

61050193, 61050150

1.1

```
1 // 61050150, 61050193
2
3 import java.awt.*;
4
5
6 class CG_1_1 extends JPanel {
7     public static void main(String[] args) {
8         CG_1_1 m = new CG_1_1();
9         JFrame f = new JFrame();
10        f.add(m);
11        f.setTitle("CG_1_1");
12        f.setSize(20, 20);
13        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
14        f.setVisible(true);
15    }
16    public void paintComponent(Graphics g) {
17        int diameter = 18;
18        int radius = diameter/2;
19        // Outer upper circle
20        g.setColor(Color.BLACK);
21        g.fillArc(0, 0, diameter, diameter, 0, 180);
22
23        // Outer lower circle
24        g.setColor(Color.WHITE);
25        g.fillArc(0, 0, diameter, diameter, 0, -180);
26
27        // Inner upper circle (white) - left side
28        g.setColor(Color.WHITE);
29        g.fillArc(0, diameter/4+1, radius, radius, 0, 180);
30
31        // Inner lower circle (black) - right side
32        g.setColor(Color.BLACK);
33        g.fillArc(radius, diameter/4, radius, radius, 0, -180);
34
35        // Inner left circle (black on white)
36        g.setColor(Color.BLACK);
37        g.fillArc(diameter/4-radius/8, diameter/2-radius/8, radius/4, radius/4, 0, 360);
38
39        // Inner right circle (white on black)
40        g.setColor(Color.WHITE);
41        g.fillArc(diameter/2+(radius/8)*3, diameter/2-radius/8, radius/4, radius/4, 0, 360);
42    }
43 }
44
```

1.2

```
1 // 61050150, 61050193
2 import javax.imageio.ImageIO;
3
4
5 class CG_1_2 extends JPanel{
6     static int[][] arrayPic = new int [1000][1000];
7     public static void getImg() throws IOException {
8         final BufferedImage img = ImageIO.read(new File("../87424515_624640561429876_8166247668956266496_n.jpg"));
9         final BufferedImage bufferedImage = new BufferedImage(img.getWidth(null), img.getHeight(null),BufferedImage.TYPE_INT_RGB);
10        for (int i = 0; i < img.getHeight(); i++) {
11            for (int j = 0; j < img.getWidth(); j++) {
12                final Color c = new Color(img.getRGB(j, i));
13                arrayPic[i][j * 3] = c.getRed();
14                arrayPic[i][(j * 3) + 1] = c.getGreen();
15                arrayPic[i][(j * 3) + 2] = c.getBlue();
16            }
17        }
18    }
19    public void paintComponent(Graphics g) {
20        for (int i = 0; i < 1000; i++) {
21            for (int j = 0; j < 1000; j++) {
22                g.setColor(new Color(arrayPic[i][j * 3], arrayPic[i][(j * 3) + 1], arrayPic[i][(j * 3) + 2]));
23                g.fillRect(j, i, 1, 1);
24            }
25        }
26    }
27    public static void main(String[] args) throws IOException {
28        CG_1_2 m = new CG_1_2();
29        JFrame f = new JFrame();
30        f.add(m);
31        f.setSize(640, 960);
32        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
33        f.setVisible(true);
34        getImg();
35    }
36 }
37
```