CS1073 Lab Exercise #2

Due: Friday, September 21, 2012 by <u>4:00 PM</u> in the appropriate assignment bin on E level of Head Hall (near the entrance to Gillin Hall).

This is the first exercise to be completed in pairs. Be sure to print out the **Pair Programming Worksheet** (available via Desire2Learn). You will alternate with your partner in the roles of driver and navigator. Each partner should drive roughly 50% of the time. Keep track of the time spent in each role on the Pair Programming Log, and include comments on your experience, including any problems and challenges encountered either with the exercise or with working as a pair.

1. Downloading, Compiling and Running a Sample Application

The first step should always be to organize yourself. I suggest that you start by creating a directory where you can store your files for lab #2. For example, in my home directory I have a subdirectory named "CS1073". Inside my CS1073 directory, I might create a sub-directory named "lab2". Refer back to the Orientation Lab Exercise to figure out how to do this (Hint: Use the `cd` command to move into a directory. You can create a directory using either the File Manager or the `mkdir` command.)

Next, download a copy of these two Java files, which are available along with this lab via Desire2Learn. Place these two Java files in the new directory you created for this lab.

- CSOlympicsEvent.java
- CSOlympicsEventTest.java

Take a look at the two Java files that you downloaded. Read the comments that have been provided and trace through the code until you understand these two files.

Compile these files and run the application to see what it does. If the results are not what you expected, go back and take another look at the Java files. Ask a Lab Assistant for help if there is something that you don't understand.

In the Orientation Lab Exercise we showed you how to print out a program's output by capturing a screen image and then printing that image from the Gimp. It is not necessary to do this all the time. Instead, once you have confirmed that your program is working correctly, you can create a text file containing your program output by running the program as follows:

```
java className > output.txt
```

This will run the program and send all the output to a file called "output.txt" (you can use a different file name if you wish; this is just an example). You can then open this text file using Gedit (or any text editor) and print it. Use this technique to print the output for `CSOlympicsEventTest.`

For this question you have not been asked to alter the code in any way. You have also not been asked to print the source code. Simply print the output, and submit that as your solution to question 1.

2. Modifying the Application

Modify the application from question 1 as follows:

• a) Modify the `CSOlympicsEvent` class so that, for each `CSOlympicsEvent` object, we also store the name of the event organizer. Store this as a String value. Make sure you:

  - Define a new instance variable.
  - Modify the constructor method.
  - Modify the `toString()` method.
  - Modify all calls to the `CSOlympicsEvent` constructor in the `CSOlympicsEventTest.java` file.

Test out these changes before moving on to part b.

• b) Add a new method to the `CSOlympicsEvent` class named `setMaxPoints`. This method will change the maximum number of points awarded for the event to some specified number, which the method will receive as a parameter.

• c) In `CSOlympicsEventTest.java`:

  - Add statements to create two more `CSOlympicsEvent` objects, one for each lab partner. (If for some reason you are working alone, it is okay to just create one new `CSOlympicsEvent` object.) Choose realistic values, hopefully based on the events you participated in during the orientation this fall.
  - Add new println statements at the end of the main method to display the values for these `CSOlympicsEvent` objects.
  - Add appropriate statements to change the maximum points for coin curling to be 50, and for mini golf to be 10. Position these statements after the objects are created and before they are printed out.

For this question, print out the Java source code (with all of the modifications and updates from parts a, b, and c), and the output.

Once the exercise is complete: Assemble your printed pages **in the same order as the questions** with a lab exercise cover page as described in the course syllabus, and with the completed pair programming log. **Staple** together at the top left corner. Be sure to sign the statement of authorship on your cover page. Submit your assignment to the correct bin.

Some reminders:

  - Make a backup of your work.
  - Log off each time you are finished working at a computer (if you are working in one of the Linux labs remember you should **NOT** turn off or reboot a computer!)

End of lab exercise 2