Introduction to Computer Science (ICS 3U)
Sequential Structure Problem Set

Create programs which will solve the following problems. Use variables to store the data and remember the ICO (IPO) structure. Save all of the files in your **Sequential** folder.

1. Create a program which will allow the user to input their first, middle and last names and two integers. The program should calculate the sum of the two integers and output the user's full name and the sum of the integers. Save your program as **Sequential1.py**

2. Write a program which will allow the user to input their name and the number absences they had in each of the four courses they took last semester. The program should then output user's name the average of the four absences - have the computer calculate the average. Save your program as **Sequential2.py**

   Hint: Remember BEDMAS

3. a) Write a program which will ask the user to input his or her name, name of where they work, bosses name, number of hours they worked and their pay rate. The computer will calculate the wage (hours * pay rate) and then output all of the inputted data. Make sure you identify the output. (ie. Name: Joe Smith). Save the program **Sequential3.py**

4. Write a program that asks the user to input two integers. Have the computer calculate and attractively output the following:
   - the sum of the two integers;
   - the difference of subtracting the first integer from the second;
   - the product of the two integers;
   - the quotient when dividing the first integer by the second
   - the result of using the second integer as the exponent of the first (ie. if 3 and 5 where inputted, the computer would calculate 3^5)

   Remember to properly prompt the user and identify all output. Call the program **Sequential4.py**

5. Write a computer program which will ask the user to input the number of points earned by 4 players on a basketball team. The program should then calculate and output the total and average number of points for all of the players. Call the program **Sequential5.py**

6. Write a program that will allow the user to input a number and store it in a variable called *userInput*. The number will be used to solve the following equations and output the answers.

   $$firstAns = userInput^2 + 3 * userInput - 4$$
   $$secondAns = userInput^2 - 4 * userInput + 9$$
   $$thirdAns = userInput^3 + 2 * userInput^2 - 5 * userInput + 23$$

   Call the program **Sequential6.py**

7. Write a program that inputs a dollar amount and outputs how the amount can be represented using the fewest number of bills and coins. For example, $17.74 would be represented by a ten-dollar bill, a five-dollar bill, a toonie, two quarters, two dimes and four pennies. Call the program **Sequential7.py**

   Hint: Use the integer division operator to find how many times each denomination is required then use the modulo operator to calculate the remaining value. Continue until the remaining amount is 0.