LAB 6: String Functions

1. Consider the following string mySubject:

mySubject = "Computer Science"

What will be the output of the following string operations:

i. print(mySubject[0:len(mySubject)])
ii. print(mySubject[-7:-1])
iii. print(mySubject[::2])
iv. print(mySubject[len(mySubject)-1])
v. print(2*mySubject)
vi. print(mySubject[::-2])
vii. print(mySubject[:3] + mySubject[3:])
viii. print(mySubject.swapcase())
ix. print(mySubject.startswith('Comp'))
x. print(mySubject.isalpha())

2. Consider the following string myAddress:

myAddress = "WZ-1, New Ganga Nagar, New Delhi"

What will be the output of following string operations:

i. print(myAddress.lower())

ii. print(myAddress.upper())

iii. print(myAddress.count('New'))

iv. print(myAddress.find('New'))

v. print(myAddress.rfind('New'))

vi. print(myAddress.split(','))

vii. print(myAddress.split(' '))

viii. print(myAddress.replace('New','Old'))

ix. print(myAddress.partition(','))

xi. print(myAddress.index('Agra'))

PROGRAMMING PROBLEMS

1. Write a program to input line(s) of text from the user until enter is pressed. Count the total number of characters in the text (including white spaces), total number of alphabets, total number of digits, total number of special symbols and total number of words in the given text. (Assume that each word is separated by one space).

2. Write a program to convert a string with more than one word into title case string where string is passed as parameter. (Title case means that the first letter of each word is capitalised)

3. Input a string having some digits. Write a program to print the sum of digits present in this string.

String Exercises

Exercise 1: Write a program to reverse a string in python.

Exercise 2: Write a program to count vowels and consonants in a string.

Exercise 3: Write a program to remove duplicates in a string.

Exercise 4: Write a program to count the number of letters in a word.

Exercise 5: Python program to count the occurrence of each character in a word.

Exercise 6: Python program to convert lower letter to upper and upper letter to lower in a string.

Exercise 7: Python program to search a specific word in a string.

Exercise 8: Write a python program to sort letters of word by lower to upper case format.

Exercise 9: Write a program in Python to count lower, upper, numeric and special characters in a string.

Exercise 10: Python program to convert all the starting letter of a word in upper case format or in the title format.

Exercise 11. Write a program to count the number of times a character occurs in the given string.

Exercise 12. Write a program which replaces all vowels in the string with '*'.

Exercise 13. Write a program to check if a string is a palindrome or not. (A string is called palindrome if it reads same backwards as forward. For example, Kanak is a palindrome.)

Exercise 14. Write a program to check if the letter 'e' is present in the word 'Umbrella'.

Exercise 15. Write a program to check if the word 'orange' is present in the "This is orange juice".

Exercise 16. Write a program that takes your full name as input and displays the abbreviations of the first and middle names except the last name which is displayed as it is. For example, if your name is Robert Brett Roser, then the output should be R.B.Roser.

Exercise 17. Check the occurrence of the letter 'e' and the word 'is' in the sentence "This is umbrella".

Exercise 18. Write a program to make a new string with all the consonents deleted from the string "Hello, have a good day".

Exercise 19. Write a program to find the length of the string "refrigerator" without using **len** function.

Exercise 20. Write a program to find out the largest and smallest word in the string "This is an umbrella".

Exercise 21. Write a program to input a formula with some brackets and checks, and prints out if the formula has the same number of opening and closing parentheses.

Exercise 22. Write down the names of 10 of your friends in a list and then sort those in alphabetically ascending order.

Exercise 23. Write a program to make a new string with the word "the" deleted in the sentence "This is the lion in the cage".

Exercise 24. Write a program to check if the two strings entered by user are anagrams or not. Two words are said to be anagrams if the letters of one word can be rearranged to form the other word. For example, jaxa and ajax are anagrams of each other.

Exercise 25. Write a program that prompts for a phone number of 10 digits and two dashes, with dashes after the area code and the next three numbers. For example, 017-555-1212 is a legal input. Display if the phone number entered is valid format or not and display if the phone number is valid or not (i.e., contains just the digits and dash at specific places.)

Exercise 26. Write a program that asks the user for a string (only single space between words) and returns an estimate of how many words are in the string. (Hint. Count number of spaces)

Exercise 27. Write a program which reverses a string and stores the reversed string in a new string.

Exercise 28. Write a program to input a line of text and create a new line of text where each word of input line is reversed.
Write a program that does the following:

- takes two inputs: the first, an integer and the second, a string
- from the input string extract all the digits, in the order they occurred, from the string.
    - if no digits occur, set the extracted digits to 0
- add the integer input and the digits extracted from the string together as integers
- print a string of the form :
  "integer_input + string_digits = sum"

For example :
For inputs 12, 'abc123' → '12 + 123 = 135'
For inputs 20, 'a5b6c7' → '20 + 567 =587'
For inputs 100, 'hi mom' → '100 + 0 = 100'

Exercise 29. Write a program to display the largest word from the string.

Exercise 30. Write a program to display the unique words from the string.

Exercise 31. Write a program to accept two strings from the user and display the common words. (Ignore case)

Exercise 32. Write a program to accept a string and display the string with second alphabet of each word in upper case.

Exercise 33. Write a program to accept a word from the user and display it in the following pattern.

if the word is "river then it should display as shown below

r

ri

riv

rive

river