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BRANCH/ROLL NO: AI&DS/55

```
import java.awt.Color;
import java.awt.Font;
import java.awt.Graphics;
import java.awt.Graphics2D;
import java.awt.Rectangle;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.awt.event.KeyEvent;
import java.awt.event.KeyListener;
import javax.swing.Timer;

import javax.swing.JPanel;

public 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) {

        g.setColor(Color.white);
        g.fillRect(1, 1, 692, 592);

        map.draw((Graphics2D)g);

        g.setColor(Color.yellow);
        g.fillRect(0, 0, 3, 592);
        g.fillRect(0, 0, 692, 3);
        g.fillRect(691, 0, 3, 592);

        g.setColor(Color.blue);
        g.fillRect(playerX, 550, 100, 8);

        g.setColor(Color.green);
        g.fillOval(ballposX, ballposY, 20, 20);
```

```
g.setColor(Color.black);
g.setFont(new Font("serif", Font.BOLD, 25));
g.drawString("" + score, 590, 30);



if (totalBricks <= 0) {
        play = false;
        ballXdir = 0;
        ballYdir = 0;
        g.setColor(Color.green);
        g.setFont(new Font("serif", Font.BOLD, 30));
        g.drawString("You Won, Score: " + score, 190, 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, Score: " + 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 arg0) {
        // TODO Auto-generated method stub
        timer.start();
        if(play) {
            // Ball - Pedal  interaction
            if(new Rectangle(ballposX, ballposY, 20, 20).intersects(new Rectangle(playerX, 550, 100, 8))) {
                ballYdir = - ballYdir;
            }
            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;

                            }

                        }


                    }


                }

            }




            ballposX += ballXdir;

            ballposY += ballYdir;

            if(ballposX < 0) {

                ballXdir = -ballXdir;

            }

            if(ballposY < 0) {

                ballYdir = -ballYdir;

            }

            if(ballposX > 670) {

                ballXdir = -ballXdir;


            }


        }
```

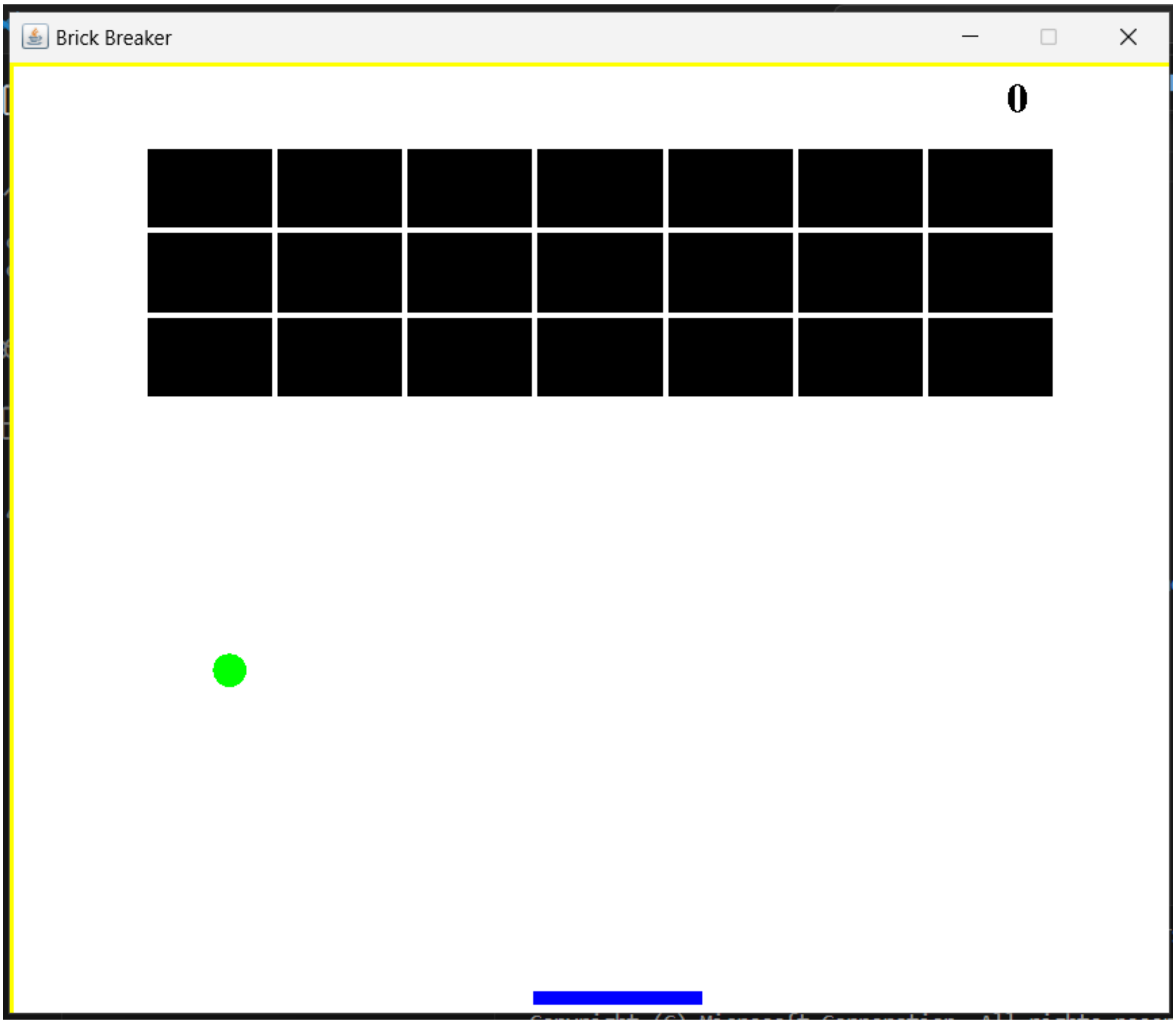
```
		repaint();

	}



	@Override
	public void keyTyped(KeyEvent arg0) {
		// TODO Auto-generated method stub

	}

	@Override
	public void keyPressed(KeyEvent arg0) {
		// TODO Auto-generated method stub
		if(arg0.getKeyCode() == KeyEvent.VK_RIGHT) {
			if(playerX >= 600) {
				playerX = 600;
			} else {
				moveRight();

			}
		}
		if(arg0.getKeyCode() == KeyEvent.VK_LEFT) {
			if(playerX < 10) {
				playerX = 10;
			} else {
				moveLeft();

			}
		}

		if(arg0.getKeyCode() == KeyEvent.VK_ENTER) {
			if(!play) {
				play = true;
				ballposX = 120;
				ballposY = 350;
				ballXdir = -1;
				ballYdir = -2;
				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 arg0) {
		// TODO Auto-generated method stub
	}
```

```
}


import javax.swing.JFrame;


public class Main {


	public static void main(String[] args) {
		// TODO Auto-generated method stub


		JFrame obj = new JFrame();
		GamePlay gamePlay = new GamePlay();
		obj.setBounds(10, 10, 700, 600);
		obj.setTitle("Brick Breaker");
		obj.setResizable(false);
		obj.setVisible(true);
		obj.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
		obj.add(gamePlay);


	}


}
```

```
import java.awt.BasicStroke;

import java.awt.Color;

import java.awt.Graphics2D;


public 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.black);
```

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

                    g.setStroke(new BasicStroke(3));
                    g.setColor(Color.white);
                    g.drawRect(j*brickWidth + 80, i*brickHeight + 50, brickWidth, brickHeight);
                }
            }

        }

        }

    public void setBrickValue(int value, int row, int col) {
        map[row][col] = value;
    }

}
```

OUTPUT:


Brick Breaker
0