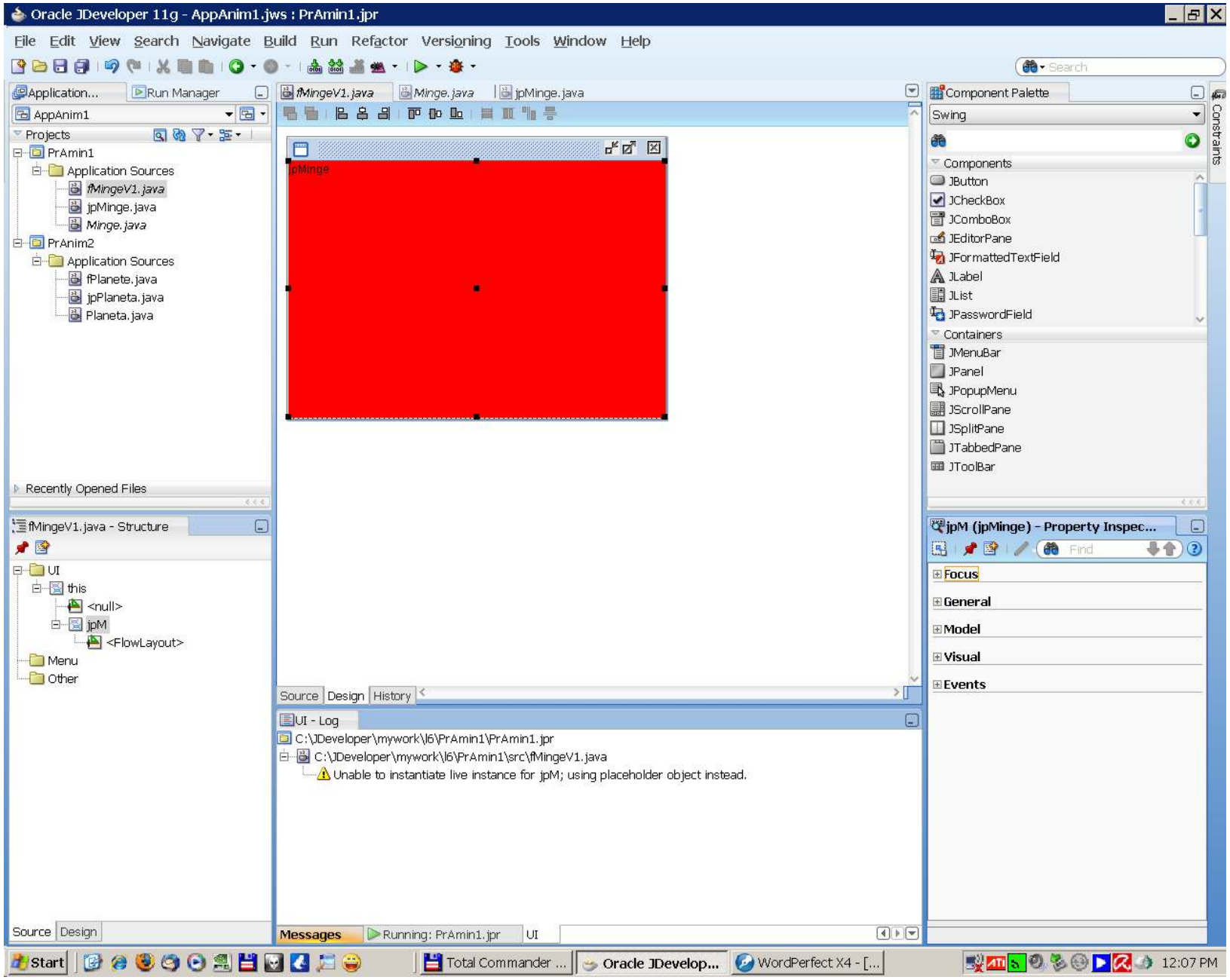
Oracle JDeveloper 11g - AppAnim1.jws : PrAmin1.jpr
File Edit View Search Navigate Build Run Refactor Versioning Tools Window Help
Application...
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fMingeV1.java - Structure
UI
this
<null>
jpM
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Menu
Other
Source Design
fMingeV1.java
Minge.java
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jpMinge
Source Design History
UI - Log
C:\JDeveloper\mywork\l6\PrAmin1\PrAmin1.jpr
C:\JDeveloper\mywork\l6\PrAmin1\src\fMingeV1.java
Unable to instantiate live instance for jpM; using placeholder object instead.
Messages
Running: PrAmin1.jpr
UI
Component Palette
Swing
Components
JButton
JCheckBox
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JFormattedTextField
JLabel
JList
JPasswordField
Containers
JMenuBar
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JTabbedPane
JToolBar
Constraints
jpM (jpMinge) - Property Inspec...
Find
Focus
General
Model
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Events
Start
Total Commander ...
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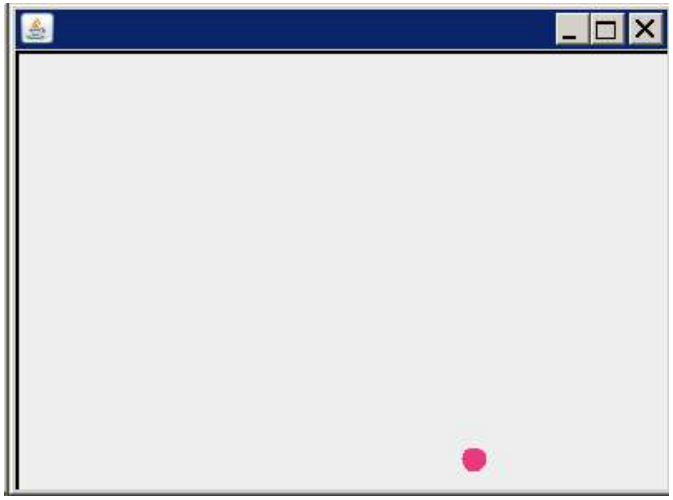
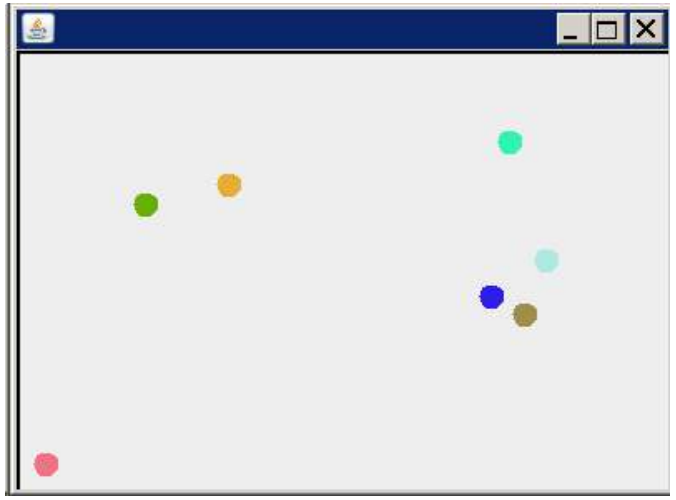
Clasa Minge.java:

```
import java.awt.Color;
import java.awt.Graphics;
import java.awt.geom.Ellipse2D;
import java.awt.geom.Rectangle2D;
import java.util.Random;

public class Minge {
   public double Px, Py; //pozitie minge
   public double Vx, Vy; //viteza minge
   public Color culoare;
   private static final int XSIZE = 15;
   private static final int YSIZE = 15;

   public Minge(int w, int h) {
      this.Px = aleator(w);
      this.Py = aleator(h);
      this.Vx = 2 - aleator(2); //1
      this.Vy = 2 - aleator(2); //1
      this.culoare = new Color(aleator(255) ,aleator(255), aleator(255));
   }
   public Minge(double Px, double Py) {
      this.Px = Px;
      this.Py = Py;
      this.Vx = 2 - aleator(2); //1
      this.Vy = 2 - aleator(2); //1
      this.culoare = new Color(aleator(255) ,aleator(255), aleator(255));
   }
   public int aleator(int i) {
      Random rnd = new Random();
      return rnd.nextInt(i);
   }
   public void move(Rectangle2D bounds)
     {
       Px += Vx;
       Py += Vy;
       if (Px < bounds.getMinX())
       {
         Px = bounds.getMinX();
         Vx = -Vx;
       }
       if (Px + XSIZE >= bounds.getMaxX())
       {
         Px = bounds.getMaxX() - XSIZE;
         Vx = -Vx;
       }
       if (Py < bounds.getMinY())
       {
         Py = bounds.getMinY();
         Vy = -Vy;
       }
       if (Py + YSIZE >= bounds.getMaxY())
       {
         Py = bounds.getMaxY() - YSIZE;
         Vy = -Vy;
       }
     }
   public Ellipse2D desenare(Graphics g)
   {
      g.setColor(culoare);
      return new Ellipse2D.Double(Px, Py, XSIZE, YSIZE);
   }
}
```

Clasa jpMinge.java:

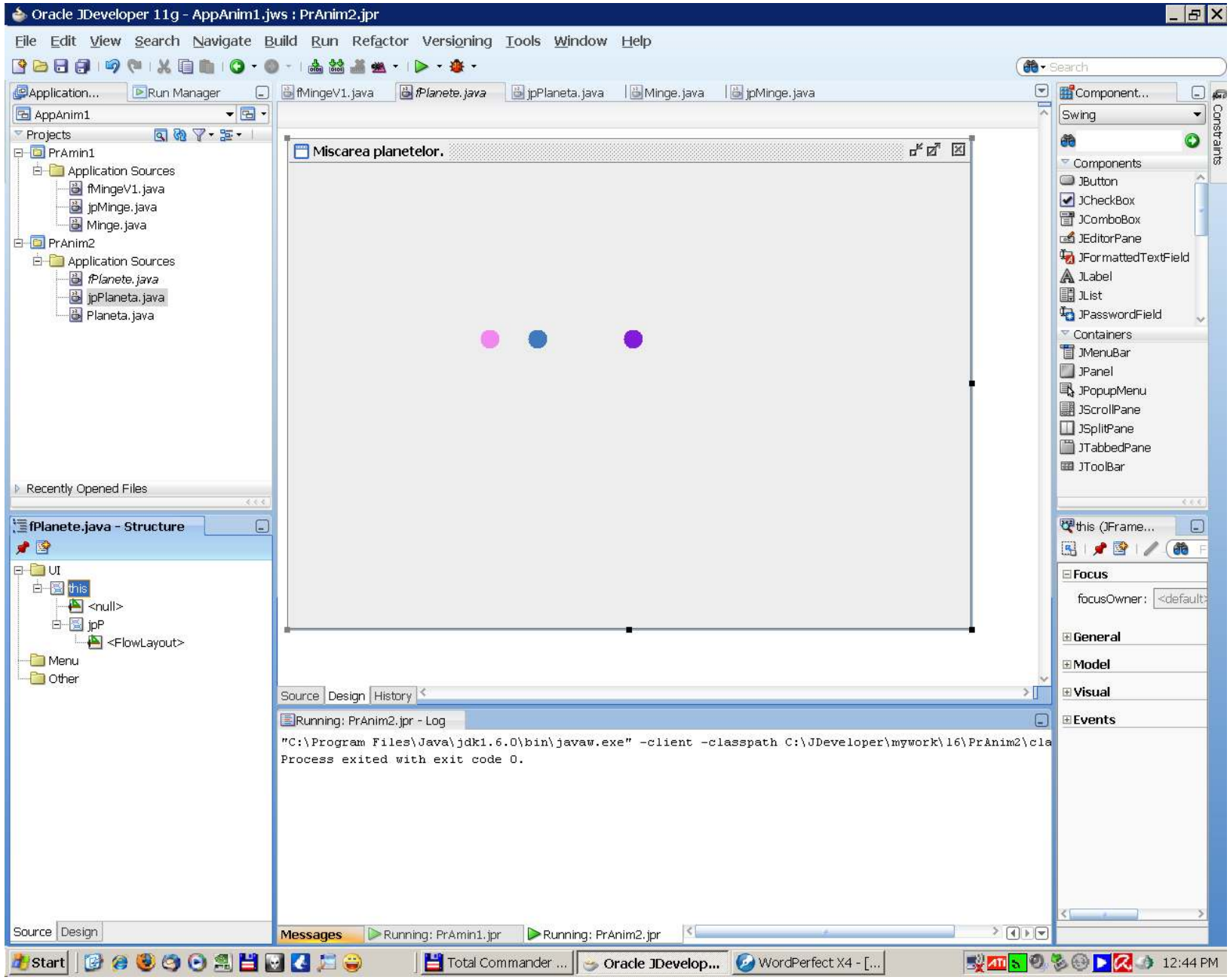
```
import java.awt.Graphics;
import java.awt.Graphics2D;
import javax.swing.JPanel;

public class jpMinge extends JPanel {
   public Minge b1;
   public Minge bile[] = new Minge[9]; //0-9
   public int NR_MINGI;

   public jpMinge(int n) {
      b1 = new Minge(100, 200);

      NR_MINGI = n - 1;
      try {
         for (int i = 0; i < NR_MINGI; ++i)
            bile[i] = new Minge(200, 200);
      } catch (ArrayIndexOutOfBoundsException e) {
         System.out.println("Numarul maxim de mingi poate fi 10!");
         //poate lucra cu cel mult 10 mingi
         System.exit(1);
      }
   }

   public void paintComponent(Graphics g) {
      super.paintComponent(g);
      Graphics2D g2 = (Graphics2D)g;

      //desenarea mingii b1
      g2.fill(b1.desenare(g2));

      //desenarea a NR_MINGI mingi
      for (int i = 0; i < NR_MINGI; ++i)
         g2.fill(bile[i].desenare(g2));
   }
}
```





Clasa fMingeV1.java:

```
import java.awt.Color;
import java.awt.Dimension;
import java.awt.Rectangle;
import javax.swing.BorderFactory;
import javax.swing.JFrame;

public class fMingeV1 extends JFrame {
   public final int NRMINGI = 7;
   private jpMinge jpM = new jpMinge(NRMINGI);

   public fMingeV1() {
      try {
         jbInit();
      } catch (Exception e) {
         e.printStackTrace();
      }
   }

   private void jbInit() throws Exception {
      this.getContentPane().setLayout(null);
      this.setSize(new Dimension(400, 300));

      //da dimensiunil JPanel-ului
      jpM.setBounds(new Rectangle(0, 0, 395, 270));

      //il pune in coltul din stinga sus
      jpM.setLocation(0, 0);

      //ii trage chenarul
      jpM.setBorder(BorderFactory.createLineBorder(Color.black, 2));
      //il adauga la Frame
      this.getContentPane().add(jpM, null);
   }

   public void miscaMinge() {
      try {
         for (int i = 1; i <= 1000; i++) {
            jpM.b1.move(jpM.getBounds());

            for (int j = 0; j < jpM.NR_MINGI; ++j)
               jpM.bile[j].move(jpM.getBounds());
            /* normal, aici s-ar fi apelat repaint()
             * dar metoda miscaMinge() ocupa tot timpul
             * de executie si repaint() nu mai apuca sa
             * fie apelata
             */
            jpM.paint(jpM.getGraphics());
            Thread.sleep(10);
         }
      } catch (InterruptedException e) {
      }
   }

   public static void main(String[] args) {
      fMingeV1 frame = new fMingeV1();

      frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
      frame.setVisible(true);
      frame.miscaMinge();

   }
}
```


Oracle JDeveloper 11g - AppAnim1.jws : PrAnim2.jpr
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fPlanete.java - Structure
UI
this
<null>
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<FlowLayout>
Menu
Other
Source Design
fMingeV1.java
fPlanete.java
jpPlaneta.java
Minge.java
jpMinge.java
Miscarea planetelor.
Source Design History
Running: PrAnim2.jpr - Log
"C:\Program Files\Java\jdk1.6.0\bin\javaw.exe" -client -classpath C:\JDeveloper\mywork\16\PrAnim2\cla
Process exited with exit code 0.
Messages
Running: PrAmin1.jpr
Running: PrAnim2.jpr
Component...
Swing
Components
JButton
JCheckBox
JComboBox
JEditorPane
JFormattedTextField
JLabel
JList
JPasswordField
Containers
JMenuBar
JPanel
JPopupMenu
JScrollPane
JSplitPane
JTabbedPane
JToolBar
this (JFrame...
Focus
focusOwner:
General
Model
Visual
Events
Constraints
Start
Total Commander ...
Oracle JDevelop...
WordPerfect X4 - [...
12:44 PM

Clasa Planeta.java:

```
import java.awt.Color;
import java.awt.Graphics;
import java.awt.geom.Ellipse2D;
import java.util.Random;

class Planeta {
   public double Px, Py; //pozitia
   public double Vx, Vy; //viteza
   public double masa;
   public double raza;
   public Color culoare;

   private static final int XSIZE = 2;
   private static final int YSIZE = 2;

   public int aleator(int i) {
      Random rnd = new Random();
      return rnd.nextInt(i);
   }

   public Planeta(double x, double y, double vx, double vy, double masa,
            double raza) {
      this.Px = x;
      this.Py = y;
      this.Vx = vx;
      this.Vy = vy;
      this.masa = masa;
      this.raza = raza;
      this.culoare = new Color(aleator(255), aleator(255), aleator(255));
   }

   public void misca() {
      Px += Vx;
      Py += Vy;
   }

   public String toString() {
      return "P(" + Px + "," + Py + ")\n" +
         "V(" + Vx + "," + Vy + ")\n";
   }

   public Ellipse2D desenare(Graphics g) {
      g.setColor(culoare);
      return new Ellipse2D.Double(Px, Py, XSIZE * raza, YSIZE * raza);
   }
}
```

Clasa jpPlaneta.java:

```
import java.awt.Graphics;
import java.awt.Graphics2D;
import javax.swing.JPanel;

public class jpPlaneta extends JPanel {
   public Planeta planete[] = new Planeta[10];
   public int NrPlanete = 0;
   private static final double F_SCALA = 1000;


   public jpPlaneta() {
      /*
      NrPlanete = 2;
      planete[0] = new Planeta(100, 175, 0, -7, 50, 20) ;
      planete[1] = new Planeta(400, 250, 0, 7, 50, 10) ;
      */

      NrPlanete = 3;
      planete[0] = new Planeta(200, 175, 0, -0.5, 30, 10);
      planete[1] = new Planeta(250, 175, 0, 25, 1, 10);
      planete[2] = new Planeta(350, 175, 0, 13, 1, 10);

   }

   public void pozUrmat() {
      for (int i = 0; i < NrPlanete - 1; ++i)
         for (int j = i + 1; j < NrPlanete; ++j) {
            double dx = planete[i].Px - planete[j].Px;
            double dy = planete[i].Py - planete[j].Py;
            double d2 = dx * dx + dy * dy;
            double f = F_SCALA * planete[i].masa * planete[j].masa /
d2;
            double d = Math.sqrt(d2);

            double a_d = f / planete[i].masa / d;
            planete[i].Vx -= a_d * dx;
            planete[i].Vy -= a_d * dy;

            a_d = f / planete[j].masa / d;
            planete[j].Vx += a_d * dx;
            planete[j].Vy += a_d * dy;
         }
      /*
      for(int i=0;i<NrPlanete;++i)
         System.out.println(planete[i]);
      */
   }

   public void paintComponent(Graphics g) {
      super.paintComponent(g);
      Graphics2D g2 = (Graphics2D)g;

      for (int i = 0; i < NrPlanete; ++i)
         g2.fill(planete[i].desenare(g2));
   }
}
```

Clasa fPlanete.java:

```
import java.awt.Dimension;
import java.awt.Rectangle;
import javax.swing.JFrame;

public class fPlanete extends JFrame {
   private jpPlaneta jpP = new jpPlaneta();

   public fPlanete() {
      try {
         jbInit();
      } catch (Exception e) {
         e.printStackTrace();
      }
   }

   private void jbInit() throws Exception {
      this.getContentPane().setLayout(null);
      this.setSize(new Dimension(718, 518));
      this.setTitle("Miscarea planetelor.");
      jpP.setBounds(new Rectangle(5, 5, 720, 490));
      jpP.setLocation(0, 0);
      this.getContentPane().add(jpP, null);
   }

   public void miscaPlanete() {
      //pozitia initiala
      repaint();
      try {
         for (int i = 1; i <= 10000; i++) {
            jpP.pozUrmat();
            for (int j = 0; j < jpP.NrPlanete; ++j)
               jpP.planete[j].misca();
            jpP.paint(jpP.getGraphics());
            Thread.sleep(20);
         }
      } catch (InterruptedException e) {
      }
   }

   public static void main(String[] args) {
      fPlanete frame = new fPlanete();

      frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
      frame.setVisible(true);
      frame.miscaPlanete();

   }
}
```