

SierpinskiCarpet.java

```
1 /*
2  * Written by JJ Shepherd
3  */
4 import java.awt.*;
5 import javax.swing.*;
6 import java.util.*;
7 public class SierpinskiCarpet extends Canvas
8 {
9
10     public static void main(String[] args)
11     {
12         JFrame frame = new JFrame("Sierpinski's Carpet");
13         frame.setSize(900,900);
14         SierpinskiCarpet sp = new SierpinskiCarpet();
15         frame.add(sp);
16         frame.setVisible(true);
17         frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
18     }
19
20     public void paint(Graphics g)
21     {
22         drawCarpet(0,0,this.getSize().height,g);
23     }
24     public void drawCarpet(int x, int y, int side, Graphics g)
25     {
26         int sub = side / 3;
27         g.fillRect(x+sub, y+sub, sub, sub);
28         if(sub >= 3)
29         {
30             //Top
31             drawCarpet(x,y,sub,g); //Left
32             drawCarpet(x+sub,y,sub,g); //Middle
33             drawCarpet(x+sub*2,y,sub,g); //Right
34             //Middle
35             drawCarpet(x,y+sub,sub,g); //Left
36             drawCarpet(x+sub*2,y+sub,sub,g); //Right
37             //Bottom
38             drawCarpet(x,y+sub*2,sub,g); //Left
39             drawCarpet(x+sub,y+sub*2,sub,g); //Middle
40             drawCarpet(x+sub*2,y+sub*2,sub,g); //Right
41         }
42     }
43
44 }
45
```