obtained by shifting every letter in the input string by k positions in the alphabet, where k is the key.

Note that letters should "wrap" around the alphabet; in other words, the letter `z` shifted by one returns the letter `a`.

Sample Input

```
string = "xyz"

key = 2
```

Sample Output

```
"zab"
```

Solution #1

```
1. function caesarCipherEncryptor(string, key) {
2.   let alpha = "abcdefghijklmnopqrstuvwxyz"
3.   let output = ""
4.    for (let char of string){
5.      const idx = alpha.indexOf(char)
6.      const newidx = (idx + key) % 26
7.      output += alpha[newidx]
8.    }
9.
10.    return output
11.
12. }
13.
```

Explanation

The Caesar Cipher Encryptor is based on a key that moves over the letter of an alphabet by the key amount. For example, if the key is 2 and the letter is A. We will move the letter A by 2 spaces to C. This simple cipher was used by Julius Caesar which is where it gets its name from. We solve this problem by first assigning the letters of the alphabet as a string to a variable named alphabet. We will also create a blank string labeled as output. Using the syntactic sugar structure for an for loop we will loop through each character of the string. We will then find index of the character using .indexOf and assign it to a variable called idx. We will then find the new idx by adding the idx with the new key. We will also use the modulo operator by 26 for letters towards the end of the alphabet. The modulo operator will allow you to start over to the beginning of the alphabet. For example, if the letter is Z which is the 26th letter and the key is 2 then we need to find the remainder of 28/26 which is 2 using the modulo operator. Z will turn into B as B is the second letter in the alphabet. Once we find the new idx we add the new letter of the idx to the output variable using the alpha variable and the new idx.