PYTHON LAB - 9

STRING METHODS

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1. **Write a Python program to Count all letters, digits, and special symbols from the given string**
   Input = "P@#yn26at^&i5ve"
   Output: Chars = 8 Digits = 2 Symbol = 3

```
Input =  "P@#yn26at^&i5ve" #Given Input
Chars = 0 #Intializing Chars variable and setting value to 0
Character = [] #Creating empty list
Digits = 0 #Intializing Digits variable and setting value to 0
Digit= [] #Creating empty list
Symbols = 0 #Intializing Symbols and setting value to 0
Symbol = [] #Creating empty list
for char in Input: #iterating each character
 if (char.isalpha()): #checking condition if char is alphabet
   Chars+=1 #Increase count of chars by 1
   Character+=char #Add char to Character
 elif (char.isnumeric()):  #checking condition if char is digit
   Digits+=1  #Increase count of digits by 1
   Digit+=char #Add char to Digit
 else:
   Symbols+=1 #Increase count of symbols by 1
   Symbol+=char #Add char to Symbol
print("The given input is : ",Input) #print the given input
print("The count of characters is : ",Chars)#print the count of characters
print("The characters are : ",Character) #print the characters
print("The count of digits is : ",Digits) #print the count of digits
print("The digits are : ",Digit) #print the digits
print("The count of special symbol is : ",Symbols) #print the count of special
symbol
print("The special symbols are : ",Symbol) #print the special symbols
```

OUTPUT:

```
The given input is :  P@#yn26at^&i5ve
The count of characters is :  8
The characters are :  ['P', 'y', 'n', 'a', 't', 'i',
'v', 'e']
The count of digits is :  3
The digits are :  ['2', '6', '5']
The count of special symbol is :  4
The special symbols are :  ['@', '#', '^', '&']
```

2. **Write a Python program to remove duplicate characters of a given string.**
   Input = "String and String Function"
   Output: String and Function

```
Msg = "String and String Function" #input string
Msg2 = Msg.split(" ") #splitting each word
Words = [] #Creating an empty list
for i in Msg2: #checking for each word
   if i not in Words: #if words not in list
      Words.append(i) #Add that word to list
New_msg = " ".join(Words) #Joins the word with space and store in New_msg
print("Before removing duplicates :",Msg)
print("After removing duplicates : ",New_msg) #print New_msg
```

OUTPUT:

```
Before removing duplicates : String and String
Function
After removing duplicates :  String and Function
```

3. **Write a Python program to count Uppercase, Lowercase, special character and numeric values in a given string**
   Input = “Hell0 W0rld ! 123 * # welcome to pYtHoN”
   Output:
   UpperCase : 5
   LowerCase : 18
   NumberCase : 5
   SpecialCase : 11

```
Input = "Hell0 W0rld ! 123 * # welcome to pYtHoN" #given input
UpperCase = LowerCase = NumberCase = SpecialCase = 0 #intiating variables
and assigning values to 0
Upper, Lower, Number, Special = [],[],[],[] #Creating emptylists
for char in Input: #Iterating each characters in Input
 if(char.isupper()): #Checking if Char is uppercase
   UpperCase+=1 #Increase count of uppercase by 1
   Upper+=char #Add char to list upper
 elif(char.islower()):  #Checking if Char is lowercase
   LowerCase+=1 #Increase count of lowercase by 1
   Lower+=char #Add char to list lower
 elif(char.isnumeric()):  #Checking if Char is numeric
   NumberCase+=1 #Increase count of Numbercase by 1
   Number+=char #Add char to list number
 else:
   SpecialCase+=1 #Increase count of specialcase by 1
   Special.append(char) #Add char to list special
print("The given input is : ",Input) #print given input
print("The count of uppercase is %d and they are %s" %(UpperCase,Upper))
#print count and chars of uppercase
print("The count of lowercase is %d and they are %s" %(LowerCase,Lower))
#print count and chars of lowercase
print("The count of numbercase is %d and they are %s"
%(NumberCase,Number)) #print count and chars of numbercase
print("The count of specialcase is %d and they are %s" %(SpecialCase,Special))
#print count and chars of specialcase
```

OUTPUT:

```
The given input is :  Hell0 W0rld ! 123 * # welcome
to pYtHoN

The count of uppercase is 5 and they are ['H', 'W',
'Y', 'H', 'N']

The count of lowercase is 18 and they are ['e', 'l',
'l', 'r', 'l', 'd', 'w', 'e', 'l', 'c', 'o', 'm',
'e', 't', 'o', 'p', 't', 'o']

The count of numbercase is 5 and they are ['0', '0',
'1', '2', '3']

The count of specialcase is 11 and they are [' ', '
', '!', ' ', ' ', '*', ' ', '#', ' ', ' ', ' ']
```

4. **Write a Python Count vowels in a string**
   input= “Welcome to Python Assignment”
   Output: Total vowels are: 8

```
Input = "Welcome to Python Assignment" #Given input
Vowels = 'aeiouAEIOU' #Intializing vowels
Vowel = 0 #Setting variable Vowel value to 0
for i in Input: #iterating each character
  if i in Vowels: #Chechking each character is an vowel
    Vowel+=1 #if true increase value by 1
print("The given input is : ",Input) #print given input
print("The count of Vowels is : ",Vowel) #print count of vowels
```

OUTPUT:

```
The given input is :  Welcome to Python Assignment
The count of Vowels is :  8
```