**Assignment 1 Monica Gambhir –**

**Task 1: Factorial Calculator: Write a Python program that calculates the factorial of a given number.**

#Enter the number whose factorial is to be found

n = int(input("Enter input number: "))

factorial = 1; #initialize

if n < 0:

print("Factorial does not exist for negative numbers")

elif n == 0:

print("The factorial of 0 is 1")

else:

for i in range(1, n + 1):

factorial = factorial \* i

print("The factorial of",n,"is",factorial)

**OUTPUT OF PROGRAM:**

Enter input number: 8

The factorial of 8 is 40320

Enter input number: -9

Factorial does not exist for negative numbers

Enter input number: 0

The factorial of 0 is 1

**Task 2: Sum and Average:Create a function that takes a list of numbers as input and returns the sum and average of those numbers.**

def sum\_and\_average(data):

average = sum(data)/ len(data)

total = sum(data)

return (total, average)

input\_data = [23.5, 22.4, 21.7, 24.3, 25.0]

data\_sum, data\_average = sum\_and\_average(input\_data)

print('The sum of the data is {:.3f} and the average is {:.3f}'.format(data\_sum, data\_average))

**OUTPUT OF PROGRAM:**

The sum of the data is 116.900 and the average is 23.380