**ITCS 1212L**

**Post-lab 2**

**You are going to practice on the following topics:**

Sequence, Flowcharts, Identifiers, Fundamental data types, Declaration of variables, Initialization of variables, assignment operators, arithmetic operators, compound assignments, increase and decrease, standard input and output.

1. **Answer the following questions based on what you learned in lab and lab lesson 2:**
2. What are the rules of declaring identifiers in C++?
3. Use your own judgment to find a correct replacement for each incorrect name

int a-b,

a?b,

a b,

my Integer,

total discount,

int 1a,

1b;

int A, a;

1. What are the differences between different data types as far as the way they are stored in memory?
2. List the compound operators?
3. When do we use compound assignment operators?
4. Provide an example and rewrite the compound assignment using basic operators.
5. Think about a simple program such as a simple calculator that can only add two numbers at a time. Study the following logical sequences and create one for multiplication. **Draw a small flowchart depicting the program as well.**

* get the two numbers
* add them
* show the outputs

1. **Circumference and Area**

Write the algorithm and program that will output the circumference and area of a circle. It gets the radius from user as input. Pi= 3.14

Input: Please Enter the radius of the circle: 1

Output:

The circumference is : 6.28

The Area is : 3.14

# Salary Raise

Write a program, that will calculate an employee’s new salary based on the percent raise and on old salary. The user will enter the old salary and the percent raise (as a percent, like 5 percent, not .05) The program will calculate the raise and the new salary and print both the amount of raise and the new salary. **Draw the flowchart for the same.**

Sample Input:

Please enter your old salary: $100,000

What is the percentage raise: 5

Output:

Your new salary is: 105,000

# Toy Store Profit

A box of toys contains 120 toys that are packed into 10 tubes. Each tube costs the store $5 to purchase from the supplier. The store will mark each toy $1.00 as the price. Write a program that asks the user to enter the number of toys sold in the store and then calculates and displays the profit the store has made from these sold toys. **NOTE: Assume that the store can only buy toys by the box. So assume that the store has already bought enough boxes. [Hint : Try to calculate profit gained per toy sold]**

Sample input:

Enter how many toys the store has sold: 121

Output:

The profit is: $20.42

# Work Days and Hours

Write a program that asks the user to enter how many hours they spent working on a project. The program will print how many days and hours this is. (Use the modulus operator %)

Sample Input/Output:

Input: How many hours did you work on the project? : 100

Output: That is 4 days and 4 hours.

# Calorie Counter

A box of cookies holds 60 cookies. The calorie information on the box claims that there are 12 servings in the bag and that each serving equals 200 calories. Write a program that asks the user to enter how many cookies she/he ate and then print the total number of calories consumed.

Sample input:

How many cookies did you eat? : 100

The Calories you consumed are : 4000