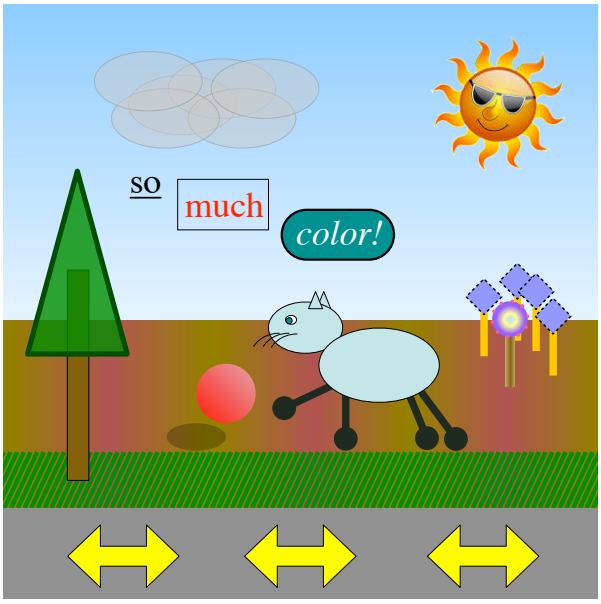
CS 4053/5053
Homework #1 – Drawing in Java2D
Due Tuesday 2016.02.09 at the beginning of class.

All homework assignments are individual efforts, and must be completed entirely on your own.

In this assignment you will learn how to draw scenes using the Java2D graphics library. Specifically, you will use the drawing primitives and rendering options in Java2D to recreate a picture drawn by hand in presentation software (Keynote '09 for Mac OS X).



Consider the picture on the left. It contains about 50 different graphical objects including lines, rectangles, ellipses, text, and one image. They are rendered using a mix of solid coloring, translucency, and gradient fills. Each object was created, positioned, and styled using common drawing features of the presentation software.

This assignment has two parts. The **first part** is to study how an example scene can be drawn using Java2D. There is an `Example.java` class in the `Example` subdirectory that came with these instructions. Compile and run it to see the scene. `Example.java` generates the scene step by step in the `paintComponent` method.

Study the code and documentation in this method to learn how to create various graphical effects. Keep the Java API handy—specifically the *java.awt* and *java.awt.geom* packages—to look up details about particular classes and methods. Also spend some time browsing the API to learn more about what's available. At least one of the graphical objects in the picture requires a feature that isn't used in `Example.java`!

The **second part** is to reproduce the picture above using Java2D. Write your code to in the `paintComponent` method of the `Drawing.java` class to generate the scene. Add and call additional private methods as you like to help modularize your code. The picture contains only one graphical object from an image file. *You are allowed to load and draw only a single image in your scene, to reproduce that object!* **Document the steps in your code thoroughly.**

You will be graded on: (1) how completely and accurately you reproduce the picture, and (2) the clarity and appropriateness of your code. Some variation between the picture and scene is to be expected, but all the graphical elements and effects can be reproduced using Java2D. *Bonus points will be awarded for reproducing all of the details of the psychadelic flower with minimal code!* Bonus points will also be awarded for the most creative and appealing uses of simple, clear code to reproduce the picture. We'll have a contest in class to vote on your results.

To **turn in** your homework, first append your last name to the `homework01` directory; mine would be `homework01-weaver`. Second, take a screenshot of your scene, trim it, and put it in the `Drawing` subdirectory as `snapshot.jpg` or `snapshot.png`. The only other files in there should be your modified `Drawing.java` file and the image file your code loads (if any). Zip your entire renamed `homework01` directory and submit it to the "Homework 01" dropbox in D2L.