CS335 Exercise Set 4
Due Friday, November 18

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

1. Dancing Curve. Write a java program that draws a 4-point control polygon (four points, you choose a reasonable placement) and then allows the user to “grab” and drag any one of the four points. As the point gets dragged, repeatedly draw and erase the two edges of the control structure that are affected to make it look like it is being reshaped.

Once the user releases the point, animate a drawing process between the starting position of the control points and the ending position (where the user released the point). Divide the starting and ending position into 30 even intervals. For each of the 30 positions of the control structure, animate the drawing of a Bezier curve based on the control points at that time instant. Draw just the curve, not the control points or the control polygon during the animation. You may use the GeneralPath class (http://java.sun.com/j2se/1.4.2/docs/api/java/awt/geom/GeneralPath.html) to draw Bezier curves.

Implement a “reset” button to start over, and a “quit” button to quit.

**Grading Guideline**
This problem is worth 160 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: drawing of control point is correct
- 60 pts: Animation is correct