package pkg8puzzle;

import java.net.URL;

import java.util.Arrays;

import java.util.ResourceBundle;

import javafx.beans.property.DoubleProperty;

import javafx.beans.property.SimpleDoubleProperty;

import javafx.event.ActionEvent;

import javafx.fxml.FXML;

import javafx.fxml.Initializable;

import javafx.scene.Cursor;

import javafx.scene.control.Button;

import javafx.scene.control.Label;

import javafx.scene.input.MouseEvent;

import javafx.scene.layout.GridPane;

import utiles8puzzle.Utils;

/\*\*

\*

\* @author Anna

\*/

public class FXML8PuzzleController implements Initializable {

private Label label;

@FXML

private GridPane graella;

@FXML

private Button boto1;

@FXML

private Button boto2;

@FXML

private Button boto3;

@FXML

private Button boto4;

@FXML

private Button boto5;

@FXML

private Button boto6;

@FXML

private Button boto7;

@FXML

private Button boto8;

@FXML

private Button començar;

@FXML

private Button reset;

private int[] z;

private double deltaX;

private double deltaY;

private int celdaY, celdaX;

private DoubleProperty height\_Grid = new SimpleDoubleProperty();

private DoubleProperty width\_Grid = new SimpleDoubleProperty();

private static int sizeCol, sizeRow;

private int cbl, rbl;

public void calculaCelda(double x\_ratoli, double y\_ratoli){

celdaX = (int)(x\_ratoli / (width\_Grid.getValue()/ sizeCol));

celdaY = (int)(y\_ratoli / (height\_Grid.getValue()/ sizeRow));

}

public boolean esPotMenejar(Button a) {

// 1,2,3

// 4,5,6

// 7,8,9

int b = GridPane.getColumnIndex(a);

int c = GridPane.getRowIndex(a);

if((cbl == b + 1 || cbl == b - 1) && c == rbl) {

return true;

}

else if((rbl == c + 1 || rbl == c - 1) && b == cbl) {

return true;

} else { return false;}

}

private boolean esPotSoltar(Button a) {

if(celdaY == rbl && celdaX == cbl){

rbl = GridPane.getRowIndex(a);

cbl = GridPane.getColumnIndex(a);

return true;

} else {

rbl = rbl; cbl = cbl;

return false;

}

}

private boolean comprobar() {

int a = GridPane.getRowIndex(boto1);

int c = GridPane.getRowIndex(boto2);

int e = GridPane.getRowIndex(boto3);

int b = GridPane.getColumnIndex(boto1);

int h = GridPane.getColumnIndex(boto4);

int n = GridPane.getColumnIndex(boto7);

int d = GridPane.getColumnIndex(boto2);

int g = GridPane.getRowIndex(boto4);

int i = GridPane.getRowIndex(boto5);

int j = GridPane.getColumnIndex(boto5);

int k = GridPane.getRowIndex(boto6);

int p = GridPane.getColumnIndex(boto8);

int f = GridPane.getColumnIndex(boto3);

int l = GridPane.getColumnIndex(boto6);

int m = GridPane.getRowIndex(boto7);

int o = GridPane.getRowIndex(boto8);

boolean w = false;

if(a == 0 && c == 0 && e== 0 && b== 0 && h== 0) {

if (n==0 && d == 1 && g == 1 && i == 1 && j == 1 && k == 1) {

if (p ==1 && f == 2 && l == 2 && m == 2 && o == 2) {

w = true;

}

}

} else{w = false;}

return w;

}

public void cambiarBotons(Button a, int b) {

switch(b) {

case 1:

GridPane.setRowIndex(a, 0);

GridPane.setColumnIndex(a, 0);

break;

case 2:

GridPane.setRowIndex(a, 0);

GridPane.setColumnIndex(a, 1);

break;

case 3:

GridPane.setRowIndex(a, 0);

GridPane.setColumnIndex(a, 2);

break;

case 4:

GridPane.setRowIndex(a, 1);

GridPane.setColumnIndex(a, 0);

break;

case 5:

GridPane.setRowIndex(a, 1);

GridPane.setColumnIndex(a, 1);

break;

case 6:

GridPane.setRowIndex(a, 1);

GridPane.setColumnIndex(a, 2);

break;

case 7:

GridPane.setRowIndex(a, 2);

GridPane.setColumnIndex(a, 0);

break;

case 8:

GridPane.setRowIndex(a, 2);

GridPane.setColumnIndex(a, 1);

break;

}

}

public void menejarBotons(int[] s) {

cambiarBotons(boto1, s[0]);

cambiarBotons(boto2, s[1]);

cambiarBotons(boto3, s[2]);

cambiarBotons(boto4, s[3]);

cambiarBotons(boto5, s[4]);

cambiarBotons(boto6, s[5]);

cambiarBotons(boto7, s[6]);

cambiarBotons(boto8, s[7]);

}

@Override

public void initialize(URL url, ResourceBundle rb) {

rbl = 2; cbl = 2;

height\_Grid.bind(graella.heightProperty());

width\_Grid.bind(graella.widthProperty());

sizeCol = graella.getColumnConstraints().size();

sizeRow = graella.getRowConstraints().size();

boto1.setDisable(true);

boto2.setDisable(true);

boto3.setDisable(true);

boto4.setDisable(true);

boto5.setDisable(true);

boto6.setDisable(true);

boto7.setDisable(true);

boto8.setDisable(true);

reset.setDisable(true);

}

@FXML

private void començar(MouseEvent event) {

z = Utils.generarVectorAleatorio(8);

menejarBotons(z);

System.out.println(Arrays.toString(z));

boto1.setDisable(false);

boto2.setDisable(false);

boto3.setDisable(false);

boto4.setDisable(false);

boto5.setDisable(false);

boto6.setDisable(false);

boto7.setDisable(false);

boto8.setDisable(false);

reset.setDisable(false);

}

@FXML

private void reiniciar(MouseEvent event) {

menejarBotons(z);

}

@FXML

private void dins1(MouseEvent event) {

if(esPotMenejar(boto1)) {

boto1.setCursor(Cursor.HAND);

}

}

@FXML

private void fora1(MouseEvent event) {

boto1.setCursor(Cursor.DEFAULT);

}

@FXML

private void polsat1(MouseEvent event) {

if(esPotMenejar(boto1)) {

deltaX = boto1.getLayoutX();

deltaY = boto1.getLayoutY();

}

}

@FXML

private void arrastrat1(MouseEvent event) {

if(esPotMenejar(boto1)) {

boto1.setTranslateX(event.getSceneX()- deltaX);

boto1.setTranslateY(event.getSceneY() - deltaY);

}

}

@FXML

private void soltat1(MouseEvent event) {

if(esPotMenejar(boto1)) {

boto1.setTranslateX(0);

boto1.setTranslateY(0);

calculaCelda(event.getSceneX(),event.getSceneY());

if(esPotSoltar(boto1)){

GridPane.setRowIndex(boto1, celdaY);

GridPane.setColumnIndex(boto1, celdaX);

if(comprobar()) {

boto1.setDisable(true);

boto2.setDisable(true);

boto3.setDisable(true);

boto4.setDisable(true);

boto5.setDisable(true);

boto6.setDisable(true);

boto7.setDisable(true);

boto8.setDisable(true);

reset.setDisable(true);

}

}

}

}

@FXML

private void dins2(MouseEvent event) {

if(esPotMenejar(boto2)) {

boto2.setCursor(Cursor.HAND);

}

}

@FXML

private void fora2(MouseEvent event) {

boto2.setCursor(Cursor.DEFAULT);

}

@FXML

private void polsat2(MouseEvent event) {

if(esPotMenejar(boto2)) {

deltaX = boto2.getLayoutX();

deltaY = boto2.getLayoutY();

}

}

@FXML

private void arrastrat2(MouseEvent event) {

if(esPotMenejar(boto2)) {

boto2.setTranslateX(event.getSceneX()- deltaX);

boto2.setTranslateY(event.getSceneY() - deltaY);

}

}

@FXML

private void soltat2(MouseEvent event) {

if(esPotMenejar(boto2)) {

boto2.setTranslateX(0);

boto2.setTranslateY(0);

calculaCelda(event.getSceneX(),event.getSceneY());

if(esPotSoltar(boto2)) {

GridPane.setRowIndex(boto2, celdaY);

GridPane.setColumnIndex(boto2, celdaX);

if(comprobar()) {

boto1.setDisable(true);

boto2.setDisable(true);

boto3.setDisable(true);

boto4.setDisable(true);

boto5.setDisable(true);

boto6.setDisable(true);

boto7.setDisable(true);

boto8.setDisable(true);

reset.setDisable(true);

}

}

}

}

@FXML

private void dins3(MouseEvent event) {

if(esPotMenejar(boto3)) {

boto3.setCursor(Cursor.HAND);

}

}

@FXML

private void fora3(MouseEvent event) {

boto3.setCursor(Cursor.DEFAULT);

}

@FXML

private void polsat3(MouseEvent event) {

if(esPotMenejar(boto3)) {

deltaX = boto3.getLayoutX();

deltaY = boto3.getLayoutY();

}

}

@FXML

private void arrastrat3(MouseEvent event) {

if(esPotMenejar(boto3)) {

boto3.setTranslateX(event.getSceneX()- deltaX);

boto3.setTranslateY(event.getSceneY() - deltaY);

}

}

@FXML

private void soltat3(MouseEvent event) {

if(esPotMenejar(boto3)) {

boto3.setTranslateX(0);

boto3.setTranslateY(0);

calculaCelda(event.getSceneX(),event.getSceneY());

if(esPotSoltar(boto3)) {

GridPane.setRowIndex(boto3, celdaY);

GridPane.setColumnIndex(boto3, celdaX);

}

}

}

@FXML

private void dins4(MouseEvent event) {

if(esPotMenejar(boto4)) {

boto4.setCursor(Cursor.HAND);

}

}

@FXML

private void fora4(MouseEvent event) {

boto4.setCursor(Cursor.DEFAULT);

}

@FXML

private void polsat4(MouseEvent event) {

if(esPotMenejar(boto4)) {

deltaX = boto4.getLayoutX();

deltaY = boto4.getLayoutY();

}

}

@FXML

private void arrastrat4(MouseEvent event) {

if(esPotMenejar(boto4)) {

boto4.setTranslateX(event.getSceneX()- deltaX);

boto4.setTranslateY(event.getSceneY() - deltaY);

}

}

@FXML

private void soltat4(MouseEvent event) {

if(esPotMenejar(boto4)) {

boto4.setTranslateX(0);

boto4.setTranslateY(0);

calculaCelda(event.getSceneX(),event.getSceneY());

if(esPotSoltar(boto4)) {

GridPane.setRowIndex(boto4, celdaY);

GridPane.setColumnIndex(boto4, celdaX);

if(comprobar()) {

boto1.setDisable(true);

boto2.setDisable(true);

boto3.setDisable(true);

boto4.setDisable(true);

boto5.setDisable(true);

boto6.setDisable(true);

boto7.setDisable(true);

boto8.setDisable(true);

reset.setDisable(true);

}

}

}

}

@FXML

private void dins5(MouseEvent event) {

if(esPotMenejar(boto5)) {

boto5.setCursor(Cursor.HAND);

}

}

@FXML

private void fora5(MouseEvent event) {

boto5.setCursor(Cursor.DEFAULT);

}

@FXML

private void polsat5(MouseEvent event) {

if(esPotMenejar(boto5)) {

deltaX = boto5.getLayoutX();

deltaY = boto5.getLayoutY();

}

}

@FXML

private void arrastrat5(MouseEvent event) {

if(esPotMenejar(boto5)) {

boto5.setTranslateX(event.getSceneX()- deltaX);

boto5.setTranslateY(event.getSceneY() - deltaY);

}

}

@FXML

private void soltat5(MouseEvent event) {

if(esPotMenejar(boto5)) {

boto5.setTranslateX(0);

boto5.setTranslateY(0);

calculaCelda(event.getSceneX(),event.getSceneY());

if(esPotSoltar(boto5)) {

GridPane.setRowIndex(boto5, celdaY);

GridPane.setColumnIndex(boto5, celdaX);

if(comprobar()) {

boto1.setDisable(true);

boto2.setDisable(true);

boto3.setDisable(true);

boto4.setDisable(true);

boto5.setDisable(true);

boto6.setDisable(true);

boto7.setDisable(true);

boto8.setDisable(true);

reset.setDisable(true);

}

}

}

}

@FXML

private void dins6(MouseEvent event) {

if(esPotMenejar(boto6)) {

boto6.setCursor(Cursor.HAND);

}

}

@FXML

private void fora6(MouseEvent event) {

boto6.setCursor(Cursor.DEFAULT);

}

@FXML

private void polsat6(MouseEvent event) {

if(esPotMenejar(boto6)) {

deltaX = boto6.getLayoutX();

deltaY = boto6.getLayoutY();

}

}

@FXML

private void arrastrat6(MouseEvent event) {

if(esPotMenejar(boto6)) {

boto6.setTranslateX(event.getSceneX()- deltaX);

boto6.setTranslateY(event.getSceneY() - deltaY);

}

}

@FXML

private void soltat6(MouseEvent event) {

if(esPotMenejar(boto6)) {

boto6.setTranslateX(0);

boto6.setTranslateY(0);

calculaCelda(event.getSceneX(),event.getSceneY());

if(esPotSoltar(boto6)) {

GridPane.setRowIndex(boto6, celdaY);

GridPane.setColumnIndex(boto6, celdaX);

if(comprobar()) {

boto1.setDisable(true);

boto2.setDisable(true);

boto3.setDisable(true);

boto4.setDisable(true);

boto5.setDisable(true);

boto6.setDisable(true);

boto7.setDisable(true);

boto8.setDisable(true);

reset.setDisable(true);

}

}

}

}

@FXML

private void dins7(MouseEvent event) {

if(esPotMenejar(boto7)) {

boto7.setCursor(Cursor.HAND);

}

}

@FXML

private void fora7(MouseEvent event) {

boto7.setCursor(Cursor.DEFAULT);

}

@FXML

private void polsat7(MouseEvent event) {

if(esPotMenejar(boto7)) {

deltaX = boto7.getLayoutX();

deltaY = boto7.getLayoutY();

}

}

@FXML

private void arrastrat7(MouseEvent event) {

if(esPotMenejar(boto7)) {

boto7.setTranslateX(event.getSceneX()- deltaX);

boto7.setTranslateY(event.getSceneY() - deltaY);

}

}

@FXML

private void soltat7(MouseEvent event) {

if(esPotMenejar(boto7)) {

boto7.setTranslateX(0);

boto7.setTranslateY(0);

calculaCelda(event.getSceneX(),event.getSceneY());

if(esPotSoltar(boto7)) {

GridPane.setRowIndex(boto7, celdaY);

GridPane.setColumnIndex(boto7, celdaX);

if(comprobar()) {

boto1.setDisable(true);

boto2.setDisable(true);

boto3.setDisable(true);

boto4.setDisable(true);

boto5.setDisable(true);

boto6.setDisable(true);

boto7.setDisable(true);

boto8.setDisable(true);

reset.setDisable(true);

}

}

}

}

@FXML

private void dins8(MouseEvent event) {

if(esPotMenejar(boto8)) {

boto8.setCursor(Cursor.HAND);

}

}

@FXML

private void fora8(MouseEvent event) {

boto8.setCursor(Cursor.DEFAULT);

}

@FXML

private void polsat8(MouseEvent event) {

if(esPotMenejar(boto8)) {

deltaX = boto8.getLayoutX();

deltaY = boto8.getLayoutY();

}

}

@FXML

private void arrastrat8(MouseEvent event) {

if(esPotMenejar(boto8)) {

boto8.setTranslateX(event.getSceneX()- deltaX);

boto8.setTranslateY(event.getSceneY() - deltaY);

}

}

@FXML

private void soltat8(MouseEvent event) {

if(esPotMenejar(boto8)) {

boto8.setTranslateX(0);

boto8.setTranslateY(0);

calculaCelda(event.getSceneX(),event.getSceneY());

if(esPotSoltar(boto8)) {

GridPane.setRowIndex(boto8, celdaY);

GridPane.setColumnIndex(boto8, celdaX);

if(comprobar()) {

boto1.setDisable(true);

boto2.setDisable(true);

boto3.setDisable(true);

boto4.setDisable(true);

boto5.setDisable(true);

boto6.setDisable(true);

boto7.setDisable(true);

boto8.setDisable(true);

reset.setDisable(true);

}

}

}

}

}