

```
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 dist)
    {
        position.x += dist;          // pareil à: position.x = position.x + dist;
    }

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

    public void goUp(int dist)
    {
        position.translate(0, -dist); // pareil à: position.y -= dist;
    }

    public void goDown(int dist)
    {
        position.translate(0, dist);
    }
}
```

```
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)
        {
            int x = turtle.getPosition().x;
            int y = turtle.getPosition().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);
        }
    }
}

// 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 = null;

    public MainFrame()
    {
        initComponents();

        turtle = new Turtle(new Point(100, 100));
        drawPanel.setTurtle(turtle);
        repaint();
    }
// 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
}
```