CS335 Exercise Set 3
Due Monday, March 27

Instructions: Solve the following problems. Submit an electronic copy of your solutions by midnight on the due date.

1. Polygon rotate. Write a java program that draws a polygon (say a rectangle, you choose a reasonable size) and then plays an animation of the polygon rotating through 360 degrees, one degree per frame. The animation should start when the user clicks INSIDE the polygon. Ignore clicks outside the polygon. Use the coordinates of the clicked point as the center of rotation.

Make a “stop” button so that the animation can be stopped at any time (without having to wait for the complete 360 degree rotation to complete).

Make a “reset” button that starts at the default location/orientation.

2. Rubberbanding. Write a java program to draw a polygon (say a rectangle, you choose a reasonable size) and then allow the user to “grab” a corner of the polygon and drag it. Your program only needs to have one point be “draggable”. As the point gets dragged, repeatedly draw and erase the two edges of the polygon that are affected to make it look like the polygon is being reshaped. When the user releases the point, draw the final polygon.

Hint:

- You can use the Timer class for the animation task.
- You are encouraged to check out this web page for drawing graphics primitives in java: [http://java.sun.com/docs/books/tutorial/2d/display/strokeandfill.html](http://java.sun.com/docs/books/tutorial/2d/display/strokeandfill.html)

Grading Guideline
Each problem is worth 100 points, which are divided as the following:

- 20 pts: the submitted program compiles without error.
- 20 pts: the compiled code can run without error.
- 60 pts: correct results are generated.