

Assignment: 9

Implement a program that demonstrates event handling for various types of events.

```
package demo;

import javax.swing.*.*;
import java.awt.*.*;
import java.awt.event.*.*;

@SuppressWarnings("serial")

public class EventHandlingDemo extends JFrame {

    private JButton button;

    private JLabel mouseLabel, keyLabel;

    public EventHandlingDemo() {

        // Set up the frame

        setTitle("Event Handling Demo");

        setSize(400, 300);

        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        setLayout(new BorderLayout());

        // Create a button and add an ActionListener

        button = new JButton("Click Me");

        button.addActionListener(e -> JOptionPane.showMessageDialog(this, "Button Clicked!"));

        add(button, BorderLayout.NORTH);

        // Create a label for mouse events

        mouseLabel = new JLabel("Move the mouse here!", SwingConstants.CENTER);

        mouseLabel.setOpaque(true);

        mouseLabel.setBackground(Color.LIGHT_GRAY);

        mouseLabel.addMouseMotionListener(new MouseMotionAdapter() {

            @Override
```

```

    public void mouseMoved(MouseEvent e) {
        mouseLabel.setText("Mouse Moved: (" + e.getX() + ", " + e.getY() + ")");
    }
});

add(mouseLabel, BorderLayout.CENTER);

// Create a label for key events
keyLabel = new JLabel("Press keys here!", SwingConstants.CENTER);
keyLabel.setFocusable(true);
keyLabel.setOpaque(true);
keyLabel.setBackground(Color.YELLOW);
keyLabel.addKeyListener(new KeyAdapter() {
    @Override
    public void keyPressed(KeyEvent e) {
        keyLabel.setText("Key Pressed: " + KeyEvent.getKeyText(e.getKeyCode()));
    }
    @Override
    public void keyReleased(KeyEvent e) {
        keyLabel.setText("Key Released: " + KeyEvent.getKeyText(e.getKeyCode()));
    }
});

add(keyLabel, BorderLayout.SOUTH);

// Display the frame
setVisible(true);
}

public static void main(String[] args) {
    SwingUtilities.invokeLater(EventHandlingDemo::new);
}
}

```

Output:

