import javax.swing.\*;

import java.awt.\*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import java.awt.event.KeyEvent;

import java.awt.event.KeyListener;

class BrickBreaker {

public static void main(String[] args) {

JFrame frame = new JFrame();

Gameplay gameplay = new Gameplay();

frame.setBounds(10, 10, 700, 600);

frame.setTitle("Brick Breaker");

frame.setResizable(false);

frame.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

frame.add(gameplay);

frame.setVisible(true);

}

}

class Gameplay extends JPanel implements KeyListener, ActionListener {

private boolean play = false;

private int score = 0;

private int totalBricks = 21;

private Timer timer;

private int delay = 8;

private int playerX = 310;

private int ballposX = 120;

private int ballposY = 350;

private int ballXdir = -1;

private int ballYdir = -2;

private MapGenerator map;

public Gameplay() {

map = new MapGenerator(3, 7);

addKeyListener(this);

setFocusable(true);

setFocusTraversalKeysEnabled(false);

timer = new Timer(delay, this);

timer.start();

}

public void paint(Graphics g) {

// background

g.setColor(Color.black);

g.fillRect(1, 1, 692, 592);

// drawing map

map.draw((Graphics2D) g);

// borders

g.setColor(Color.yellow);

g.fillRect(0, 0, 3, 592);

g.fillRect(0, 0, 692, 3);

g.fillRect(691, 0, 3, 592);

// scores

g.setColor(Color.white);

g.setFont(new Font("serif", Font.BOLD, 25));

g.drawString("Score: " + score, 550, 30);

// the paddle

g.setColor(Color.green);

g.fillRect(playerX, 550, 100, 8);

// the ball

g.setColor(Color.yellow);

g.fillOval(ballposX, ballposY, 20, 20);

if (totalBricks <= 0) {

play = false;

ballXdir = 0;

ballYdir = 0;

g.setColor(Color.red);

g.setFont(new Font("serif", Font.BOLD, 30));

g.drawString("You Won!", 260, 300);

g.setFont(new Font("serif", Font.BOLD, 20));

g.drawString("Press Enter to Restart", 230, 350);

}

if (ballposY > 570) {

play = false;

ballXdir = 0;

ballYdir = 0;

g.setColor(Color.red);

g.setFont(new Font("serif", Font.BOLD, 30));

g.drawString("Game Over, Scores: " + score, 190, 300);

g.setFont(new Font("serif", Font.BOLD, 20));

g.drawString("Press Enter to Restart", 230, 350);

}

g.dispose();

}

@Override

public void actionPerformed(ActionEvent e) {

timer.start();

if (play) {

if (new Rectangle(ballposX, ballposY, 20, 20).intersects(new Rectangle(playerX, 550, 100, 8))) {

ballYdir = -ballYdir;

}

A: for (int i = 0; i < map.map.length; i++) {

for (int j = 0; j < map.map[0].length; j++) {

if (map.map[i][j] > 0) {

int brickX = j \* map.brickWidth + 80;

int brickY = i \* map.brickHeight + 50;

int brickWidth = map.brickWidth;

int brickHeight = map.brickHeight;

Rectangle rect = new Rectangle(brickX, brickY, brickWidth, brickHeight);

Rectangle ballRect = new Rectangle(ballposX, ballposY, 20, 20);

Rectangle brickRect = rect;

if (ballRect.intersects(brickRect)) {

map.setBrickValue(0, i, j);

totalBricks--;

score += 5;

if (ballposX + 19 <= brickRect.x || ballposX + 1 >= brickRect.x + brickRect.width) {

ballXdir = -ballXdir;

} else {

ballYdir = -ballYdir;

}

break A;

}

}

}

}

ballposX += ballXdir;

ballposY += ballYdir;

if (ballposX < 0) {

ballXdir = -ballXdir;

}

if (ballposY < 0) {

ballYdir = -ballYdir;

}

if (ballposX > 670) {

ballXdir = -ballXdir;

}

}

repaint();

}

@Override

public void keyTyped(KeyEvent e) {}

@Override

public void keyPressed(KeyEvent e) {

if (e.getKeyCode() == KeyEvent.VK\_RIGHT) {

if (playerX >= 600) {

playerX = 600;

} else {

moveRight();

}

}

if (e.getKeyCode() == KeyEvent.VK\_LEFT) {

if (playerX <= 10) {

playerX = 10;

} else {

moveLeft();

}

}

if (e.getKeyCode() == KeyEvent.VK\_ENTER) {

if (!play) {

play = true;

ballposX = 120;

ballposY = 350;

ballXdir = -1;

ballYdir = -2;

playerX = 310;

score = 0;

totalBricks = 21;

map = new MapGenerator(3, 7);

repaint();

}

}

}

public void moveRight() {

play = true;

playerX += 20;

}

public void moveLeft() {

play = true;

playerX -= 20;

}

@Override

public void keyReleased(KeyEvent e) {}

}

class MapGenerator {

public int[][] map;

public int brickWidth;

public int brickHeight;

public MapGenerator(int row, int col) {

map = new int[row][col];

for (int i = 0; i < map.length; i++) {

for (int j = 0; j < map[0].length; j++) {

map[i][j] = 1;

}

}

brickWidth = 540 / col;

brickHeight = 150 / row;

}

public void draw(Graphics2D g) {

for (int i = 0; i < map.length; i++) {

for (int j = 0; j < map[0].length; j++) {

if (map[i][j] > 0) {

g.setColor(Color.white);

g.fillRect(j \* brickWidth + 80, i \* brickHeight + 50, brickWidth, brickHeight);

g.setStroke(new BasicStroke(3));

g.setColor(Color.black);

g.drawRect(j \* brickWidth + 80, i \* brickHeight + 50, brickWidth, brickHeight);

}

}

}

}

public void setBrickValue(int value, int row, int col) {

map[row][col] = value;

}

}