COMPSCI 152L: Assignment #10: Make a Date

Due on TBD

This assignment was originally written by Michael Janes and has been modified slightly by Neal Holtschulte.

Overview

In this lab we will be defining a Date object. You will need to create a new project in Eclipse for this assignment. Create a Date class with the following specifications:
Data:

```
private int year
private int month
private int day
```

Methods:

```
/** Pre: other is an initialized Date object.
 * Post: return true if the year, month and day of "this"
 *  and other are equal. */
public boolean equals(Date other)


/** Pre: other is an initialized Date object.
 * Post: returns true if ''this" date comes before other. */
public boolean comesBefore(Date other)


/** Pre: date is of the form ``mm/dd/yyyy" for example: 06/19/2012
 * Post: This date object's month, day, and year are set to the
 * month, day, and year of the string named date. */
public void parse(String date)


/** Pre: this Date object has been initialized.
 * Post: return a string of your Date object in the form "mm/dd/yyyy" */
public String toString()
```

In order to parse a string, that is, in order to extract the month, day, and year from a string of the form "mm/dd/yyyy", use *.charAt(index)* to get the individual characters.

After that, convert the characters to integers using the following example:

```
//Declare and initialize a string containing number characters
String numbers = "012345";
//Get the character at index 2, this is the character '2',
//which is different from the int 2.
char c = numbers.charAt(2);
//To convert the character '2' to an integer, we cast the
//character using the notation (int)c. We also subtract
//48 because 0 in ASCii is represented by 48, 1 is represented
//by 49, 2 is represented by 50, and so on.
int x = (int)c - 48;
boolean thisIsTrue = (x == 2)
```

If the month given is 12 and you get one character at a time, then you will have 1 and 2. Think about how to convert one and two to twelve.

On the website I've also posted a java file called DateSorter.java this class contains the main method that I want you to use for this lab. There are a number of ways to add this file to your project in Eclipse:

- Copy DateSorter.java to your src directory (the same location where Date.java is stored), and press F5

or you could:

- Create a new class, call it DateSorter, and copy and past every thing from my file to yours.

The main method, in DateSorter, has a loop asking the user to input dates of the form "mm/dd/yyyy", it then creates the dates using the class you defined, and stores the dates in an array (like a string but instead of storing a sequence of characters we'll be storing a sequence of Dates). When the user enters "0" we break out of the loop, and then the array of dates is sorted from latest to earliest. I want you to change the code so that the dates are sorted from earliest to latest (you should only have to change one line of code). Also try to understand as much of the main method as you can, it's alright if you don't understand everything.

Submit both your Data class and DateScanner class.