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.

3. Str = “HeLlo wOrld”. Search = ‘o’. Calling count_letter(str, search) will return output 2

```
def count_letter():
    string = input("Please enter your own String : ")
    char = input("Please enter your own Character : ")
    count = 0
    for i in range(len(string)):
        if(string[i] == char):
            count = count + 1
    print("The total Number of Times ", char, " has Occurred = " , count)
count_letter()
```

```
Please enter your own String : hello world
Please enter your own Character : o
The total Number of Times  o  has Occurred =  2

Please enter your own String : hello wOrld
Please enter your own Character : o
The total Number of Times  o  has Occurred =  1
```

```
def cl(s,c):
    count=0
    for i in range(len(s)):
        if(s[i].lower()==c.lower()):
            count+=1
    return count
s=input("enter a string : ")
c=input("enter a character to find : ")
cl(s,c)
```

```
enter a string : hello world
enter a character to find : o

2
```

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

```
def cct(str):
    vowels = 0
    consonant = 0
    space = 0
    digit = 0
    for i in range(0, len(str)):
        ch = str[i]
        if ( (ch >= 'a' and ch <= 'z') or (ch >= 'A' and ch <= 'Z') ):
            ch = ch.lower()
            if (ch == 'a' or ch == 'e' or ch == 'i' or ch == 'o' or ch == 'u'):
                vowels += 1
            else:
                consonant += 1
        elif (ch >= '0' and ch <= '9'):
            digit += 1
        else:
            space += 1
    print("Vowels:", vowels)
    print("Consonant:", consonant)
    print("Digit:", digit)
    print("Space:", space)
s=input("enter a string : ")
cct(s)
```

```
enter a string : Bishop Heber College 17
Vowels: 7
Consonant: 11
Digit: 2
Space: 3
```

Question3.Develop a function remove_punctuation(str) that returns the string after removing the following punctuations.Punctuation List = "!\"#$%&'()*+,-./:;<=>?@[\]^`{|}~"

Test cases:

1. Str = “Bishop’s College !.....”. Calling remove_punctuation(str) should return output as “Bishops College”

2. Str = “#bhc trending @cs $placements::>.” Calling remove_punctuation(str) should return output as “bhc trending cs placements”

```
def remove_punctuation(str):
    string=input("enter any stirng: ")
    new_string = ''.join(filter(str.isalnum, string))
    print(new_string)
remove_punctuation(str)
```

```
enter any stirng: Bishop's College !.....
BishopsCollege


enter any stirng: #bhc trending @cs $placements::>.
bhctrendingcsplacements
```

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.

```
while True:
    sentence = input('Enter a Sentence: ').lower()
    words = sentence.split()
    for i, word in enumerate(words):
        if word[0] in 'aeiou':
            words[i] = words[i]+ "-way"
        else:
            has_vowel = False

            for j, letter in enumerate(word):
                if letter in 'aeiou':
                    words[i] = word[j:] +"-"+ word[:j] + "ay"
                    has_vowel = True
                    break
            if(has_vowel == False):
                words[i] = words[i]+ "-way"
    pig_latin = ' '.join(words)
    print("Pig Latin: ",pig_latin)
```

```
Enter a Sentence: pig
Pig Latin:  ig-pay
Enter a Sentence: banana
Pig Latin:  anana-bay
Enter a Sentence: trash
Pig Latin:  ash-tray
Enter a Sentence: apple
Pig Latin:  apple-way
Enter a Sentence: orange
Pig Latin:  orange-way
```