

```
1 /*
2  * To change this template, choose Tools | Templates
3  * and open the template in the editor.
4  */
5 package lab9.solution;
6
7 import java.awt.GraphicsEnvironment;
8
9 /**
10  *
11  * @author wanting
12  */
13 public class AvailableFonts {
14
15     public static void main(String[] args) {
16         GraphicsEnvironment e = GraphicsEnvironment.getLocalGraphicsEnvironment();
17
18         String[] fontnames = e.getAvailableFontFamilyNames();
19         for (int i = 0; i < fontnames.length; i++) {
20             System.out.println(fontnames[i]);
21         }
22     }
23 }
24 }
25 }
```

```
1 package lab9.solution;
2
3 import java.awt.Color;
4 import java.awt.Graphics;
5 import java.awt.Polygon;
6 import javax.swing.JFrame;
7 import javax.swing.JPanel;
8
9 public class DrawStar extends JFrame {
10
11     public DrawStar() {
12         setTitle("DrawPolygon");
13         add(new PolygonsPanel());
14     }
15
16     /**
17      * Main method
18      */
19     public static void main(String[] args) {
20         DrawStar frame = new DrawStar();
21         frame.setLocationRelativeTo(null); // Center the frame
22         frame.setSize(400, 400);
23         frame.setVisible(true);
24     }
25 }
26
27 class PolygonsPanel extends JPanel {
28
29     protected void paintComponent(Graphics g) {
30         super.paintComponent(g);
31
32         int xCenter = getWidth() / 2;
33         int yCenter = getHeight() / 2;
34         int radius = Math.min(getWidth(), getHeight());
35         int longArm = (int) (radius * 0.4);
36         int shortArm = (int) (radius * 0.3);
37         int trough = (int) (radius * 0.15);
38
39         int[] arms = { longArm, trough, shortArm, trough };
40         int nPoints = 16;
41
42         Polygon polygon = new Polygon();
43
44         for (int current = 0; current < nPoints; current++) {
45             int i = current;
46             double x = xCenter + Math.cos(current * ((2 * Math.PI) / nPoints)) *
47                 arms[i % 4];
48             double y = yCenter - Math.sin(current * ((2 * Math.PI) / nPoints)) *
49                 arms[i % 4];
50             polygon.addPoint((int) x, (int) y);
51         }
52         g.setColor(Color.RED);
53         g.fillPolygon(polygon);
54     }
55 }
56 }
57 }
```

2021/12/10 上午3:07	FakeApp.java		2021/12/10 上午3:07	FakeApp.java
1 package lab9.solution;			58 frame.setSize(800, 350);	
2			59 frame.setVisible(true);	
3 import java.awt.*;			60 }	
4 import java.net.MalformedURLException;			61 }	
5 import java.net.URL;			62 }	
6 import java.util.logging.Level;				
7 import java.util.logging.Logger;				
8 import javax.swing.*;				
9 import javax.swing.border.LineBorder;				
10 import javax.swing.border.TitledBorder;				
11				
12 public class FakeApp extends JFrame {				
13				
14     public FakeApp() {				
15				
16         JPanel leftMenu = new JPanel(new GridLayout(6, 1, 5, 5));				
17         leftMenu.setBorder(new TitledBorder("Menu"));				
18         JButton b1 = new JButton("Button 1");				
19         JButton b2 = new JButton("Button 2");				
20         JButton b3 = new JButton("Button 3");				
21         JButton b4 = new JButton("Button 4");				
22         b1.setForeground(Color.red);				
23         b2.setForeground(Color.green);				
24         b3.setForeground(Color.blue);				
25         b4.setFont(new Font("Arial", Font.BOLD   Font.ITALIC, 12));				
26         leftMenu.add(b1);				
27         leftMenu.add(b2);				
28         leftMenu.add(b3);				
29         leftMenu.add(b4);				
30				
31         JPanel topBar = new JPanel(new FlowLayout(FlowLayout.LEFT, 5, 5));				
32         topBar.setBorder(new LineBorder(Color.LIGHT_GRAY, 1, true));				
33         topBar.add(new JLabel("File"));				
34         topBar.add(new JLabel("Tools"));				
35         topBar.add(new JLabel("Help"));				
36				
37         JLabel logo = null;				
38         try {				
39             logo = new JLabel(new ImageIcon(				
40                 new				
URL("https://www.google.com/images/branding/googlelogo/2x/googlelogo_color_272x92dp.png"));				
41         } catch (MalformedURLException ex) {				
42             Logger.getLogger(FakeApp.class.getName()).log(Level.SEVERE, null, ex);				
43         }				
44         logo.setBorder(new TitledBorder("Logo"));				
45				
46         setLayout(new BorderLayout(5, 5));				
47         add(topBar, BorderLayout.NORTH);				
48         add(leftMenu, BorderLayout.WEST);				
49         add(logo, BorderLayout.CENTER);				
50     }				
51				
52     /** Main method */				
53     public static void main(String[] args) {				
54         FakeApp frame = new FakeApp();				
55         frame.setTitle("Name: Chan Tai Man / SID: 12345678");				
56         frame.setLocationRelativeTo(null); // Center the frame				
57         frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);				
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2021/12/10 上午3:07	RotatingArcs.java	2021/12/10 上午3:07	RotatingArcs.java
1 package lab9.solution;		60 }	
2		61	
3 import java.awt.Color;			
4 import java.awt.Graphics;			
5 import javax.swing.JFrame;			
6 import javax.swing.JPanel;			
7			
8 public class RotatingArcs extends JFrame {			
9			
10     public RotatingArcs() {			
11         setTitle("RotatingArcs");			
12         add(new ArcsPanel());			
13     }			
14			
15     /**			
16      * Main method			
17      */			
18     public static void main(String[] args) throws InterruptedException {			
19         RotatingArcs frame = new RotatingArcs();			
20         frame.setLocationRelativeTo(null); // Center the frame			
21         frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);			
22         frame.setSize(250, 300);			
23         frame.setVisible(true);			
24			
25         while (true) {			
26             Thread.sleep(10);			
27             frame.repaint();			
28         }			
29			
30     }			
31			
32     class ArcsPanel extends JPanel {			
33			
34         int offset = 0;			
35			
36         // Draw four blades of a fan			
37         protected void paintComponent(Graphics g) {			
38             super.paintComponent(g);			
39			
40             int xCenter = getWidth() / 2;			
41             int yCenter = getHeight() / 2;			
42             // 80% of the outer frame			
43             int radius = (int) (Math.min(getWidth(), getHeight()) * 0.4);			
44			
45             int x = xCenter - radius;			
46             int y = yCenter - radius;			
47			
48             g.setColor(Color.red);			
49             g.fillArc(x, y, 2 * radius, 2 * radius, offset + 0, 30);			
50             g.setColor(Color.green);			
51             g.fillArc(x, y, 2 * radius, 2 * radius, offset + 90, 30);			
52             g.setColor(Color.blue);			
53             g.fillArc(x, y, 2 * radius, 2 * radius, offset + 180, 30);			
54             g.setColor(Color.yellow);			
55             g.fillArc(x, y, 2 * radius, 2 * radius, offset + 270, 30);			
56			
57             offset++;			
58         }			
59     }			
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1/2			2/2

```
1 /*
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4  */
5 package lab9.solution;
6
7 import javax.swing.JButton;
8 import javax.swing.JFrame;
9 import java.awt.BorderLayout;
10 import java.awt.Dimension;
11
12 /**
13  *
14  * @author vanting
15  */
16 public class TestBorderLayout extends JFrame {
17
18     public TestBorderLayout() {
19         setLayout(new BorderLayout(5, 5));
20         JButton jbt = new JButton("I am a Button");
21         jbt.setPreferredSize(new Dimension(100, 100));
22         add(jbt, BorderLayout.CENTER);
23     }
24
25     /** Main method */
26     public static void main(String[] args) {
27         TestBorderLayout frame = new TestBorderLayout();
28         frame.setTitle("TestBorderLayout");
29         frame.setLocationRelativeTo(null);
30         frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
31         frame.setSize(300, 200);
32         frame.setVisible(true);
33     }
34 }
35
```

```
1 /*
2  * To change this template, choose Tools | Templates
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4  */
5 package lab9.solution;
6
7 import java.awt.Dimension;
8 import javax.swing.JFrame;
9 import java.awt.FlowLayout;
10 import javax.swing.JButton;
11
12 /**
13  *
14  * @author vanting
15  */
16 public class TestFlowLayout extends JFrame {
17
18     public TestFlowLayout() {
19         setLayout(new FlowLayout(FlowLayout.LEFT, 5, 5));
20         JButton jbt = new JButton("I am a Button");
21         jbt.setPreferredSize(new Dimension(100, 100));
22         add(jbt);
23     }
24
25     /** Main method */
26     public static void main(String[] args) {
27         TestFlowLayout frame = new TestFlowLayout();
28         frame.setTitle("TestFlowLayout");
29         frame.setLocationRelativeTo(null);
30         frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
31         frame.setSize(300, 200);
32         frame.setVisible(true);
33     }
34 }
35
```

```
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4  */
5  package lab9.solution;
6
7  import java.awt.Dimension;
8  import java.awt.GridLayout;
9  import javax.swing.JButton;
10 import javax.swing.JFrame;
11
12 /**
13 *
14 * @author vanting
15 */
16 public class TestGridLayout extends JFrame {
17
18     public TestGridLayout() {
19         setLayout(new GridLayout(1, 0, 5, 5));
20         JButton jbt = new JButton("I am a Button");
21         jbt.setPreferredSize(new Dimension(100, 100));
22         add(jbt);
23     }
24
25     /** Main method */
26     public static void main(String[] args) {
27         TestGridLayout frame = new TestGridLayout();
28         frame.setTitle("TestGridLayout");
29         frame.setLocationRelativeTo(null);
30         frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
31         frame.setSize(300, 200);
32         frame.setVisible(true);
33     }
34 }
35
```