Netaji Subhash Engineering College
Department of Computer Science & Engineering
B. Tech CSE 2nd Year 3rd Semester
2023-2024

Name of the Course: IT Workshop (Python)

Course Code: PCC-CS393

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Class Roll No.: 103

University Roll No.: 10900122105

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Assignment No.: A4_01

Problem Statement:
Write a program to count the number of each vowel in a sentence.

Python Code:
```python
sentence = input("Enter a Sentence: ").lower()
vowel_count = {'a': 0, 'e': 0, 'i': 0, 'o': 0, 'u': 0}

for char in sentence:
    if char in 'aeiou':
        vowel_count[char] += 1

for vowel, count in vowel_count.items():
    print(f'Count of {vowel} = {count}')
```

Sample Output(s):
Enter a Sentence: This is a String
Count of a = 1
Count of e = 0
Count of i = 3
Count of o = 0
Count of u = 0

Assignment No.: A4_02

Problem Statement:
Write a program to read a string and check whether the string is a palindrome or not.

Python Code:
```python
n=int(input("Enter the Number: "))
c=len(str(n))
num=n
sum=0
for i in range(c):
    temp=num%10
    sum+=temp**c
    num=num//10
if(sum==n):
    print("It is an Armstrong Number")
else:
    print("It is Not an Armstrong Number")
```

Sample Output(s):
Enter a string: radar
The string is a palindrome.

Assignment No.: A4_03

Problem Statement:
Write a program to get a string from a given string where all occurrences of the last character have been changed to '*', except the last character.

Python Code:
```
input_string = input("Enter a string: ")
output_string = ''.join(['*' if ch == input_string[-1] and i !=
len(input_string) - 1 else ch for i, ch in enumerate(input_string)])
print(output_string)
```

Sample Output(s):
Enter a string: Programming

Pro*ramming

Assignment No.: A4_04

Problem Statement:
Write a program to count the occurrences of a word in a given
sentence.

Python Code:
```
sentence = input("Enter a sentence: ").lower()
word = input("Enter the word to count: ").lower()
words = sentence.split()
word_count = 0
for w in words:
   if w == word:
      word_count += 1
print(f'This word appears {word_count} times in the sentence.')
```

Sample Output(s):
Enter a sentence: Cat and mat cat

Enter the word to count: cat

This word appears 2 times in the sentence.

Assignment No.: A4_05

Problem Statement:
Write a program to get all substrings of a given string.

Python Code:
```python
string = input("Enter a string: ")
substrings = []
for i in range(len(string)):
    for j in range(i + 1, len(string) + 1):
        substrings.append(string[i:j])

print("All substrings of the given string:")
for substring in substrings:
    print(substring)
```

Sample Output(s):
Enter a string: Geeks
All substrings of the given string:
G
Ge
Gee
Geek
Geeks
e
ee
eek
eeks
e
ek
eks
k
ks
s

Assignment No.: A4_06

Problem Statement:

Write a program to detect whether two strings are anagrams or not.

Python Code:
```
str1 = input("Enter the first string: ").replace(" ", "").lower()
str2 = input("Enter the second string: ").replace(" ", "").lower()
if set(str1) == set(str2):
    print("The Two Strings are Anagrams.")
else:
    print("The Two Strings are not Anagrams.")
```

Sample Output(s):
```
Enter the first string: lamp
Enter the second string: palm
The Two Strings are Anagrams.
```