Assignment No. 2

Name of Programmer: Vishal Pravin Jatti Roll No. : MC23F14F026

Q.1 Write a program to count the total number of digits in a number

```
num = int(input("Enter the number to count the total number of digits in a
number:"))
temp = num
count = 0
while  temp > 0:
   count += 1
   temp //= 10
print ("The Total Number Of Digits In a Number {0} Is {1}".format(num,count))
```

Output:

```
= RESTART: E:\College Practical\Python\Assignment 2\My\Q2.py
Enter the number to count the total number of digits in a number:4662891
The Total Number Of Digits In a Number 4662891 Is 7
```

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Q.2 Write a Python function to check whether a number is perfect or not from 1 to 10000

```
def isPerfect(num):
    if num == 1:
        return False
    sum = 1
    for  i in range(2, num // 2 + 1):
        if num % i == 0:
            sum += i
    if sum == num:
        return True
    else:
        return False

for i in range(1,10000+1):
    if isPerfect(i):
        print(i,end=" ")
```

Output:

```
= RESTART: E:\College Practical\Python\Assignment 2\My\Q3.py
6 28 496 8128
```

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Q.3 Find the first occurrence of a number in a list using a while loop:

```
def find_first_occurrence(lst, num):
    i = 0
    while i < len(lst):
        if lst[i] == num:
            return i
        i += 1
    return -1

numbers = [1, 2, 3, 4, 5, 5, 6, 7, 8, 9]
print(numbers)
occur = int(input("Enter the number to find the Occurance "))
print(find_first_occurrence(numbers, occur))
```

Output:

```
= RESTART: E:\College Practical\Python\Assignment 2\My\Q11.py
[1, 2, 3, 4, 5, 5, 6, 7, 8, 9]
Enter the number to find the Occurance 5
4
```

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Q.4 Write a program to find the list of words that are longer than n from a given list of words.

```
def find_long_words(words, n):
  long_words = []
  for word in words:
    if len(word) > n:
      long_words.append(word)
  return long_words

words = ["apple", "banana", "cherry", "date", "fig", "grape"]
n =int(input("Enter  value of n : "))
print("List of Words is : ",list(filter(lambda word: len(word) > n, words)))
```

Output:

```
========== RESTART: E:\College Practical\Python\Assignment 2\My\Q17.py =======
Enter  value of n : 4
List of Words is :  ['apple', 'banana', 'cherry', 'grape']
```

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Q.5 Write a Python program to check if a list is empty or not.

```
def check_list_empty(input_list):
    if len(input_list) == 0:
        print("The list is empty.")
    else:
        print("The list is not empty.")

my_list1 = []
check_list_empty(my_list1)

my_list2 = [1, "Vishal", 3]
check_list_empty(my_list2)
```

Output:

```
= RESTART: E:\College Practical\Python\Assignment 2\My\Q19.py
The list is empty.
The list is not empty.
```

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Q.6 Write a Python program to extract specified size of strings from a give list of string values.

```
def extract_strings(input_list, min_length=0, max_length=-1):
    extracted_strings = []
    for string in input_list:
        if min_length <= len(string) <= max_length:
            extracted_strings.append(string)
    return extracted_strings

List_String = ["Vishal","VJ","Ankit", "Rahul", "Aryan", "Prince"]
extracted_strings = extract_strings(List_String, 4, 5)
print(extracted_strings)
```

Output:

```
= RESTART: E:\College Practical\Python\Assignment 2\My\Q24.py
['Ankit', 'Rahul', 'Aryan']
```

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Q.7 Write a Python program to check whether the given string is binary.

```
def is_binary_string(string):
  if not string:
    print("Entered String is not Binary ")
    pass
  for char in string:
    if char not in ('0', '1'):
      print("Entered String is not Binary ")
      pass
  print("Entered String is Binary ")

string2 = input("Enter any String  : ")

is_binary_string(string2)
```

Output:

```
= RESTART: E:\College Practical\Python\Assignment 2\My\Q28.py
Enter any String  : 1010
Entered String is Binary
```

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Q.8 Write a Python program to compute the sum of the digits in a given string.

```
def sum_of_digits(s):
    sum = 0
    for c in s:
        if c.isdigit():
            sum += int(c)
    return sum
str = input("Enter a String Containing digits and alphabet: ")
print("Sum of the digits are:")
print(sum_of_digits(str))
```

Output:

```
= RESTART: E:\College Practical\Python\Assignment 2\My\Q30.py
Enter a String Containing digits and alphabet: a2b3c4d5
Sum of the digits are:
14
```

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Q.9 Write a Python program to replace the last value of tuples in a list.
 # Sample list: [(10, 20, 40), (40, 50, 60), (70, 80, 90)]
 # Expected Output: [(10, 20, 100), (40, 50, 100), (70, 80, 100)]

```
list_of_tuples = [(10, 20, 40 ,50), (40, 50, 60), (70, 80, 90)]
lst=[]
for i in list_of_tuples:
    temp=i[:len(i)-1]+(100,)

    lst.append(temp)
print(lst)
```

Output:

```
= RESTART: E:\College Practical\Python\Assignment 2\My\Q45.py
[(10, 20, 40, 100), (40, 50, 100), (70, 80, 100)]
```

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Q.10 Write a program that accepts a sentence and calculate the number of letters and digits. Store the result in a dictionary.

```
def count_letters_and_digits(sentence):
    letter_count = 0
    digit_count = 0

    for char in sentence:
        if char.isalpha():
            letter_count += 1
        elif char.isdigit():
            digit_count += 1

    result = {"letters": letter_count, "digits": digit_count}
    return result

user_sentence = input("Please enter a sentence: ")

print(count_letters_and_digits(user_sentence))
```

Output:

```
========== RESTART: E:\College Practical\Python\Assignment 2\My\Q47.py =
Please enter a sentence: Vishal419
{'letters': 6, 'digits': 3}
```