**CST-105: Exercise 1**

The following exercise assesses your ability to do the following:

* Document a simple algorithmic process
* Get data from the keyboard
* Utilize Java arithmetic operators
* Output result data in a specified format
* Select appropriate variable types for a calculation
* Demonstrate and explain your work

Refer to the rubric in the digital classroom prior to beginning this assignment to become familiar with the expectations for successful completion. Write the following programs:

1. Design a flowchart for the following program:

Write a program that prompts the user to enter a 5-digit positive integer. Using only the / and % operations, compute each individual digit and display the sum of the digits. Here is a sample run with the user input shown in red.  
  
Enter a 5-digit positive integer: 30458  
The sum of the digits is 3 + 0 + 4 + 5 + 8 = 20

1. Write a Java program that implements your solution. Use the logic in your flowchart as a guide.
2. Test your results for each program carefully. Your programs should compute the correct result for a variety of inputs, not just the ones shown here.
3. Create a video in which you explain your variable choices and any calculations in your programs. Execute (run) both programs in your video. Address any challenges encountered and new information learned while completing the assignment. Your video should not exceed 5 minutes.
4. Submit the following items in the digital classroom:
   1. Your flowchart (a .png file)
   2. Java program source code (the .java file you wrote)
   3. A link to your video