

```
import java.awt.Color;
import java.awt.Graphics;
import java.awt.Point;
public class Turtle
{
    private Point position;

    public Turtle(Point position)
    {
        this.position = position;
    }

    public Point getPosition()
    {
        return position;
    }

    public void goRight(int pDist)
    {
        position.x += pDist;
    }

    public void goLeft(int pDist)
    {
        position.x -= pDist;
    }

    public void goUp(int pDist)
    {
        position.y -= pDist;
    }

    public void goDown(int pDist)
    {
        position.y += pDist;
    }

    public void draw(Graphics g)
    {
        int x = position.x;
        int y = position.y;

        g.setColor(Color.BLACK);
        g.fillOval(x - 2, y - 10, 5, 7);
        g.fillOval(x - 7, y - 5, 15, 15);
        g.drawLine(x - 10, y - 5, x + 10, y + 12);
        g.drawLine(x - 10, y + 12, x + 10, y - 5);
    }
}
```

```
import java.awt.Color;
import java.awt.Graphics;
public class DrawPanel extends javax.swing.JPanel
{
    private Turtle turtle = null;

    public void setTurtle(Turtle turtle)
    {
        this.turtle = turtle;
    }

    public DrawPanel()
    {
        initComponents();
    }

    public void paintComponent(Graphics g)
    {
        int w = getWidth();
        int h = getHeight();

        g.setColor(Color.WHITE);
        g.fillRect(0, 0, w, h);

        if (turtle != null)
            turtle.draw(g);
    }
    // Skipped: ... initComponents { ... }
    // Variables declaration - do not modify//GEN-BEGIN:variables
    // End of variables declaration//GEN-END:variables
}
```

```
import java.awt.Point;
public class MainFrame extends javax.swing.JFrame
{
    private Turtle turtle = new Turtle(new Point(100, 100));

    public MainFrame()
    {
        initComponents();
        drawPanel.setTurtle(turtle);
    }
    // Skipped: ... initComponents { ... }
    private void rightButtonActionPerformed(java.awt.event.ActionEvent evt)//GEN-FIRST:event_rightButtonActionPerformed
    { //GEN-HEADEREND:event_rightButtonActionPerformed
        turtle.goRight(10);
        repaint();
    } //GEN-LAST:event_rightButtonActionPerformed

    private void leftButtonActionPerformed(java.awt.event.ActionEvent evt)//GEN-FIRST:event_leftButtonActionPerformed
    { //GEN-HEADEREND:event_leftButtonActionPerformed
        turtle.goLeft(10);
        repaint();
    } //GEN-LAST:event_leftButtonActionPerformed

    private void upButtonActionPerformed(java.awt.event.ActionEvent evt)//GEN-FIRST:event_upButtonActionPerformed
    { //GEN-HEADEREND:event_upButtonActionPerformed
        turtle.goUp(10);
        repaint();
    } //GEN-LAST:event_upButtonActionPerformed

    private void downButtonActionPerformed(java.awt.event.ActionEvent evt)//GEN-FIRST:event_downButtonActionPerformed
    { //GEN-HEADEREND:event_downButtonActionPerformed
        turtle.goDown(10);
        repaint();
    } //GEN-LAST:event_downButtonActionPerformed
    // Skipped: ... Look & Feel
    // Variables declaration - do not modify//GEN-BEGIN:variables
    private javax.swing.JButton downButton;
    private DrawPanel drawPanel;
    private javax.swing.JButton leftButton;
    private javax.swing.JButton rightButton;
    private javax.swing.JButton upButton;
    // End of variables declaration//GEN-END:variables
}
```