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import java.awt.Dimension;
import java.awt.Graphics;
import java.awt.Color;
import javax.swing.JPanel;
import javax.swing.JFrame;
import java.util.Random;
public class Stars extends JPanel {
    Random randy = new Random();
    // Unique version ID for this class to ensure saved objects can be loaded
safely
    private static final long serialVersionUID = 1L;
    // Initial width of height of the window
    private static int width = 1000;
    private static int height = 650;
    // main method to launch the program as a standalone application - no
need to modify
    public static void main(String[] args) {
        Stars panel = new Stars();
        panel.setPreferredSize(new Dimension(width, height)); // content
size window dimensions
        JFrame frame = new JFrame("Stars"); // Title of frame
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.add(panel);
        frame.pack();
        frame.setVisible(true);
    }
    /**
     * Draws 10 stars (or more) of random sizes in random locations. The
stars do not have to be fully contained within the panel.
     * @param g the Graphics object used for drawing shapes, text, and
images
     */
    public void drawStars(Graphics g) {

        for(int i = 1; i<=10; i++)
        {
            int x = randy.nextInt(1000) + 1;

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int y = randy.nextInt(650) + 1;
int r = randy.nextInt(100) + 1;
int red = randy.nextInt(256);
int blue = randy.nextInt(256);
int green = randy.nextInt(256);
Color set = new Color(red, blue, green);

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int[] xx = {(x+(2*r)), (int)(x + r*(Math.cos(0.628319))), (int) (x +
2*r*(Math.cos(1.25664))),
(int) (x + r*(Math.cos(1.88496))), (int) (x +
2*r*(Math.cos(2.51327))),
(int) (x + r*(Math.cos(3.14159))), (int) (x +
2*r*(Math.cos(3.76991))),
(int) (x + r*(Math.cos(4.39823))), (int) (x +
2*r*(Math.cos(5.02655))),
(int) (x + r*(Math.cos(5.65487)))};
int[] yy = {y, (int) (y + r*(Math.sin(0.628319))), (int) (y +
2*r*(Math.sin(1.25664))),
(int) (y + r*(Math.sin(1.88496))), (int) (y +
2*r*(Math.sin(2.51327))),
(int) (y + r*(Math.sin(3.14159))), (int) (y +
2*r*(Math.sin(3.76991))),
(int) (y + r*(Math.sin(4.39823))), (int) (y +
2*r*(Math.sin(5.02655))),
(int) (y + r*(Math.sin(5.65487)))};

g.setColor(set);
g.drawPolygon(xx, yy, 10);
}

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}

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/**

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* Overrides JPanel's paintComponent method to perform custom drawing.

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* @param g the Graphics object used for drawing shapes, text, and

```

```

images

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*/  
@Override  
protected void paintComponent(Graphics g) {  
    super.paintComponent(g); // Clears the panel before drawing  
    drawStars(g);  
}  
}
```