

# CSC 204 - Lab 5: Simple Graphics

## Goals:

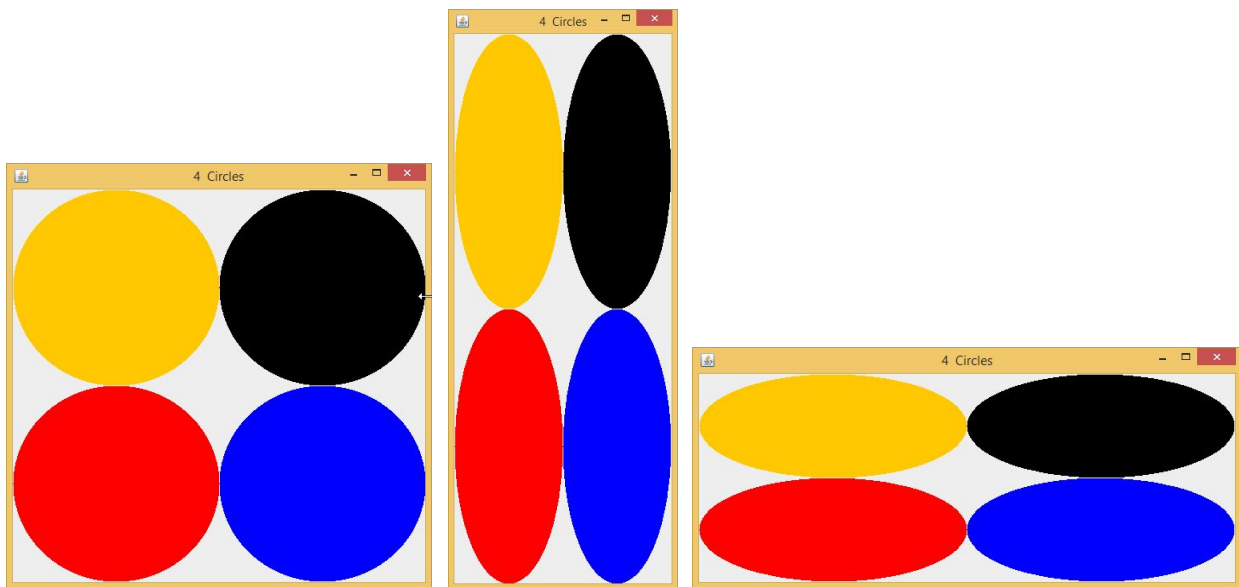
After this lab you will have more experience using Eclipse to: edit, compile, and run programs. As an extra bonus, the programs we will be writing coincide with topics from our textbook's chapter 2, therefore, you will become more proficient in programming simple Java graphics.

## Lab Setup:

Open Eclipse and select your Eclipse workspace. Create a new Java Project named "Lab5".

- **Copy example from book.** At this point we want to get the example `FaceComponent.java` and `FaceViewer.java` copied into our project. You could create the two classes and then type the code from our textbook into the two files. Or you could do it the easy way:
  - In the Package Explorer panel, click on the > next to *this Lab5 project*. This should open up the sub folders showing a folder named `src`. `src` is the folder where we want to put the two Java files.
  - Outside of Eclipse you need to browse to find the two files. You can find `FaceComponent.java` and `FaceViewer.java` in our Lab5 folder, or in our Big Java Examples folder on Courses on Blackhawk. Highlight the two files `FaceComponent.java` and `FaceViewer.java`, and drag them over to and drop them on the `src` folder in this Lab5 project in the Package Explorer of Eclipse. Choose the 'Copy' option and click OK.
- **Run the FaceViewer.java Example.** Open `FaceViewer.java`. Click on the "Run" button on Eclipse. You should get the same window as shown in the book.
- **Let's look at the code.** Read through `FaceViewer.java` and try making sense of it. Our textbook discusses this code. Open the `FaceComponent.java` file. Read through it and try to match the code to the "Face" that pops up when you run it.
- **Modify the code.** Now you should just play around a little with the two files. You can change the words on the title bar of the window. You can change the size of the window. You can change the color of the lines. You can change the size/shape of the face and its features. After you modify the code, you should save it, and then Run it. Try several variations.

- **Repeat with Olympic Rings.** Copy the files `ShowOlympicRings.java` and `OlympicRings.java` from our course folder's Lab5 folder into the src directory of *this Lab5 project*. Open `ShowOlympicRings.java` by double clicking it. Run the new program. Look at the code and figure out how it works.
- **Modify the Rings:** Modify the `OlympicRings.java` file so that each `g2.draw` is replaced with `g2.fill`. Leave all of the other code alone. Save and run the new version.
- **Scalable Circle:** Copy the files `CenteredCircle.java` and `CircleViewer.java` to the src directory of your Lab5 project. Run it. While looking at the graphic, resize the window. You will notice that the circle resizes to fit the JFrame. Study the code and notice that the circle is created based upon the width and height of the frame.
- **A New Graphic:FourCircles.** Now you have several examples to use to help you build a your own `FourCircles` class. You will need to create a `FourCircles.java` and a `FourCircleViewer.java` file. Model them after the other examples in this lab. This graphic should consist of four, different colored, circles, each  $\frac{1}{4}$  the size of the frame, and positioned in the four quadrants. As you resize the frame, your circles should resize, too. When complete, your graphics should look something like:



When you are finished with this lab, upload the src folder from this Eclipse project to your shared Google folder. Change the name of the uploaded folder to “Lab5”. Enjoy, be creative, and have fun!