WEEK #4

Objectives

- To understand the creation and use of functions in Python.
- To manipulate lists and perform operations on list elements.

Outcomes

After completing this week, the students would be able to:

- Create and use functions to perform specific tasks.
- Manipulate list elements and perform operations like iteration and transformation.

Problems

1. Write a program to create a function cal_sum_sub() that accepts two variables and calculates addition and subtraction. Also, it must return both addition and subtraction in a single return call.

```
# Return sum and subtraction
def cal_sum_sub(a=0, b=0):
    sum = a+b
    sub = a-b
    return sum, sub
ans = cal_sum_sub()
print(f"Sum = {ans[0]} and Subtraction = {ans[1]}")
ans1 = cal_sum_sub(5, 3)
print(f"Sum = {ans1[0]} and Subtraction = {ans1[1]}")
```

```
Sum = 0 and Subtraction = 0
Sum = 8 and Subtraction = 2
PS C:\Users\hp\Documents\Suhel\3rd - Sem\Lab-Manual-III>
```

2. Write a function to return True if the first and last number of a given list are the same. If the numbers are different, return False.

```
# To check if the last element of lists are same or not
def is_same(list1, list2):
    if list1[len(list1) - 1] == list2[len(list2) - 1]:
        return True
```

```
    else:
        return False
print("Is same", is_same([1, 2, 3], [5, 4, 3]))
print("Is same", is_same([1, 2, 3], [5, 4, 12]))
```

```
Is same True
Is same False
PS C:\Users\hp\Documents\Suhel\3rd - Sem\Lab-Manual-III>
```

3. Given a list of numbers, write a program to turn every item of the list into its square.

```
# Given a list of numbers. Write a program to turn every item of a list into its square
list = [1, 2, 3, 4]
for i in range(0, len(list)):
    print(list[i]**2, end=" ")
```

```
1 4 9 16
PS C:\Users\hp\Documents\Suhel\3rd - Sem\Lab-Manual-III>
```

4. Given two Python lists, write a program to iterate both lists simultaneously and display items from list 1 in original order and items from list 2 in reverse order.

```
# Iterating two list simultaneously
list1 = [1, 2, 3]
list2 = [11, 22, 33, 100]
n =  max(len(list1) , len(list2))
k =0
i = 0
j= len(list2)-1
while k <= n:
    if k < len(list1):
        print(list1[k], end=" ")
        #i += 1
    if k<len(list2):
        print(list2[k], end=" ")
        #j -= 1
    k += 1
```

```
1 11 2 22 3 33 100
PS C:\Users\hp\Documents\Suhel\3rd - Sem\Lab-Manual-III>
```

5. Write a program to count the number of occurrences of item 50 in the tuple tp1 = (50, 10, 60, 70, 50).

tp1= (50, 10, 60, 70, 50)

print(tp1.count(50))

```
2
PS C:\Users\hp\Documents\Suhel\3rd - Sem\Lab-Manual-III>
```