

## Selected files

### 2 printable files

Question\_5\A\SquareSpiral.java  
Question\_5\A\SquareSpiralTest.java

#### Question\_5\A\SquareSpiral.java

```
1  import javax.swing.JPanel;
2  import java.awt.Graphics;
3  import java.awt.Color;
4
5  public class SquareSpiral extends JPanel {
6
7      @Override
8      protected void paintComponent(Graphics g) {
9          super.paintComponent(g);
10         drawSquareSpiral(g);
11     }
12
13     private void drawSquareSpiral(Graphics g) {
14         int centerX = getWidth() / 2; // Center X-coordinate of the panel
15         int centerY = getHeight() / 2; // Center Y-coordinate of the panel
16
17         int length = 10; // Initial length of the line
18         int direction = 0; // Initial direction (0 = right, 1 = down, 2 = left, 3 = up)
19
20         int x = centerX; // Initial X-coordinate of the starting point
21         int y = centerY; // Initial Y-coordinate of the starting point
22
23         g.setColor(Color.RED); // Set the color to red
24
25         for (int i = 0; i < 100; i++) { // Drawing 100 lines
26             switch (direction) {
27                 case 0: // Right
28                     g.drawLine(x, y, x + length, y);
29                     x += length;
30                     break;
31                 case 1: // Down
32                     g.drawLine(x, y, x, y + length);
33                     y += length;
34                     break;
35                 case 2: // Left
36                     g.drawLine(x, y, x - length, y);
37                     x -= length;
38                     break;
39                 case 3: // Up
40                     g.drawLine(x, y, x, y - length);
41                     y -= length;
42                     break;
43             }
44             direction = (direction + 1) % 4; // Change direction clockwise
45             if (i % 2 == 1) { // Increase length every second line
46                 length += 10;
47             }
48         }
49     }
50 }
```

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## Question\_5\A\SquareSpiralTest.java

```
1  import javax.swing.JFrame;
2
3  public class SquareSpiralTest {
4      public static void main(String[] args) {
5
6          //create a panel that contains our drawing
7          SquareSpiral panel = new SquareSpiral();
8
9          //create a new frame to hold the panel
10         JFrame application = new JFrame();
11
12         //set the frame to exit when it is closed
13         application.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
14
15         application.add(panel); //add the panel to the frame
16         application.setSize(300, 300);
17         application.setVisible(true);
18     }
19 }
20
```