**import** java.awt.Color;

**import** java.awt.Dimension;

//import java.awt.FlowLayout;

**import** java.awt.Font;

**import** java.awt.FontMetrics;

**import** java.awt.Graphics;

**import** java.awt.Image;

**import** java.awt.Toolkit;

**import** java.awt.event.ActionEvent;

**import** java.awt.event.ActionListener;

**import** java.awt.event.KeyEvent;

**import** java.awt.event.KeyListener;

//import javafx.scene.control.Label;

**import** javax.swing.ImageIcon;

**import** javax.swing.Timer;

**import** javax.swing.JPanel;

**public** **class** Terrain **extends** JPanel **implements** ActionListener, KeyListener {

**private** **static** **final** **long** *serialVersionUID* = 1L;

**private** **final** **int** largeur = 400;

**private** **final** **int** hauteur = 400;

**private** **final** **int** tPomme = 50;

**private** **final** **int** nbMaxPomme = 40;

**private** **final** **int** DELAIS = 400;

**private** **int** lCorps;

**private** **int** pomme\_x;

**private** **int** pomme\_y;

**private** Image balles;

**private** Image pommes;

**private** Image teteS;

**private** Timer timer;

**private** **int** x[] = **new** **int**[nbMaxPomme];

**private** **int** y[] = **new** **int**[nbMaxPomme];

**public** **boolean** dGauche=**false**;

**public** **boolean** dDroite=**true**;

**private** **boolean** dHaut=**false**;

**private** **boolean** dBas=**false**;

**private** **boolean** inGame=**true**;

//private Label score;

**public** Terrain() {

//this.score= new Label("Score :");

//setLayout(new FlowLayout());

setBackground(Color.*white*);

setFocusable(**true**);

setPreferredSize(**new** Dimension(largeur, hauteur));

insererImages();

initialisation();

addKeyListener(**this**);

requestFocusInWindow();

}

**public** **void** actionPerformed(ActionEvent e) {

**if** (inGame) {

growUp();

checkCollision();

move();

}

repaint();

}

**public** **void** insererImages() {

ImageIcon icon1 = **new** ImageIcon("C:/Users/juliette.legraet.21/Desktop/bouleSnale.gif");

balles = icon1.getImage();

ImageIcon icon2 = **new** ImageIcon("C:/Users/juliette.legraet.21/Desktop/pomme.gif");

pommes = icon2.getImage();

ImageIcon icon3 = **new** ImageIcon("C:/Users/juliette.legraet.21/Desktop/bouleSnake.gif");

teteS = icon3.getImage();

}

**public** **void** initialisation() {

lCorps = 6 ;

**for** (**int** i=0; i<lCorps; i++) {

x[i] = 50 - i \* 10;

y[i] = 50;

}

localisationPomme();

Timer timer = **new** Timer(DELAIS, **this**);

timer.start();

}

**public** **void** growUp() {

**if**((x[0]== pomme\_x)&&(y[0]== pomme\_y))

{

lCorps++;

localisationPomme();

}

}

**public** **void** localisationPomme() {

**int** r = (**int**) (Math.*random*()\*8);

pomme\_x = ((r \* tPomme));

r = (**int**) (Math.*random*()\*8);

pomme\_y = ((r \* tPomme));

}

**public** **void** paintComponent(Graphics g) {

**super**.paintComponent(g);

doDrawing(g);

}

**private** **void** doDrawing(Graphics g) {

**if** (inGame) {

g.drawImage(pommes, pomme\_x, pomme\_y, **this**);

**for** (**int** i = 0; i < lCorps; i++) {

**if** (i == 0) {

g.drawImage(teteS, x[i], y[i], **this**);

} **else** {

g.drawImage(balles, x[i], y[i], **this**);

}

}

Toolkit.*getDefaultToolkit*().sync();

}

**else** {

gameOver(g);

}

}

**private** **void** gameOver(Graphics g) {

String msg = "Game Over";

Font small = **new** Font("Vivaldi", Font.*BOLD*, 40);

FontMetrics metr = getFontMetrics(small);

g.setColor(Color.*orange*);

g.setFont(small);

g.drawString(msg, (largeur - metr.stringWidth(msg)) / 2, hauteur / 2);

}

**private** **void** move() {

**for** (**int** i = lCorps; i > 0; i--) {

x[i] = x[(i - 1)];

y[i] = y[(i - 1)];

}

**if** (dGauche) {

x[0] -= tPomme;

}

**if** (dDroite) {

x[0] += tPomme;

}

**if** (dHaut) {

y[0] -= tPomme;

}

**if** (dBas) {

y[0] += tPomme;

}

}

**private** **void** checkCollision() {

**for** (**int** i = lCorps; i > 0; i--) {

**if** ((i > 4) && (x[0] == x[i]) && (y[0] == y[i])) {

inGame = **false**;

}

**if** (y[0] >= hauteur) {

inGame = **false**;

}

**if** (y[0] < 0) {

inGame = **false**;

}

**if** (x[0] >= largeur) {

inGame = **false**;

}

**if** (x[0] < 0) {

inGame = **false**;

}

**if**(!inGame) {

timer.stop();

}

}

}

**public** **void** keyPressed(KeyEvent e) {

**int** key = e.getKeyCode();

**if** ((key == KeyEvent.*VK\_LEFT*) && (!dDroite)) {

**char** c = e.getKeyChar();

System.*out*.println(c);

dGauche = **true**;

dHaut = **false**;

dBas = **false**;

}

**if** ((key == KeyEvent.*VK\_RIGHT*) && (!dGauche)) {

dDroite = **true**;

dHaut = **false**;

dBas = **false**;

}

**if** ((key == KeyEvent.*VK\_UP*) && (!dBas)) {

dHaut = **true**;

dDroite = **false**;

dGauche = **false**;

}

**if** ((key == KeyEvent.*VK\_DOWN*) && (!dHaut)) {

dBas = **true**;

dDroite = **false**;

dGauche = **false**;

}

}

**public** **void** keyReleased(KeyEvent arg0) {

// **TODO** Stub de la méthode généré automatiquement

}

**public** **void** keyTyped(KeyEvent arg0) {

// **TODO** Stub de la méthode généré automatiquement

}

}