

```
import java.awt.Color;
import java.awt.Graphics;
public class Piece
{
    private Color color;
    private int col;
    private int row;
    private boolean visible;

    public Piece(Color color, int col, int row)
    {
        this.color = color;
        this.col = col;
        this.row = row;

        visible = true;
    }

    public void moveTo(int destCol, int destRow)
    {
        col = destCol;
        row = destRow;
    }

    public void setVisible(boolean visible)
    {
        this.visible = visible;
    }

    public Color getColor()
    {
        return color;
    }

    public int getCol()
    {
        return col;
    }

    public int getRow()
    {
        return row;
    }

    public void draw(Graphics g, int offsetLeft, int offsetTop, int squareSide)
    {
        if (visible)
        {
            g.setColor(color);
            g.fillOval(offsetLeft+col * squareSide, offsetTop + row * squareSide, squareSide, squareSide);
        }
    }
}
```

```
import java.awt.Color;
import java.awt.Graphics;
public class MovePiece
{
    private Color color;
    private int x;
    private int y;

    public MovePiece(Color color, int x, int y)
    {
        this.color = color;
        this.x = x;
        this.y = y;
    }

    public void moveTo(int destX, int destY)
    {
        x = destX;
        y = destY;
    }

    public Color getColor()
    {
        return color;
    }

    public int getX()
    {
        return x;
    }

    public int getY()
    {
        return y;
    }

    public void draw(Graphics g, int offsetLeft, int offsetTop, int squareSide)
    {
        g.setColor(color);
        g.fillOval(offsetLeft + x - squareSide / 2, offsetTop + y - squareSide / 2, squareSide, squareSide);
    }
}
```

```
import java.util.ArrayList;
import java.awt.Color;
import java.awt.Graphics;
public class Checkers
{
    private ArrayList<Piece> alPieces = new ArrayList<>();

    // Pièce en déplacement/mouvement (colorée en bleu ou rouge)
    private MovePiece inMove = null;

    public Checkers()
    {
        for (int r = 0; r < 8; r++)
        {
            for (int c = 0; c < 8; c++)
            {
                if ((r + c) % 2 == 1)
                {
                    if (r < 3)
                        alPieces.add(new Piece(Color.BLUE, c, r));
                    else if (r >= 5)
                        alPieces.add(new Piece(Color.RED, c, r));
                }
            }
        }

        public Piece getPieceAt(int col, int row)
        {
            Piece p = null;
            boolean found = false;
            int i = 0;
            while (!found && i < alPieces.size())
            {
                p = alPieces.get(i);
                if ((col == p.getCol()) && (row == p.getRow()))
                    found = true;
                else
                    i++;
            }
            if (found)
                return alPieces.get(i);
            else
                return null;
        }

        public boolean move(Piece p, int destCol, int destRow)
        {
            inMove = null;
            p.setVisible(true);

            // Pièce existe
            if ((destCol < 0) || (destRow < 0) || (destCol > 7) || (destRow > 7))
            {
                // Position en dehors du damier --> effacer la pièce
                alPieces.remove(p);
                return true;
            }

            if (getPieceAt(destCol, destRow) == null)
            {
                // Pas de pièce à la position d'arrivée --> on bouge la pièce
                p.moveTo(destCol, destRow);
                return true;
            }

            return false;
        }

        public void beginMove(Piece p, int x, int y)
        {
            inMove = new MovePiece(p.getColor(), x, y);
            p.setVisible(false);
        }

        public void doMove(int x, int y)
        {
            // Bouge la pièce en déplacement vers la nouvelle position
            if (inMove != null)
                inMove.moveTo(x, y);
        }

        // suite ... prochaine page
    }
}
```

```
public void draw(Graphics g, int offsetLeft, int offsetTop, int cellSize)
{
    // Dessiner la grille
    int c, r;
    for (int i = 0; i < 8; i++)
    {
        r = (i * cellSize);
        for (int j = 0; j < 8; j++)
        {
            c = (j * cellSize);
            if ((i + j) % 2 == 1)
                g.setColor(Color.GRAY);
            else
                g.setColor(Color.WHITE);
            g.fillRect(offsetLeft + c, offsetTop + r, cellSize, cellSize);
            g.setColor(Color.BLACK);
            g.drawRect(offsetLeft + c, offsetTop + r, cellSize, cellSize);
        }
    }

    // Dessiner les pièces... chaque pièce se dessine elle-même!
    for (int i = 0; i < alPieces.size(); i++)
        alPieces.get(i).draw(g, offsetLeft, offsetTop, cellSize);

    // dessiner la piece en mouvement
    if (inMove != null)
        inMove.draw(g, offsetLeft, offsetTop, cellSize);
}
```

```
import java.awt.Color;
import java.awt.Graphics;
public class DrawPanel extends javax.swing.JPanel
{
    private Checkers checkers = null;
    private int squareSide = 0;
    private int offsetLeft = 0;
    private int offsetTop = 0;

    public int getOffsetLeft()
    {
        return offsetLeft;
    }

    public int getOffsetTop()
    {
        return offsetTop;
    }

    public void setCheckers(Checkers checkers)
    {
        this.checkers = checkers;
    }

    public int getSquareSide()
    {
        return squareSide;
    }

    public DrawPanel()
    {
        initComponents();
    }

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

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

        // Attention au pizel en plus utilisé par la méthode drawRect !
        int l = Math.min(w, h) - 1;
        squareSide = l / 8;
        offsetLeft = (w - (squareSide*8+1)) / 2;
        offsetTop = (h - (squareSide*8+1)) / 2;

        if (checkers != null)
            checkers.draw(g, offsetLeft, offsetTop, squareSide);
    }
    // Skipped: ... initComponents { ... }
    // Skipped: ... graphic attributes
}
```

```

public class MainFrame extends javax.swing.JFrame
{
    private Checkers checkers = null;
    private Piece srcPiece = null;

    public MainFrame()
    {
        initComponents();
    }
// Skipped: ... initComponents { ... }
    private void newButtonActionPerformed(java.awt.event.ActionEvent evt)//GEN-FIRST:event_newButtonActionPerformed
    { //GEN-HEADEREND:event_newButtonActionPerformed
        checkers = new Checkers();
        drawPanel.setCheckers(checkers);
        repaint();
    } //GEN-LAST:event_newButtonActionPerformed

    private void drawPanelMousePressed(java.awt.event.MouseEvent evt)//GEN-FIRST:event_drawPanelMousePressed
    { //GEN-HEADEREND:event_drawPanelMousePressed
        if (checkers != null)
        {
            int x, y;
            x = evt.getX() - drawPanel.getOffsetLeft();
            y = evt.getY() - drawPanel.getOffsetTop();

            int s = drawPanel.getSquareSide();

            int col, row;
            if (evt.getX() < drawPanel.getOffsetLeft())
                col = -1;
            else
                col = x / s;

            if (evt.getY() < drawPanel.getOffsetTop())
                row = -1;
            else
                row = y / s;

            srcPiece = checkers.getPieceAt(col, row);
            if (srcPiece != null)
            {
                checkers.beginMove(srcPiece, x, y);
                msgLabel.setText("-");
            }
            else
                msgLabel.setText("No piece at the position!");
            repaint();
        }
    } //GEN-LAST:event_drawPanelMousePressed

    private void drawPanelMouseDragged(java.awt.event.MouseEvent evt)//GEN-FIRST:event_drawPanelMouseDragged
    { //GEN-HEADEREND:event_drawPanelMouseDragged
        if (checkers == null)
            return;

        int x, y;
        x = evt.getX() - drawPanel.getOffsetLeft();
        y = evt.getY() - drawPanel.getOffsetTop();

        checkers.doMove(x, y);
        repaint();
    } //GEN-LAST:event_drawPanelMouseDragged

    private void drawPanelMouseReleased(java.awt.event.MouseEvent evt)//GEN-FIRST:event_drawPanelMouseReleased
    { //GEN-HEADEREND:event_drawPanelMouseReleased
        if (srcPiece == null)
            return;

        int x, y;
        x = evt.getX() - drawPanel.getOffsetLeft();
        y = evt.getY() - drawPanel.getOffsetTop();

        int s = drawPanel.getSquareSide();

        int col, row;
        if (evt.getX() < drawPanel.getOffsetLeft())
            col = -1;
        else
            col = x / s;

        if (evt.getY() < drawPanel.getOffsetTop())
            row = -1;
        else
            row = y / s;

        if (checkers.move(srcPiece, col, row))
            msgLabel.setText("-");
        else
            msgLabel.setText("Invalid move");

        // termin  
        srcPiece = null;
        repaint();
    } //GEN-LAST:event_drawPanelMouseReleased
// Skipped: ... Look & Feel
// Skipped: ... graphic attributes
}

```