**Mid Term Assignment Randall Fishwick**

**CO SCI 124**

**Python Programming**

**Chapter 4 programming Exercises**

1. **Calculating the Factorial of a Number**
2. In mathematics, the notation n! represents the factorial of the nonnegative integer n . The factorial of n is the product of all the nonnegative integers from 1 to n. For example,

7!=1×2×3×4×5×6×7=5,040

and

4!=1×2×3×4=244!=1×2×3×4=24

Write a program that lets the user enter a nonnegative integer and then uses a loop to calculate the factorial of that number. Display the factorial.

**See program: “Factorial.py”**

**Chapter 5 programming Exercises**

1. **Calories from Fat and Carbohydrates**
2. A nutritionist who works for a fitness club helps members by evaluating their diets. As part of her evaluation, she asks members for the number of fat grams and carbohydrate grams that they consumed in a day. Then, she calculates the number of calories that result from the fat, using the following formula:

calories from fat=fat grams×9

Next, she calculates the number of calories that result from the carbohydrates, using the following formula:

caloriesfromcarbs=carbgrams×4

The nutritionist asks you to write a program that will make these calculations.

**See program: Calories.py**

**Chapter 6 programming Exercises**

1. **Item Counter**
2. Assume that a file containing a series of names (as strings) is named names.txt and exists on the computer’s disk. Write a program that displays the number of names that are stored in the file. *(Hint: Open the file and read every string stored in it. Use a variable to keep a count of the number of items that are read from the file.)*

**See program: ItemCounter.py**