

Star.java

```
1 import java.math.*;
2 import java.awt.Color;
3 import java.awt.Graphics;
4 import java.applet.Applet;
5
6 public class Star {
7
8     public static void main(String[] args) {
9
10    }
11
12    public int x;
13    public int y;
14    public int r;
15
16    public void paint(Graphics g) {
17
18        int x1 = x;
19        int y1 = y - r;
20
21        int x2 = (int) (x + Math.sin(1.25663706) * r);
22        int y2 = (int) (y - Math.cos(1.25663706) * r);
23
24        int x3 = (int) (x + Math.cos(0.9424778) * r);
25        int y3 = (int) (y + Math.sin(0.9424778) * r);
26
27        int x4 = (int) (x - Math.cos(0.9424778) * r);
28        int y4 = y3;
29
30        int x5 = (int) (x - Math.sin(1.25663706) * r);
31        int y5 = y2;
32
33        g.fillPolygon(new int[]{x1, (x3+x1)/2, (x4+x1)/2},
34                    new int[]{y1, (y3+y1)/2, (y4+y1)/2}, 3);
35
36        g.fillPolygon(new int[]{x2, (x4+x2)/2, (x5+x2)/2},
37                    new int[]{y2, (y4+y2)/2, (y5+y2)/2}, 3);
38
39        g.fillPolygon(new int[]{x3, (x5+x3)/2, (x1+x3)/2},
40                    new int[]{y3, (y5+y3)/2, (y1+y3)/2}, 3);
41
42        g.fillPolygon(new int[]{x4, (x1+x4)/2, (x2+x4)/2},
43                    new int[]{y4, (y1+y4)/2, (y2+y4)/2}, 3);
44
45        g.fillPolygon(new int[]{x5, (x2+x5)/2, (x3+x5)/2},
46                    new int[]{y5, (y2+y5)/2, (y3+y5)/2}, 3);
47
48        g.fillOval(x-r/4, y-r/4, r/2, r/2);
49
50    }
51
52 }
```

Stars.java

```
1 import java.awt.Color;
2 import java.awt.Graphics;
3 import java.applet.Applet;
4
5 public class Stars extends Applet
6 {
7
8     public void paint(Graphics g) {
9
10        g.setColor(Color.black);
11        int x = 1000;
12        int y = 800;
13        int maxSize = 100;
14
15        g.fillRect(0, 0, x, y);
16
17        g.setColor(Color.yellow);
18
19
20        for (int i = 0; i < 10; i++) {
21
22            Star Star1 = new Star();
23            Star1.x = (int) (maxSize + Math.random() * (x - 2 * maxSize));
24            Star1.y = (int) (maxSize + Math.random() * (y - 2 * maxSize));
25            Star1.r = (int) (maxSize * Math.random());
26            Star1.paint(g);
27
28        }
29    }
30 }
31
```