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

1. Rotating Egg. Write a java program that draws a filled oval and then plays an animation of the oval rotating through 360 degrees, one degree per frame. The animation should start when the user clicks a button labeled “start”. Every 90 degrees of rotation the oval should change color. You can choose the four colors you would like to use.

   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 resets the position of the oval to the default, starting location/orientation.

2. Dragging Circle. Write a java program to draw a small filled circle (say radius of 10 to 50 pixels) and then allow the user to “grab” it and drag it around the screen. Only a “drag” point inside the circle should allow the circle to be dragged. Clicks outside the circle should be ignored.

   Divide the panel into four equal quadrants and change the fill color of the circle as you drag from one quadrant to the others (i.e, fill with one color in upper left, a different color in upper right, etc. You decide the colors).