**AL-2001**

**Programming for AI**

**Lab # 4**

**Objectives**

**Strings**

**Note: Carefully read the following instructions (***Each instruction contains a weightage***)**

* First think about statement problems and then write your logic on Copy / Notebook.
* Write **Your Name** and **Roll No** on your Paper/Sheet’s first page.
* Do not copy from any source otherwise you will be penalized with negative marks.
* Complete your lab **within given Time Slot**.
* Paste all your codes along with screenshots in a word file and renamed with your roll number.
* Keep all your source files in your computer for verification. Do not overwrite a single source file for all programs.

**[Problems/Task]**

1. You have a few Python variables that describe your age, name, and favorite food:

**Given:**

name = "Mark"

age = 27

favourite\_food = "Pizza"

Using these variables, create the following string code to introduce yourself:

**Expected Output:**

My name is Mark. I’m of age 27. My favorite food is Pizza.

1. Write a code to remove special symbols / punctuation from a string.

**Given:**

str1 = "/\*Jon is @developer & musician"

**Expected Output:**

"Jon is developer musician".

1. Given string contains a combination of the lower and upper case letters. Write a program to arrange the characters of a string so that all lowercase letters should come first.

**Given:**

str1 = PyNaTive

**Expected Output:**

yaivePNT

1. Create a mixed String using the following rules:

Given two strings, s1 and s2. Write a program to create a new string s3 made of the first char of s1, then the last char of s2, next, the second char of s1 and second last char of s2, and so on. Any leftover chars go at the end of the result.

**Given:**

s1 = "Abc"

s2 = "Xyz"

**Expected Output:**

AzbycX

1. Given a string s1, write a program to return the sum and average of the digits that appear in the string, ignoring all other characters.

**Given:**

str1 = "PYnative29@#8496"

**Expected Outcome:**

Sum is: 38

Average is: 6.333333333333333

1. Write a program to split a given string on hyphens and display each substring.

**Given:**

str1 = Hamad-is-a-data-scientist

**Expected Output:**

Displaying each substring

Hamad

is

a

data

scientist

1. Write a program to find words with both alphabets and numbers from an input string.

**Given:**

str1 = "Emma25 is Data scientist50 and AI Expert"

**Expected Output:**

Emma25  
scientist50

1. Replace each special symbol with # in the following string.

**Given:**

str1 = '/\*Jon is @developer & musician!!'

**Expected Output:**

##Jon is #developer # musician##

1. Write a program to count occurrences of all characters within a string.

**Given:**

str1 = "Apple"

**Expected Outcome:** {'A': 1, 'p': 2, 'l': 1, 'e': 1}

1. Accept the string from a user and display first two characters of each word in same line separated by space.
2. Write a program to create, concatenate and print a string and accessing sub-string from a given string.
3. [Write a program to check if a string is palindrome or not](https://www.geeksforgeeks.org/python-program-check-string-palindrome-not/).
4. Write a code that works on String slicing to rotate a string.
5. [Write a program to accept a string](https://www.geeksforgeeks.org/python-counter-find-duplicate-characters-string/) from user and display n characters from the right of the string.

**You need to done with your exercise within given time.**