COMP 210 - Lab 8

Spring 2014

In this lab you'll play around with a toy problem for painting and graphics in Java GUI applications.

The Application

Your high level goal is two fold: learn to do basic graphics work in Java and practice the translation of logical coordinates to pixel coordinates. While doing this you get some experience with mouse events. Towards this end you'll implement a program that initially draws a square in the frame, then moves the square based on a mouse click. If the user clicks the left mouse button the square should move back one. If the user presses the right mouse button, then the square should move forward one. Squares should start in the middle of the frame. Forwards and backwards can be up and down or left and right; it's your choice. What is important is that the next square position should be one square's width or height away such that the two squares, previous and current, would not overlap if draw at the same time.

Always keep in mind your goal: Conway's Game of Life. The application is meant to let you explore putting squares on a grid by first putting a single square on a grid and then moving that square across that grid. You should have to think about the difference between moving one space and moving some number of pixels corresponding to that space. **At the end of lab, submit your source code as *lab8* via handin**.

Extensions

If you get the basics working, then consider these extensions.

- Add a way to choose the size of the step. For example, a drop down box or radio button component could let the user select a step size of 3 such that the square moves three spaces per button click.
- Ensure the square cannot move off the viable space and instead stops at borders.
- Multiple squares
- Randomly placed initial square.
- Random movement amounts or directions when mouse is clicked.
- Something relevant to Game of Life.