

Programming Assignment 8

Due: 11:59pm, Saturday, February 27

Overview

The goals of this assignment are to:

1. Discover a new API
2. Create an animation

Setup

Open a new Linux terminal window. In your home directory, create/make a new directory called `HW8` and change directory into that directory:

```
$ mkdir ~/HW8
$ cd ~/HW8
$ cp /home/linux/ieng6/cs11wb/public/HW8/* .
$ ls
  Animate.java  DrawArc.java  objectdraw.jar
```

Creating an animation with threads (45 pts)

You can find the API (Application Program Interface) for the graphics library `objectdraw.jar` online at <http://eventfuljava.cs.williams.edu/library/objectdrawJavadocV1.1.1/index.html>. Edit the program `Animate.java` to draw an image that has some kind of animation, e.g. sunrise/sunset, bouncing balls, a movie scene and uses threads. At the minimum, there must be some kind of object/shape that moves around the screen and makes use of at least 2 threads. You will be graded on a range of creativity, animation, and complexity.

To do this, you'll need to look through the API and find which available classes and methods will help you. The starter files, `Animate.java` and `DrawArc.java`, have comments that will show you where to get started. You do not have to make use of `DrawArc.java` in your project, it is just there to help you get started. However, you will need to turn in `Animate.java`. You can compile and run your code via:

```
$ javac -cp objectdraw.jar:. Animate.java
$ java -cp objectdraw.jar:. Animate
```

To exit the program you'll need to return focus to the terminal and hold CTRL-C. If you're working remotely and trying to visualize your animation, you'll find that it's very choppy due to network lag. You'll want to either develop on your laptop with the JDK installed or on the lab machines.

Grading: You'll be graded based on the following rubric:

Creativity. Is it interesting to watch (range from 1-15)
Animation. The way objects move. Do they respect borders. (range 1-15)
Complexity. How much time was invested in the program. (range 1-15)

POWeek Challenge

Tutors have the option of selecting 1 animation to represent their group. We will present the top 5 animations to the class for voting (via clickers) and the winner will be selected as the Programmer of the Week and will receive 1% extra credit added to their final grade.

Style Requirements (10 pts)

Same as you've come to expect.

Turnin Instructions – Different from before

Key: Before turning in your assignment, delete the file objectdraw.jar. We have been running into our quota limits on the ieng6 servers so we have to reduce the amount of data that you turn in. If objectdraw.jar is in your submission we will be taking off 5 points from your assignment, no exceptions

When you are ready to turn in your program in, type in the following command and answer the prompted questions:

```
$ cd ~/
$ bundleP8
Good; all required files are present:

    HW8

Do you want to go ahead and turnin these files? [y/n]y
OK.  Proceeding.

Performing turnin of approx. 6144 bytes (+/- 10%)
Copying to /home/linux/ieng6/cs11wb/turnin.dest/cs11wb.P8
...
Done.
Total bytes written: 31744
Please check to be sure that's reasonable.
Turnin successful.
```