MidpointCircle：

**/\*\***

**\* @Author:Liangll**

**\* @Description:**

**\* @Date: 10:32 2019/9/13**

**\*/**

**import javax.swing.JFrame;**

**import javax.swing.JPanel;**

**import java.awt.Graphics;**

**public class MidpointCircle extends JFrame {**

**public MidpointCircle() {**

**setTitle("DrawArcs");**

**add(new ArcsPanel());**

**}**

**/\*\* Main method \*/**

**public static void main(String[] args) {**

**MidpointCircle frame = new MidpointCircle();**

**frame.setLocationRelativeTo(null);**

**frame.setSize(300, 300);**

**frame.setVisible(true);**

**}**

**}**

**class ArcsPanel extends JPanel {**

**protected void paintComponent(Graphics g) {**

**super.paintComponent(g);**

**int x, y, R = 100;**

**double d;**

**x = 0;y = R;d = 1.25 - R;**

**g.drawString(".", x, y);**

**while(x < y){**

**if(d < 0){**

**d += 2 \* x + 3;**

**x++;**

**}else{**

**d += 2 \* (x - y) + 5;**

**x++;**

**y--;**

**}**

**g.drawString(".", x, y);**

**g.drawString(".", y, x);**

**}**

**}**

**}**

BresenhamCircle：

**/\*\***

**\* @Author:Liangll**

**\* @Description:**

**\* @Date: 16:05 2019/9/13**

**\*/**

**import javax.swing.JFrame;**

**import javax.swing.JPanel;**

**import java.awt.Graphics;**

**public class BresenhamCircle extends JFrame {**

**public BresenhamCircle() {**

**setTitle("CircleArcs");**

**add(new CirclePanel());**

**}**

**/\*\* Main method \*/**

**public static void main(String[] args) {**

**BresenhamCircle frame = new BresenhamCircle();**

**frame.setLocationRelativeTo(null);**

**frame.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);**

**frame.setSize(300, 300);**

**frame.setVisible(true);**

**}**

**}**

**class CirclePanel extends JPanel {**

**protected void paintComponent(Graphics g) {**

**super.paintComponent(g);**

**int x, y, p, R = 200;**

**x = 0;**

**y = R;**

**p = 3 - 2 \* R;**

**for(;x <= y;x++){**

**g.drawString(".", x, y);**

**g.drawString(".", y, x);**

**if(p >= 0) {**

**p += 4 \* (x - y) + 10;**

**y--;**

**}**

**else{**

**p += 4 \* x + 6;**

**}**

**}**

**}**

**}**

椭圆：

**/\*\***

**\* @Author:Liangll**

**\* @Description:**

**\* @Date: 17:34 2019/9/15**

**\*/**

**import javax.swing.JFrame;**

**import javax.swing.JPanel;**

**import java.awt.Graphics;**

**public class Ellipse extends JFrame {**

**public Ellipse(){**

**setTitle("DrawArcs");**

**add(new ArcsPanel());**

**}**

**/\*\* Main method \*/**

**public static void main(String[] args) {**

**Ellipse frame = new Ellipse();**

**frame.setLocationRelativeTo(null);**

**frame.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);**

**frame.setSize(600, 600);**

**frame.setVisible(true);**

**}**

**}**

**class ArcsPanel extends JPanel {**

**protected void paintComponent(Graphics g) {**

**super.paintComponent(g);**

**double x, y, a = 100., b = 40., Tx = 300, Ty = 300, Sx = .5, Sy = 2.5;**

**double d = .0, st = -3.14 / 6;**

**x = 0.;**

**y = 0.;**

**d = .0;**

**while(d <= 1.57 \* 4){**

**x = a \* Math.cos(d);**

**y = b \* Math.sin(d);**

**g.drawString(".", (int)(x + Tx),(int)(y + Ty));**

**d = d + .01;**

**}**

**}**

**}**

方刷：

**SquarBrush(int x, int y, int color){**

**Drawpixel(x, y, color);**

**Drawpixel(x + 1, y, color);**

**Drawpixel(x - 1, y, color);**

**Drawpixel(x + 1, y + 1, color);**

**Drawpixel(x - 1, y + 1, color);**

**Drawpixel(x + 1, y - 1, color);**

**Drawpixel(x - 1, y - 1, color);**

**Drawpixel(x, y - 1, color);**

**Drawpixel(x, y + 1, color);**

**}**