

# 159.235 Assignment 1

## Simple Interactive Image Viewing Tool

Write a Java program to display image files and provide some basic interactive features. This assignment is an exercise in using GUI components provided by a GUI library (in this case Java Swing) and writing your own event handlers.

Your program should provide the following functionality

- A **File** menu with an **Open** item that allows the user to select and read an image file and display it in a panel. This menu should also provide a **Quit** item.
- The ability to read off the individual R, G, and B values of each pixel as the mouse is moved across the image. You should choose an appropriate way to display this information in the GUI area—not by excessive printing to the console using **System.out.println()**. Do not take the lazy approach and just write the values across the image display area. Also your program should not crash or cause the JVM to throw an exception if the mouse pointer is moved outside of the image display area.
- The ability to “flip” the image horizontally and/or vertically, and bring the image back to its original orientation.
- A feature to display the image negative.

You need to decide which GUI components and widgets to use, which event listeners you need, and you need to provide your own event handlers. You may choose whichever Java Swing tools that you feel are most appropriate. Most of everything you need for this assignment can be found in the demo programs that have been described in the lectures and tutorials. Additional coding hints will be discussed in the lectures.

This assignment will count up 10% of your final grade.

Due date: **2019 August 11 11:55 pm**. Please submit your **.java** program via the Stream submission mechanism.