Practical No: 03(A)

Practical Title: Write a python program to perform String operations.

Aim: Write a Python program to compute following operations on String:

a) To display word with the longest length
b) To determines the frequency of occurrence of particular character in the string
c) To check whether given string is palindrome or not
d) To display index of first appearance of the substring
e) To count the occurrences of each word in a given string

Prerequisite:

- Basics of String operations.

Objectives:

To understand the use of standard library functions for string operations. To perform the string operations

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Input: One or Two Strings

Output: Resulting string after performing string operation.

Theory :

String:
String is defined as an array of characters or a pointer to characters.

Null-terminated String:
String is terminated by a special character which is called as null terminator or null parameter (\0). So when you define a string you should be sure to have sufficient space for the null terminator. The null terminator has value 0.

Declaring String:
As in string definition, we have two ways to declare a string. The first way is, we declare an array of characters as follows

```
char s[] = “string” or
char str[20];
```

String in python:
Python string is a sequence of Unicode characters that is enclosed in the quotations marks Every string method does not change the original string instead returns a new string with the changed attributes.

Inbuilt String Method in Python:

1.COUNT():

Python String count() function is an inbuilt function in python programming language that returns the number of occurrences of a substring in the given string.

Syntax:

string.count(substring, start=…, end=…)

Parameters:

- The count() function has one compulsory and two optional parameters.
    - Mandatory parameter:
        - substring – string whose count is to be found.
    - Optional Parameters:
        - start (Optional) – starting index within the string where the search starts.
        - end (Optional) – ending index within the string where the search ends.

Return Value:count() method returns an integer that denotes number of times a substring occurs in a given string.

2. FIND():

Python String find() method returns the lowest index or first occurrence of the substring if it is found in a given string. If it is not found, then it returns -1.

Syntax: str_obj.find(sub, start, end)

Parameters:

- sub: Substring that needs to be searched in the given string.
- start (optional): Starting position where the substring needs to be checked within the string.
- end (optional): End position is the index of the last value for the specified range. It is excluded while checking.

Return: Returns the lowest index of the substring if it is found in a given string. If it's not found then it returns -1.

String operation :

a) To display word with the longest length

Steps:

1. Take input from user and store it in str
2. Define longest_word = ""
3. compare each word length in str with longest_word length

    If length of longest word< length of word in str:

        Assign length of word in str to longest_word

4. Display word with longest length

b) To determines the frequency of occurrence of particular character in the string

Steps:

1. Take input from user and store it in str
2. Take input of char to search in str and store it in char
3. Initialize count =0
4. compare each character str with given char

   .If character in str is equal to char,increment count by 1
5. Display count

c) To check whether given string is palindrome or not

Steps:

1. Take input from user and store it in str
2. Define reverse = “”
3. find the reverse of given str using slicing operator
4. Compare str with reverse.if str is equal to reverse,print palindrome else print not palindrome

d) To display index of first appearance of the substring

Steps:

1. Take input from user and store it in str
2. Take substring from user
3. use find() function to find index of substring
4. display index of substring

e) To count the occurrences of each word in a given string

Steps:

1. Take input from user and store it in str
2. use split function on str
3. use count() function to find count of each word
4. display word with its count

Conclusion:

By this way, we can perform string operations successfully**.**

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3	4	3	10	