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| **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**  **Name of the Student:**  **Class Roll No.:**  **University Roll No.:**  **Date of Experiment: 25/08/2023**  **Date of Submission: 01/09/2023**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **Assignment No.: A4\_01**  **Problem Statement:**  Write a program to count the number of each vowel in a sentence.  **Python Code:**  **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:**  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:**  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. |