RIT | Golisano College of Computing and Information Sciences
School of Information

ISTE-120 - Computational Problem Solving for the Information Domain I
Homework Assignment 3 (HW03)

DELIVERABLE

Zip all files together and submit to the myCourses assignment folder for HW3. Homework MUST be submitted on time to receive full credit. Homework submitted to the “late” assignment folder will receive a maximum grade of 80%. Homework not submitted to either assignment folder will receive no credit.

ASSIGNMENT (Based on Horstmann, Big Java - Project 2.1)

The `GregorianCalendar` class describes a point in time, as measured by the Gregorian calendar, a standard calendar commonly used throughout the world today. To fully understand this class, review the information in the Java API:

https://docs.oracle.com/en/java/javase/14/docs/api/java.base/java/util/GregorianCalendar.html

Spend some time reading about the GregorianCalendar class in the main window. Do not rush this activity as it will be the first time using the **api** for an assignment. Taking the time to “research” this class now will reap benefits for ALL FUTURE java programming assignments.

This assignment requires instantiation of two separate `GregorianCalendar` objects. The first instantiation uses the default constructor. The calendar object created uses the current time (current time zone in current locale) and date and is shown as follows:

```
// Calendar object named “today” representing today’s date
// and current time
GregorianCalendar today = new GregorianCalendar();
```

The second instantiation uses one of the parameterized constructors. For example, to create a calendar object based on Mozart’s birth date[1]:

```
GregorianCalendar mozartBirth =
      new GregorianCalendar(1756, Calendar.JANUARY, 27);
```

Note the use of the constant values to specify the month from the Calendar class:

```
Calendar.JANUARY . . . Calendar.DECEMBER
```

[1] **https://en.wikipedia.org/wiki/Wolfgang_Amadeus_Mozart**

In order to access the needed classes, import `java.util.*`. Use the `add` method to add a number of days to a `GregorianCalendar` object. For example, to add ten days:

```
today.add(Calendar.DAY_OF_MONTH, 10);
```

This is a mutator method that changes the `today` object to represent 10 days beyond the current day of the current month (i.e. the first parameter).

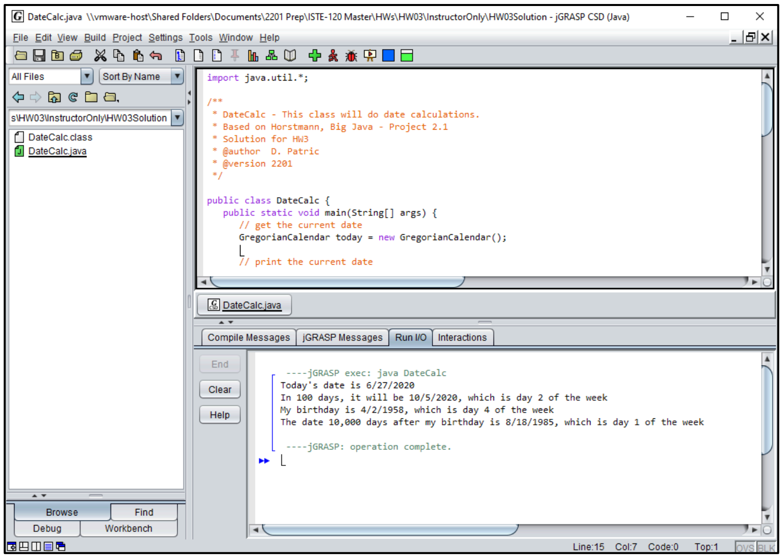
The `get` method can be used to query a given `GregorianCalendar` object:

```
int dayOfMonth = cal.get(Calendar.DAY_OF_MONTH);
int month = cal.get(Calendar.MONTH);[2]
int year = cal.get(Calendar.YEAR);
int weekday = cal.get(Calendar.DAY_OF_WEEK);[3]
```

The assignment is to write a program that prints the following information:

- The date and weekday that is 100 days from today
- The weekday of your birthday
- The date that is 10,000 days from your birthday

Feel free to use a fictitious personal birthday if so inclined. Output must be similar to the figure to the right to obtain full credit (dates will be different):


DateCalc.java \\vmware-host\Shared Folders\Documents\2201 Prep\ISTE-120 Master\HWs\HW03\InstructorOnly\HW03Solution - jGRASP CSD (Java)
File Edit View Build Project Settings Tools Window Help
All Files
Sort By Name
s\HW03\InstructorOnly\HW03Solution
DateCalc.class
DateCalc.java
Browse
Find
Debug
Workbench
DateCalc.java
Compile Messages
jGRASP Messages
Run I/O
Interactions
End
Clear
Help
Line:15 Col:7 Code:0 Top:1
OVS BLK

```
import java.util.*;

/**
 * DateCalc - This class will do date calculations.
 * Based on Horstmann, Big Java - Project 2.1
 * Solution for HW3
 * @author  D. Patric
 * @version 2201
 */

public class DateCalc {
   public static void main(String[] args) {
      // get the current date
      GregorianCalendar today = new GregorianCalendar();

      // print the current date
```

```
 ----jGRASP exec: java DateCalc
Today's date is 6/27/2020
In 100 days, it will be 10/5/2020, which is day 2 of the week
My birthday is 4/2/1958, which is day 4 of the week
The date 10,000 days after my birthday is 8/18/1985, which is day 1 of the week

 ----jGRASP: operation complete.
```

DETAILS

1. Zip your folder and submit to the myCourses assignment folder.

[2] **The method returns month values of 0 for January, 1 for February, … 11 for December**

[3] **The method returns weekday values of 1 for Sunday, 2 for Monday, … 7 for Saturday**

Name: ____

Homework 3 Grade Sheet

GregorianCalendar	**Point Value**	**Points Earned**
Header Name: your name Course: ISTE-120-xx-yyy HW: #3	5	
- The code is well formatted and commented (10)	10	
- Today's date defined correctly	17	
- Date and weekday 100 days in the future calculated correctly	17	
- Birthday defined correctly	17	
- Day of birthday defined correctly	17	
- 10,000 days in the future calculated correctly	17	
Total Points	100	

Note: If your program fails to compile, you will receive a zero for the assignment. A clean compilation means that the compiler generates no warning messages.

Additional Comments: