**CS 248 – Object-Oriented Programming and Data Structures**

**HW2: 100 points**

**Objective:**

The objective of this homework is to learn about:

1. Java class and Interface

**Problem Statement:**

You are to write a program that determines the day of the week for New Year's Day in the year 3000. To do this, you must create your own date class (MyDate) and use the DateInterface.java and Year3000.java. When the program is compiled and run, it should use your MyDate class to correctly predict the day of the week for January 1st, 3000.

Note that we are using the integers 0-6 for the days of the week, with 0 representing Sunday, 1 for Monday, etc.

**Notes:**

* Submit only the MyDate.java file.
* Remember to include comments at the top of your program and remember to use javadoc.
* For simplicity, you can pretend all months have 30 days and that there are no leap years for early versions of your program. Add the actual month lengths and leap year information later.
* A *leap year* is a year when February has 29 days. A year is a leap year if the year is divisible by 4, but not by 100, or if it is divisible by 400. So, 1900 was not a leap year, but 2000 was.

**Sample input output:**

Wednesday January 1, 3000

Wednesday January 1, 1800

**HW Grading:**

1. 10% - Follows style guidelines, including header and correct filename.
2. 40% - Compiles without errors
3. 50% - Correct implementation of all functions

**Bonus (10 points- capped at 100):**

* [5 points] Implement a yesterday() function which moves the date one day backwards. Modify the main program to print the date, including the day of the week, for January 1st, 1800. (Hint: back up to December 31st, 1799, and then call tomorrow() once.)
* [5 points] Using the built-in Date class from Java, implement the today() function in your class to set the date to today. Modify your constructor to call this function as well. Modify the main program to print today's date using your class (in addition to what it already does).