

COMP 210 — Lab 9

Spring 2017

For this lab you'll work a basic toy problem utilizing the custom painting/graphics capabilities of swing components and timer driven animation.

Assignment

No Homework. Submit what you have at the end of lab.

The tutorial examples for custom painting and graphics¹ for JComponents walk you through a problem that is surprisingly close to some basic functionality you need for your final project. In this program squares are drawn where users click the mouse. For now, look at how the drawing of squares is enabled and make a mental note to study the mouse event handling for project 2.

For lab you must develop a project that animates the drawing of a square on square grid. The square starts in the upper left corner. On each tick it moves right one and up one². If it goes off the grid it wraps around to the next diagonal slice. For example, a 5×5 grid would produce the traversal pattern shown in Figure 1.

1	3	6	10	15
2	5	9	14	19
4	8	13	18	22
7	12	17	21	24
11	16	20	23	25

Once the complete grid is traversed, then the pattern should start over. Animation should begin as soon as the program starts.

¹ <https://docs.oracle.com/javase/tutorial/uiswing/painting/index.html>

² in grid-space, not pixel space

Figure 1: Traversal Pattern on a 5×5 grid