C212/A592 Lab 2

Objectives:

- Understand the different types in Java
- Variable *Declaration* vs *Initialization*
- Assignment Statements
- Operators
- Java Expressions
- Casting

Lab instructions

1. Complete the methods in the Lab 2Template provided and answer the given questions
2. Follow the instructions given in CompoundExercises and answer the given questions
3. For the following program:
   a) Design: Design your program by writing pseudocode (describing the steps that you will need to perform for your program)
   b) Implement: Write the Java Code
   c) Testing: Test your program and provide a series of test cases
   d) Submit your Java file (which should include everything) called Lab2Integer

   Here is what your program should do:
   You have learned about integers and the type int so far. Java can also represent uppercase letters, lowercase letters and a considerable variety of special symbols. Every character has a corresponding integer representation. The set of characters a computer uses together with the corresponding integer representations for those characters is called that *computer's character set*. You can indicate a character value in a program simply by enclosing that character in single quotes, as in 'A'. You can determine a character's integer equivalent by preceding that character with (int), as in
   (int) 'A'

   An operator of this form is called a cast operator. The following statement outputs a character and its integer equivalent:
   System.out.printf("The character %c has the value %d\n", 'A', ((int) 'A'));

   When the preceding statement executes, it displays the character A and the value 65 (from the Unicode® character set) as part of the string. The format specifier %c is a placeholder for a character (in this case, the character 'A'). Using statements similar to the one shown earlier in this exercise, write an application that displays the integer equivalents of some uppercase letters, lowercase letters, digits and special symbols. Display the integer equivalents of the following: A B C a b c 0 1 2 $ * + / and the blank character.

Readings and Reference Material – From Java Tutorials Language Basics

- Here is the hyperlink for Java Language Basics: https://docs.oracle.com/javase/tutorial/java/nutsandbolts/index.html
- Read the following sub sections:
    - Variables
        - Primitive Data Types
        - Summary of Variables
    - Operators
        - Assignment, Arithmetic, and unary operators
        - Equality, Relational, and Conditional Operators
    - Expressions, Statements, and Blocks