

Class BugPanel

1/2

```
1  /**
2   * Class BugPanel which draws the spiral created when Bugs walk toward ea
3   * ch other incrementally
4   *
5   * @author Nathan Chen
6   * @author Benjamin Tu
7   * @period 2
8   * @version 10-2-2018
9   * @teacher Coglianese
10  */
11 import javax.swing.*;
12 import java.awt.*;
13 import java.awt.event.*;
14 import java.awt.image.*;
15 public class BugPanel extends JPanel
16 {
17     private BufferedImage myImage;
18     final int N = 1000;
19     private Bug topLeft;
20     private Bug topRight;
21     private Bug botLeft;
22     private Bug botRight;
23     final double percent = 0.1;
24     /**
25      * Constructor for class BugPanel, which draws on a canvas after init
26      * alizing bugs
27     */
28     public BugPanel()
29     {
30         myImage = new BufferedImage(N, N, BufferedImage.TYPE_INT_RGB);
31         Graphics buffer = myImage.getGraphics();
32         buffer.setColor(Color.BLUE);
33         buffer.fillRect(0, 0, N, N);
34         buffer.setColor(Color.YELLOW);
35         topLeft = new Bug(0,0);
36         topRight = new Bug(N,0);
37         botLeft = new Bug(0,N);
38         botRight = new Bug(N,N);
39         while(!topLeft.sameSpot(botRight)) && (!topRight.sameSpot(botLef
40 t))) {
41             moveBugs(buffer);
42         }
43     /**
44      * method called in Driver to draw panel
45      *
46      * @param g    Where it is drawn
47     */
```

Class BugPanel (continued)

2/2

```
47     public void paintComponent(Graphics g)
48     {
49         g.drawImage(myImage, 0, 0, getWidth(), getHeight(), null);
50     }
51
52     /**
53      * moveBugs moves the four bugs once, and draws the path they took
54      *
55      * @param    g    Graphics class where lines will be drawn
56      */
57     public void moveBugs(Graphics g)
58     {
59         int x=topLeft.getX();
60         int y=topLeft.getY();
61         Bug temp = new Bug(x,y);
62         topLeft.walkTowards(topRight,percent);
63         g.drawLine(x,y,topLeft.getX(),topLeft.getY());
64         x=topRight.getX();
65         y=topRight.getY();
66         topRight.walkTowards(botRight,percent);
67         g.drawLine(x,y,topRight.getX(),topRight.getY());
68         x=botRight.getX();
69         y=botRight.getY();
70         botRight.walkTowards(botLeft,percent);
71         g.drawLine(x,y,botRight.getX(),botRight.getY());
72         x=botLeft.getX();
73         y=botLeft.getY();
74         botLeft.walkTowards(temp,percent);
75         g.drawLine(x,y,botLeft.getX(),botLeft.getY());
76     }
77 }
```