CMSC 256 – Project 1

Programming Assignment 1

Note: When you turn in an assignment to be graded in this class, you are making the claim that you neither gave nor received assistance on the work you turned in (except, of course, assistance from the instructor or teaching assistants).

Program: CustomDate class

Points: 100

Write a Java class **CustomDate** that represents a simple date consisting of a month, day, and year. Use three data fields of type **int** to represent the date. For example, July 4, 1776, is month 7, day 4, and year 1776.

- Write a default, parameterless constructor that sets the CustomDate to January 1, 2000 and parameterized constructor with three arguments
- Write setter methods (**setDay**, **setMonth**, **setYear**) with a single argument to change the day month or year
- Implement getter methods (**getDay**, **getMonth**, **getYear**) that return the day, month, or year as an **int**
- Implement a private method to check the validity of the **CustomDate** object (**private boolean isValidDate( )**)
- Write a method to determine whether the current year is a leap year (**public boolean isLeapYear ( )**)
- Include an method to change the current date by one day (**public void advanceOneDay ( )**)
- Include an method to change the current date by one week (**public void advanceOneWeek ( )**)
- Override the **toString** method inherited from Object (**public String toString ()**)
- Override the **equals** method inherited from Object (**public boolean equals (Object obj)**)
- Implement a method that compares this **CustomDate** object with the object passed as a parameter for chronological order and returns a negative integer, zero, or a positive integer, if this object is less than, equal to, or greater than the specified object. (**public int compareTo (Object obj)**). For example,

A year is a leap year if it is divisible by 4 but not by 100. If the year is divisible by 100, it is a leap year only if it is also divisible by 400.

I will test your class with JUnit tests. Your class and method names must agree with the specification exactly or my tests will not work and points will be deducted from your grade for the failed tests.

Write this program in JAVA and compile it in JDK 8 or better. Follow all commenting conventions discussed in class and include a comment block at the top of each file with your name, date, the course number and section.

You will upload the project source code file, **CustomDate.java**, to the Assignment link in Blackboard. Do not compress the file. Be careful to remove any package statements that may have been added to the file. You should verify that your file compiles from the command line.