ITI1120D – Assignment 1

(100 points)

**Purpose:**

To allow you to exercise with a logical thinking process to formulate very simple algorithms, leading the way to the implementation of this logic in some programming language like Python. The logic will include simple inputs and outputs, looping, using counters, and conditional statements (if and else). This is an individual assignment.

**Question:**

Write a separate Python program for each of the following that will allow you to:

1. Input three numbers from the user, compute their sum and output the sum to the screen. For example, to input a value from the keyboard to a variable x, you can use:

x = input (“Please input a number: “)

Don’t forget to convert x to a number like we did in class.

1. Input three positive numbers from the user. Make sure each of the three numbers is positive (greater than zero). Each time the user inputs an invalid number for input, you will give them an error message, and ask them to input another number. There is no limitation on how many times a user can input a wrong value.
2. Repeat (b), imposing a limit of three wrong attempts for each number, after which you quit the program.
3. Input a Celcius temperature from the user, convert it to Fahrenheit, and output the Fahrenheit temperature.
4. Ask the user for their name, and then greet them with their name, saying “Hello there, <name>”. Where <name> is the name input by the user.
5. Print the number six multiplied by numbers from 1 to 10, each one on a line. You need to perform the computation first before printing it (don’t just compute it in your head and print it using a message).
6. Print numbers from 1 to 20 (you must use a counter that starts with 1, some looping mechanism like we did in class, and make sure you increment the counter inside the loop properly).
7. Input a salary, and compute and output a basic tax on the salary as such:
   1. If the salary is in [0-50000[ , the tax is 15 percent.
   2. If the salary greater than or equal to 50000, the tax is 25 percent.
8. Input two numbers from the user, swap the two numbers (using a third memory location), and output the numbers to the screen after swapping.
9. Input two numbers from the user, and print the number that has the higher value to the screen.

You will be grades as follows for each problem (10 points each):

* 6 points for the correctness of the logic.
* 1 points for using proper messages in your program.
* 1 point for documentation (inserting proper comments).
* 2 points for a professional judgment of your overall solution.