

Practical No. 4

Aim: Write a java application to demonstrate 5 bouncing balls of different colors using threads.

Code:

```
import java.awt.*;
import java.awt.event.*;
class Bouncing_Balls extends Frame implements MouseListener {
    int x = 40, y = 40, t1 = 1, t2 = 1;
    int x1 = 200, y1 = 40, t12 = 1, t22 = 1;
    int x2 = 100, y2 = 100, t13 = 1, t23 = 1;
    Thread th;
    Bouncing_Balls() {
        setSize(700, 800);
        setVisible(true);
        th = new Thread(new Thread() {
            public void run() {
                while (true) {
                    x = x + t1;
                    y = y + t2;
                    x1 = x1 + t12;
                    y1 = y1 + t22;
                    x2 = x2 - t13;
                    y2 = y2 - t23;
                    if (x < 0 || x > 680)
                        t1 = t1 * (-1);
                    if (y < 20 || y > 780)
                        t2 = t2 * (-1);
                    if (x1 < 0 || x1 > 680)
                        t12 = t12 * (-1);
                    if (y1 < 20 || y1 > 780)
                        t22 = t22 * (-1);
                    if (x2 < 0 || x2 > 680)
                        t13 = t13 * (-1);
                    if (y2 < 20 || y2 > 780)
                        t23 = t23 * (-1);
                    try {
                        this.sleep(5);
                    } catch (Exception E) {
                    }
                    repaint();
                }
            }
        });
        addMouseListener(this);
    }
    public void mouseClicked(MouseEvent M) {
        th.start();
    }
}
```

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```
}  
public void mousePressed(MouseEvent M) {  
}  
public void mouseReleased(MouseEvent M) {  
}  
public void mouseEntered(MouseEvent M) {  
}  
public void mouseExited(MouseEvent M) {  
}  
public void paint(Graphics g) {  
    g.setColor(Color.pink);  
    g.fillOval(x, y, 40, 40);  
    g.setColor(Color.pink);  
    g.fillOval(x1, y1, 40, 40);  
    g.setColor(Color.pink);  
    g.fillOval(x2, y2, 40, 40);  
}  
public static void main(String[] args) {  
    Bouncing_Balls B = new Bouncing_Balls();  
}}
```

Output:

```
C:\Users\Vishwakarma\My work\DgetCollege\Sem 4\JS>javac Bouncing_Balls.java  
C:\Users\Vishwakarma\My work\DgetCollege\Sem 4\JS>java Bouncing_Balls
```

