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Lab4. Python String Processing

Question1:Develop a function count_letter(string, search) that returns the number of times search character appears in a string.

Test cases:

1. Str = "hello world".Search = 'o'. Calling count_letter(str, search) should return output 2
2. Str = "HeLlo wOrld". Search = 'o'. Then, calling count_letter(str, search) will return output 1

Modify count_letter() so that it ignores case sensitivity, so that o and O are same.

1. Str = "HeLlo wOrld". Search='o'. Calling count_lettern(str, search) will return output 2

In [1]:
```
def count_letter(word, search):
    return count
word = input("Enter the words to search: ").lower()
search = input("Enter the character to search: ").lower()
count = 0
for char in word:
    if char == search:
        count += 1
print(count_letter(word, search))
```

```
Enter the words to search: HeLlo worLd
Enter the character to search: l
3
```

Answer: Here i create a function called count_letter and getting the input from the user and storing that string in a variable called "word" then the same for "search" and creating count = 0 and i am using for and if to specify the given conditions then finally print those by calling the function count_letter..

Question2.Write a program that counts the number of spaces, digits, vowels and consonants in a string that the user inputs. Print the string, no of spaces, no of digits, no of vowels and no of consonants.

Test case: Enter a string: Bishop Heber College 17. Then output should be:

- Given string: Bishop Heber College 17
- No. of spaces: 3
- No. of digits: 2
- No. of vowels: 7
- No. of consonants: 12

In [48]:
```
s =input("Enter the string: ")
a = s.lower()
vowels = "aeiou"
consonants = "bcdfghjklmnpqrstvwxyz"
digits = "1234567890"
space = " "
c = 0
v = 0
```

```
d = 0
sp = 0

for i in a:
    if i in vowels:
        v+=1
    elif i in consonants:
        c+=1
    elif i in digits:
        d+=1
    elif i in space:
        sp+=1

print("\nSpace: ",sp,"\nDigits: ",d,"\nVowels: ",v,"\nConsonants: ",c)
```

```
Enter the string: Bishop Heber College 17

Space:  3
Digits:  2
Vowels:  7
Consonants:  11
```

Answer: Here i get the input from the user and storing that in a variable called "s". And creating a variable called "a" then using islower() function the given string is converted to lower then i specify the vowels, consonants, digits, space. Then i am using for, if and elif giving certain conditions in it.

Question3.Develop a function remove_punctuation(str) that returns the string afer removing the following punctuations.

Punctuation List = "!\"#$%&'()*+,-./:;<=>?@[]^{|}"

Test case:

1. Str="Bishop's College !....". Calling remove_punctuation(str) should return output as "Bishop College"
2. Str="#bhc trending @cs $placements::>." Calling remove_punctuation(str) should return output as "bhc trending cs placements"

In [20]:

```
def remove_punctuation(string):
    punctuations = '''!()-[];:'"\,<>./?@#$%^&*_'''
    for x in string.lower():
        if x in punctuations:
            string = string.replace(x, "")
    print(string)
```

In [22]:

```
string=(input("Enter the string with symbols: "))
remove_punctuation(string)
```

```
Enter the string with symbols: #bhc trending @cs $placements::>.
bhc trending cs placements
```

Answer: Here i create a function called remove_punctuation and specifying those in a variable called punctuations. Then i am using for and in to convert the string to lower case i use .lower() function then i replace with that string and i print that finally which shows without any special characters..

Question4: Write a program that asks the user for a word. Translate their word into Pig Latin. Pig Latin game takes the first consonant (or set of first

consonants) of an English word, moves it to the end of the word and suffixes an ay. If the first letter is a vowel, do not move that vowel,but instead add "way" at the end of the word.

Test Cases:

1. Enter a word: pig
   - Output: ig-pay
2. Enter a word: banana
   - Output: anana-bay
3. Enter a word: trash
   - Output: ash-tray
4. Enter a word: apple
   - Output: apple-way
5. Enter a word: orange
   - Output: orange-way

Modify your program so that it becomes a function piglatin(word) and returns translated word as output. Call this function 3 times with the same inputs and validate the outputs.

In [1]:
```
word = input("Enter a word to translate to pig latin:")
def piglatin(word):
    ay = 'ay'
    way = 'way'
    p = '-'
    consonant = ('B','C','D','F','G','H','J','K','L','M','N','P','Q','R','S','T','Y'
    vowel = ('A','E','I','O','U')
    first_letter = word[0]
    first_letter = str(first_letter)
    first_letter = first_letter.upper()
    if first_letter in consonant:
        print(first_letter,'is a consonant')
        length_of_word = len(word)
        remove_first_letter = word[1:length_of_word]
        pig_latin = remove_first_letter+p+first_letter+ay
        print('The word in Pig Latin is:',pig_latin)
    elif first_letter in vowel:
        print(first_letter,"is a vowel")
        pig_latin = word+p+way
        print('The word in Pig Latin is:',pig_latin)
    else:
        print('I dont know what',first_letter,'is')
```

```
Enter a word to translate to pig latin:pig
```

In [2]:
```
piglatin(word)
```

```
P is a consonant
The word in Pig Latin is: ig-Pay
```