

温州大学计算机与人工智能学院

Java程序设计（17网工） 实验报告

实验名称	旋转风车				
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实验地点		实验时间	2020-12-27,13:57:17	指导老师	

一、问题编号：

1771

地址：<http://10.132.254.54/problem/1771/>

二、问题描述：

编写一个程序，在面板显示显示一个风车，并实现旋转的效果，效果如下图：

图1：程序初始状态

图2：一段时间后的状态

三、输入说明：

四、输出说明：

五、输入样例：

六、输出样例：

七、解答内容：

所用语言：

源代码：

```
01. import java.awt.Color;
02. import java.awt.Graphics;
03. import java.awt.event.ActionEvent;
04. import java.awt.event.ActionListener;
05.
06. import javax.swing.JFrame;
07. import javax.swing.JPanel;
08. import javax.swing.Timer;
09.
10. public class Main extends JFrame {
11.     WindmillPanel wp = new WindmillPanel();
12.     int start = 0;
13.
14.     public Main() {
15.         this.add(wp);
16.     }
17.
18.     public static void main(String[] args) {
19.         JFrame frame = new Main();
20.         frame.setTitle("My JFrame");
21.         frame.setSize(400, 300);
22.         frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
23.         frame.setLocationRelativeTo(null);
24.         frame.setVisible(true);
25.
26.     }
27. }
```

```
28.     class WindmillPanel extends JPanel {
29.         int r = 100;
30.
31.         public WindmillPanel() {
32.             Timer timer = new Timer(100, new ActionListener() {
33.                 @Override
34.                 public void actionPerformed(ActionEvent arg0) {
35.                     start++;
36.                     repaint();
37.                 }
38.             });
39.             timer.start();
40.         }
41.
42.         protected void paintComponent(Graphics g) {
43.             int x = getWidth() / 2 - r;
44.             int y = getHeight() / 2 - r;
45.             super.paintComponent(g);
46.             g.drawOval(x, y, 2 * r, 2 * r);
47.             g.setColor(Color.RED);
48.             g.fillArc(x + 10, y + 10, 2 * (r - 10), 2 * (r - 10), start, 60);
49.             g.fillArc(x + 10, y + 10, 2 * (r - 10), 2 * (r - 10), start + 90, 60);
50.             g.fillArc(x + 10, y + 10, 2 * (r - 10), 2 * (r - 10), start + 180, 60);
51.             g.fillArc(x + 10, y + 10, 2 * (r - 10), 2 * (r - 10), start + 270, 60);
52.         }
53.     }
54. }
55. }
```

八、判题结果

RE - 运行错误

判题结果补充说明:

test id:3320,result:RE, usedtime:148MS, usedmem:3356KB,score:50 Exception in thread "main" java.awt.HeadlessException: No X11 DISPLAY variable was set, but this program performed an operation which requires it. at java.awt.GraphicsEnvironment.checkHeadless(GraphicsEnvironment.java:173) at java.awt.Window.<init>(Window.java:547) at java.awt.Frame.<init>(Frame.java:419) at java.awt.Frame.<init>(Frame.java:384) at javax.swing.JFrame.<init>(JFrame.java:174) at Main.<init>(Main.java:14) at Main.main(Main.java:19) test id:3321,result:RE, usedtime:148MS, usedmem:3368KB,score:50 Exception in thread "main" java.awt.HeadlessException: No X11 DISPLAY variable was set, but this program performed an operation which requires it. at java.awt.GraphicsEnvironment.checkHeadless(GraphicsEnvironment.java:173) at java.awt.Window.<init>(Window.java:547) at java.awt.Frame.<init>(Frame.java:419) at java.awt.Frame.<init>(Frame.java:384) at javax.swing.JFrame.<init>(JFrame.java:174) at Main.<init>(Main.java:14) at Main.main(Main.java:19)