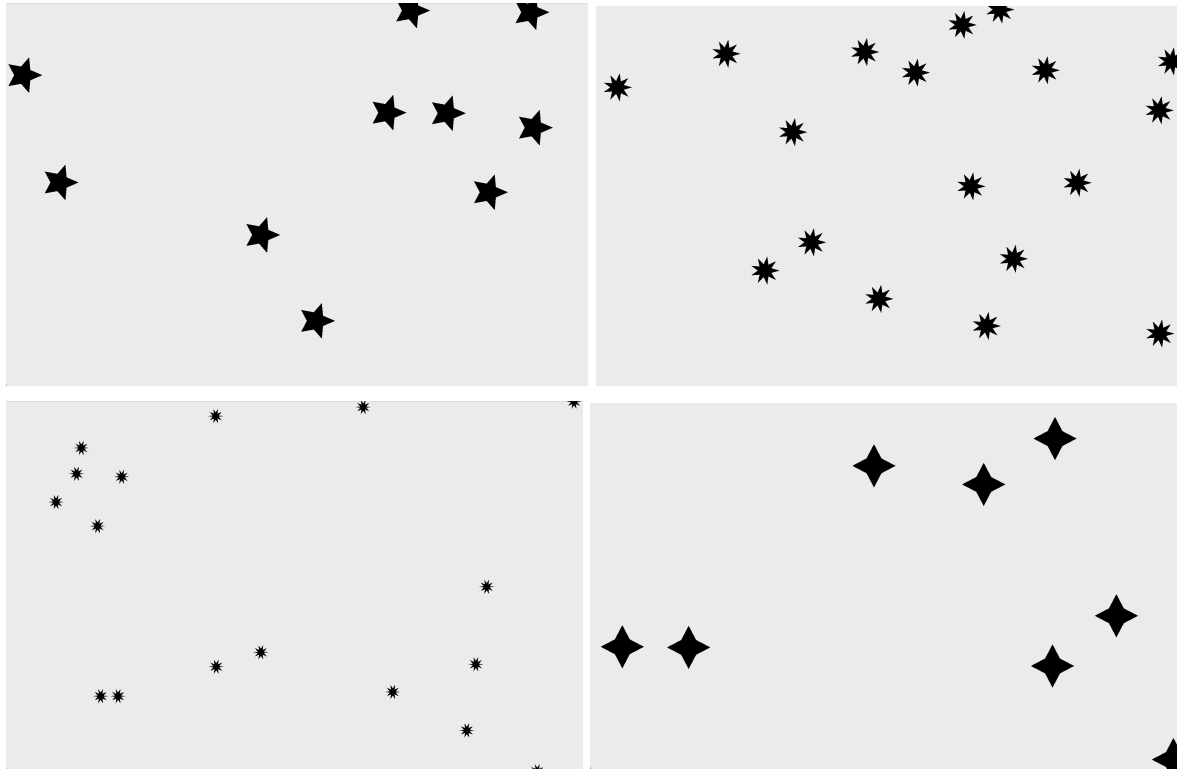




```
import java.awt.Dimension;
import java.awt.Graphics;
import java.util.Random;
import java.awt.Color;
import javax.swing.JPanel;
import javax.swing.JFrame;

public class Stars extends JPanel {

    // 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) {
    int x;
    int y;
    int z;
    int n;
    Random r = new Random();
    int z1= 10+r.nextInt(30);
    int z2=(z1/2);
    n=8+2*(r.nextInt(10));
    int[]xp=new int[n];
    int[]yp=new int[n];
    for(int j=0; j<n; j++) {
        int xc=1+r.nextInt(1000);
        int yc=1+r.nextInt(650);
        g.setColor(Color.black);
        for (int i=0; i<n; i++) {
            if(i%2==0){
                z=z1;
            }
            else{
                z=z2;
            }
            y= (yc)+(int)(z*Math.sin(Math.PI/n*2*i));
            x= (xc)+(int)(z*Math.cos(Math.PI/n*2*i));
            xp[i]=x;
            yp[i]=y;
        }
    }
    g.fillPolygon(xp,yp,n);
}

```

```

}
/**
 * Overrides JPanel's paintComponent method to perform custom drawing.
 * @param g the Graphics object used for drawing shapes, text, and images
 */
@Override
protected void paintComponent(Graphics g) {
    super.paintComponent(g); // Clears the panel before drawing
    drawStars(g);
}
}

//Stars. Design a class that represents a star. Use a filled polygon to draw the star. Design and
implement a graphics
//program that draws 10 stars of random sizes in random locations. The stars do not have to be
fully contained
//within the panel

```