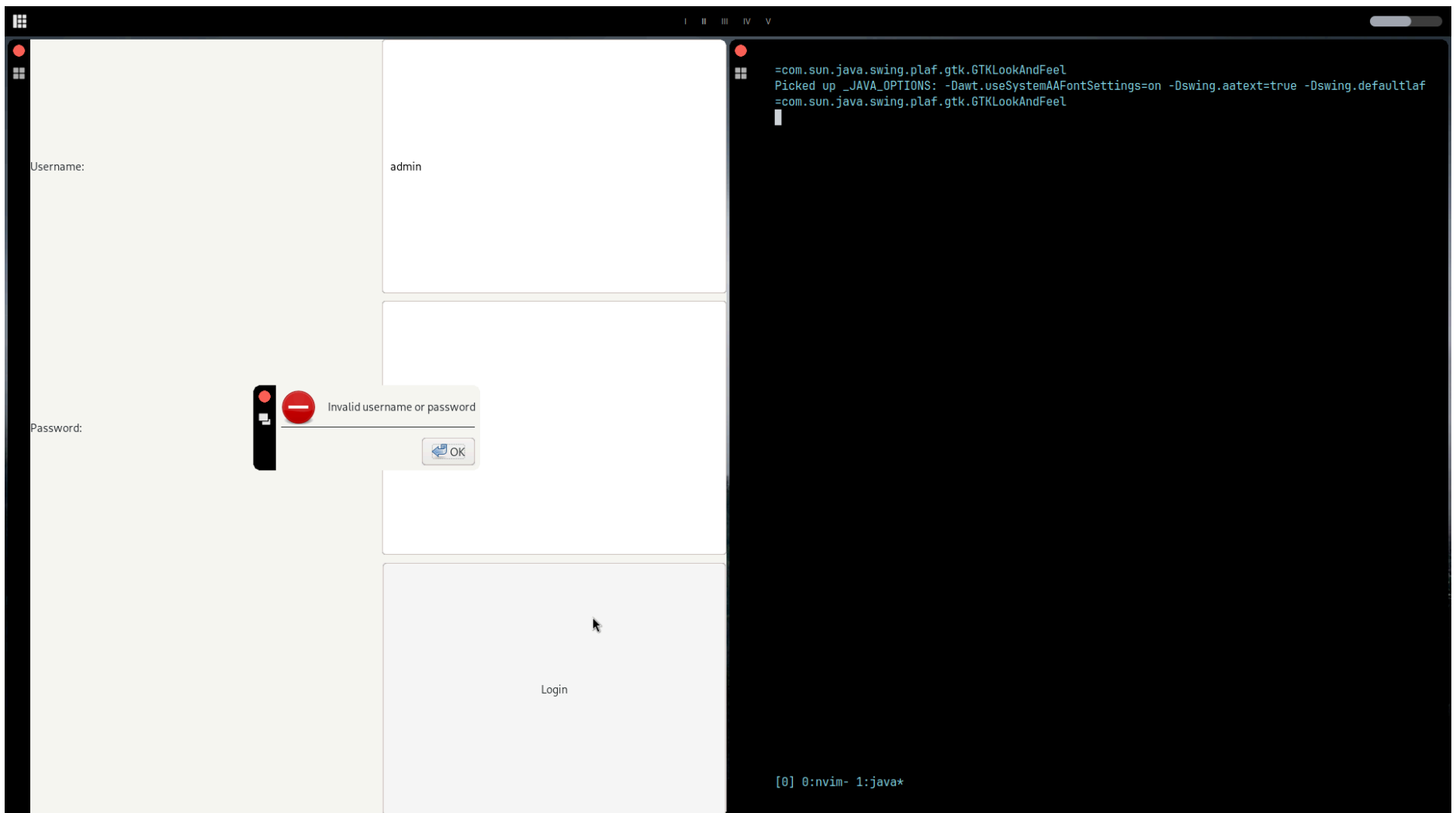


1. Design the Login Frame with username, password and login button. When users click on the login button verify if the username and password is admin or not. If the username and password is valid, display the login successfully in the DialogBox else Display Invalid username and password in DialogBox.



```
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;

public class Main {

    public static void main(String[] args) {
        JFrame frame = new JFrame("Login Frame");
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setSize(300, 150);
        frame.setLayout(new GridLayout(3, 2, 10, 10));

        JLabel usernameLabel = new JLabel("Username:");
        JTextField usernameField = new JTextField();
        JLabel passwordLabel = new JLabel("Password:");
        JPasswordField passwordField = new JPasswordField();
        JButton loginButton = new JButton("Login");

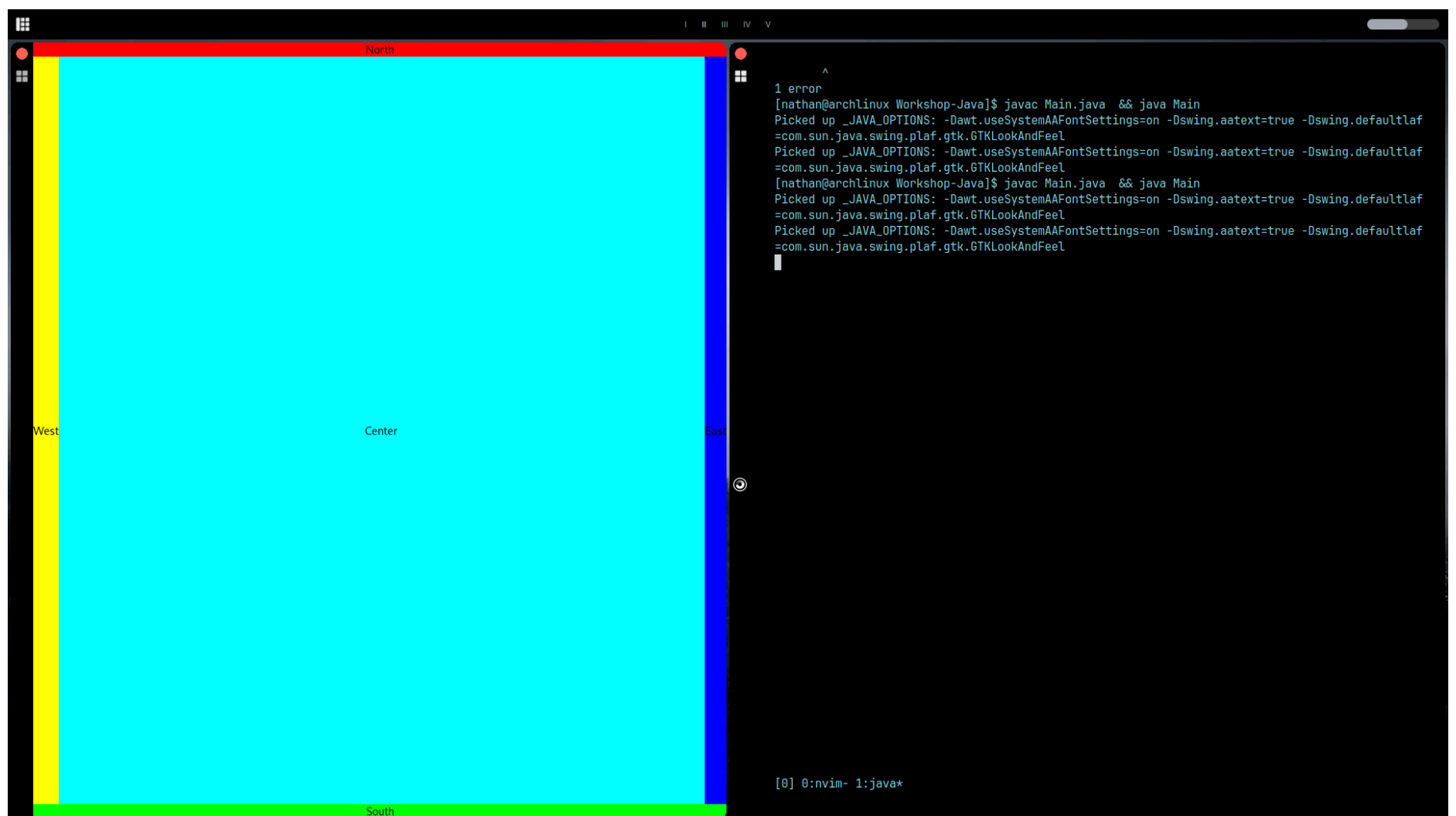
        frame.add(usernameLabel);
        frame.add(usernameField);
        frame.add(passwordLabel);
        frame.add(passwordField);
        frame.add(new JLabel());
        frame.add(loginButton);

        loginButton.addActionListener(new ActionListener() {
            public void actionPerformed(ActionEvent e) {
                String username = usernameField.getText();
                String password = new String(passwordField.getPassword());

                if (username.equals("admin") && password.equals("admin")) {
                    JOptionPane.showMessageDialog(frame, "Login successfully", "Success", JOptionPane.INFORMATION_MESSAGE);
                } else {
                    JOptionPane.showMessageDialog(frame, "Invalid username or password", "Error", JOptionPane.ERROR_MESSAGE);
                }
            }
        });

        frame.setVisible(true);
    }
}
```

2. Demonstrate the use of Border Layout. Make sure to have different colors for the North, South, East, West and Center.

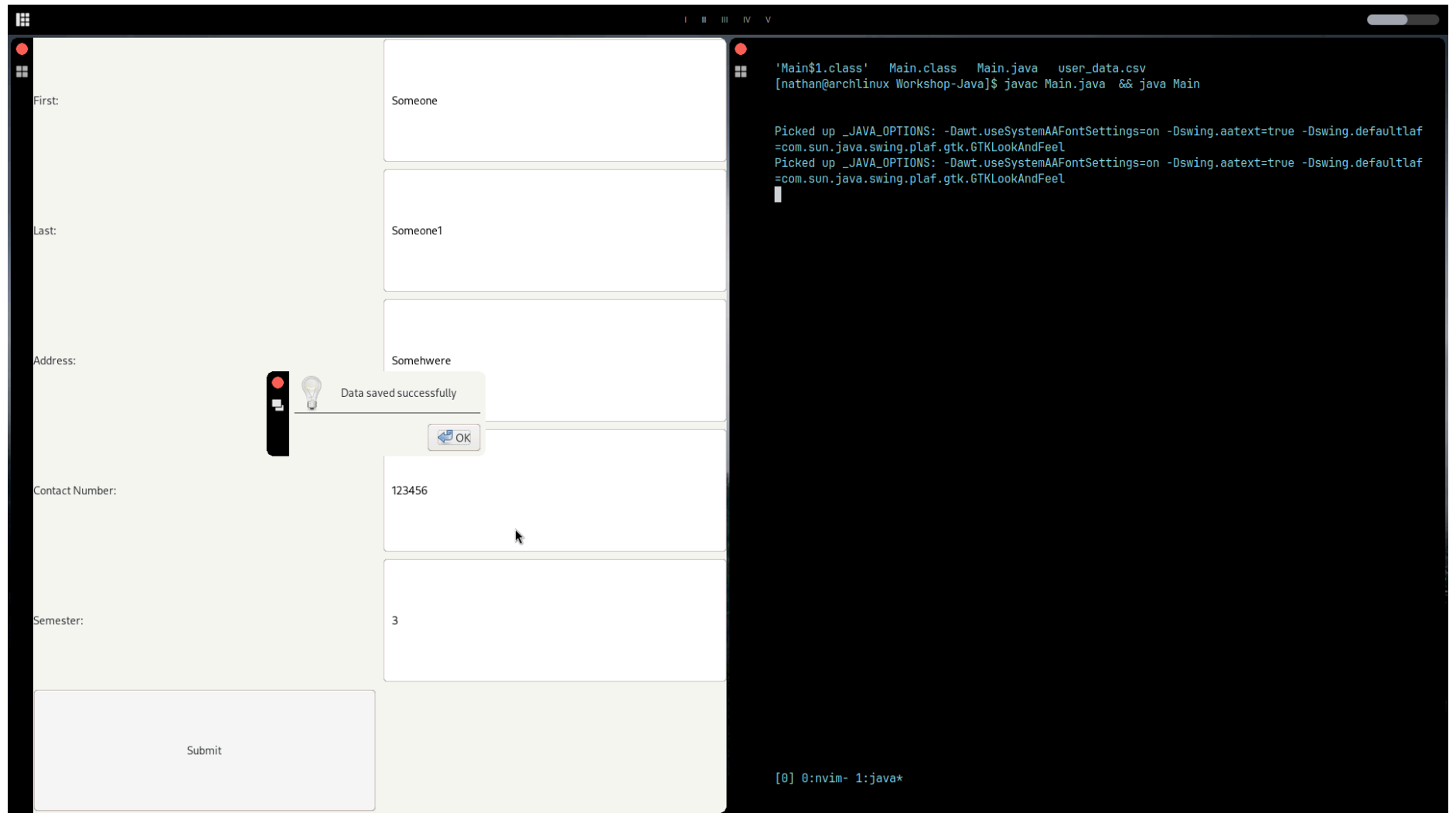


```

23 import javax.swing.*;
22 import java.awt.*;
21
20 public class Main{
19     public static void main(String[] args) {
18         JFrame frame = new JFrame("BorderLayout Example");
17         frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
16         frame.setSize(400, 300);
15         frame.setLayout(new BorderLayout());
14
13         frame.add(createLabel("North", Color.RED), BorderLayout.NORTH);
12         frame.add(createLabel("South", Color.GREEN), BorderLayout.SOUTH);
11         frame.add(createLabel("East", Color.BLUE), BorderLayout.EAST);
10         frame.add(createLabel("West", Color.YELLOW), BorderLayout.WEST);
9         frame.add(createLabel("Center", Color.CYAN), BorderLayout.CENTER);
8
7         frame.setVisible(true);
6     }
5
4     private static JLabel createLabel(String text, Color color) {
3         JLabel label = new JLabel(text, SwingConstants.CENTER);
2         label.setOpaque(true);
1         label.setBackground(color);
24         label.setForeground(Color.BLACK);
1         return label;
2     }
3 }
4

```

3. Design the User Input Frame with firstName, lastName, address, contactNumber and semester as the input field. Write the content to the csv file.



```
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.io.FileWriter;
import java.io.IOException;

public class Main {
    public static void main(String[] args) {
        JFrame frame = new JFrame("User Input Form");
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setSize(400, 300);
        frame.setLayout(new GridLayout(6, 2, 10, 10));

        JTextField firstNameField = new JTextField();
        JTextField lastNameField = new JTextField();
        JTextField addressField = new JTextField();
        JTextField contactNumberField = new JTextField();
        JTextField semesterField = new JTextField();

        frame.add(new JLabel("First:"));
        frame.add(firstNameField);
        frame.add(new JLabel("Last:"));
        frame.add(lastNameField);
        frame.add(new JLabel("Address:"));
        frame.add(addressField);
        frame.add(new JLabel("Contact Number:"));
        frame.add(contactNumberField);
        frame.add(new JLabel("Semester:"));
        frame.add(semesterField);

        JButton submitButton = new JButton("Submit");
        frame.add(submitButton);

        submitButton.addActionListener(new ActionListener() {
            @Override
```

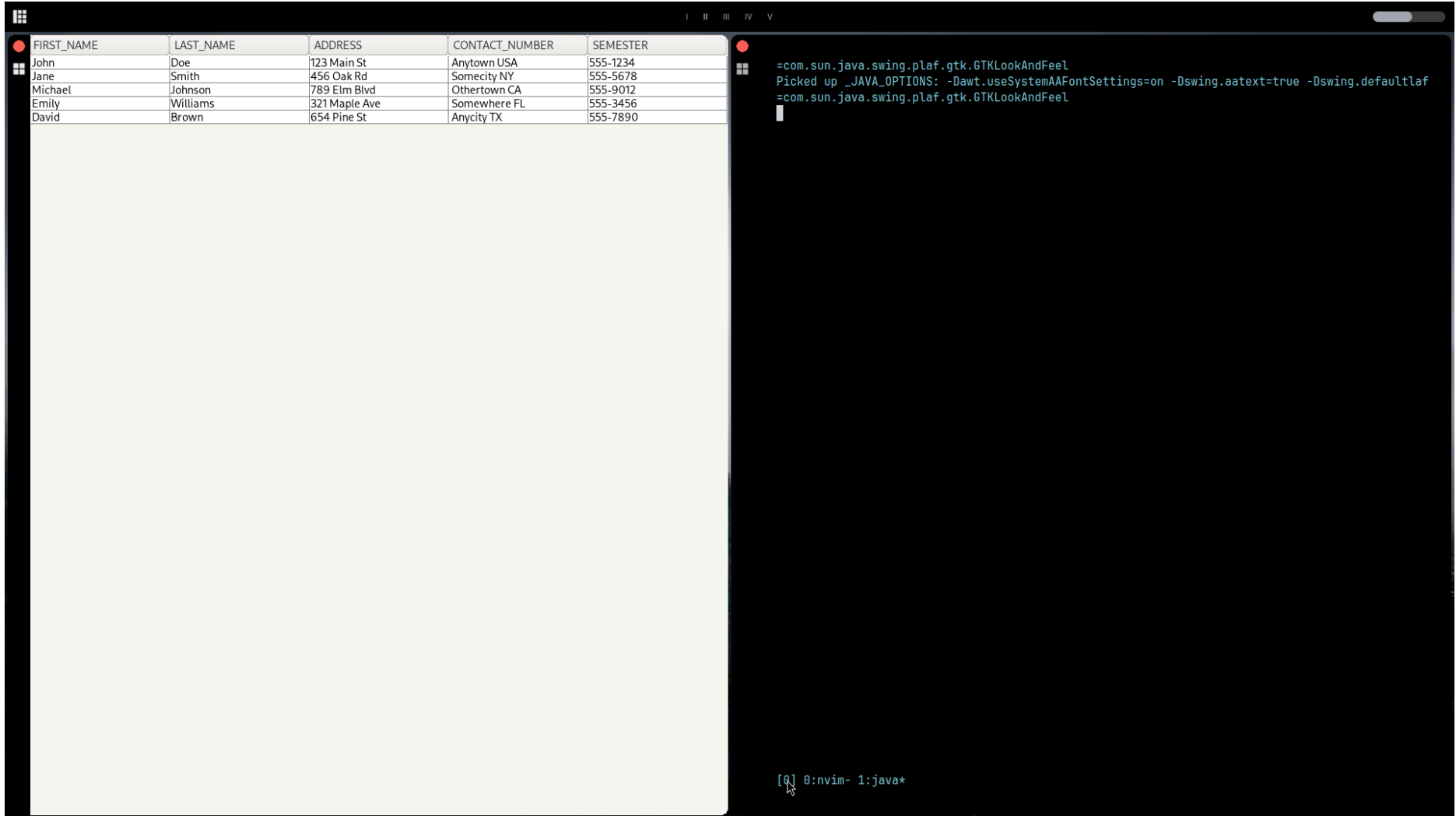
```
        public void actionPerformed(ActionEvent e) {
            try (FileWriter writer = new FileWriter("user_data.csv", true)) {
                writer.append(firstNameField.getText()).append(',')
                    .append(lastNameField.getText()).append(',')
                    .append(addressField.getText()).append(',')
                    .append(contactNumberField.getText()).append(',')
                    .append(semesterField.getText()).append('\n');
                JOptionPane.showMessageDialog(frame, "Data saved successfully");
            } catch (IOException ex) {
                JOptionPane.showMessageDialog(frame, "Error saving data");
            }
        }
    });

    frame.setVisible(true);
}
```

4. Below is the content of the csv file.

FIRST\_NAME, LAST\_NAME, ADDRESS, CONTACT\_NUMBER, SEMESTER  
John,Doe,123 Main St, Anytown USA,555-1234,Fall 2023  
Jane,Smith,456 Oak Rd, Somecity NY,555-5678,Spring 2024  
Michael,Johnson,789 Elm Blvd, Othertown CA,555-9012,Summer 2023  
Emily,Williams,321 Maple Ave, Somewhere FL,555-3456,Fall 2024  
David,Brown,654 Pine St, Anycity TX,555-7890,Spring 2023

Write a program to read the csv file and display the data into the JTable.

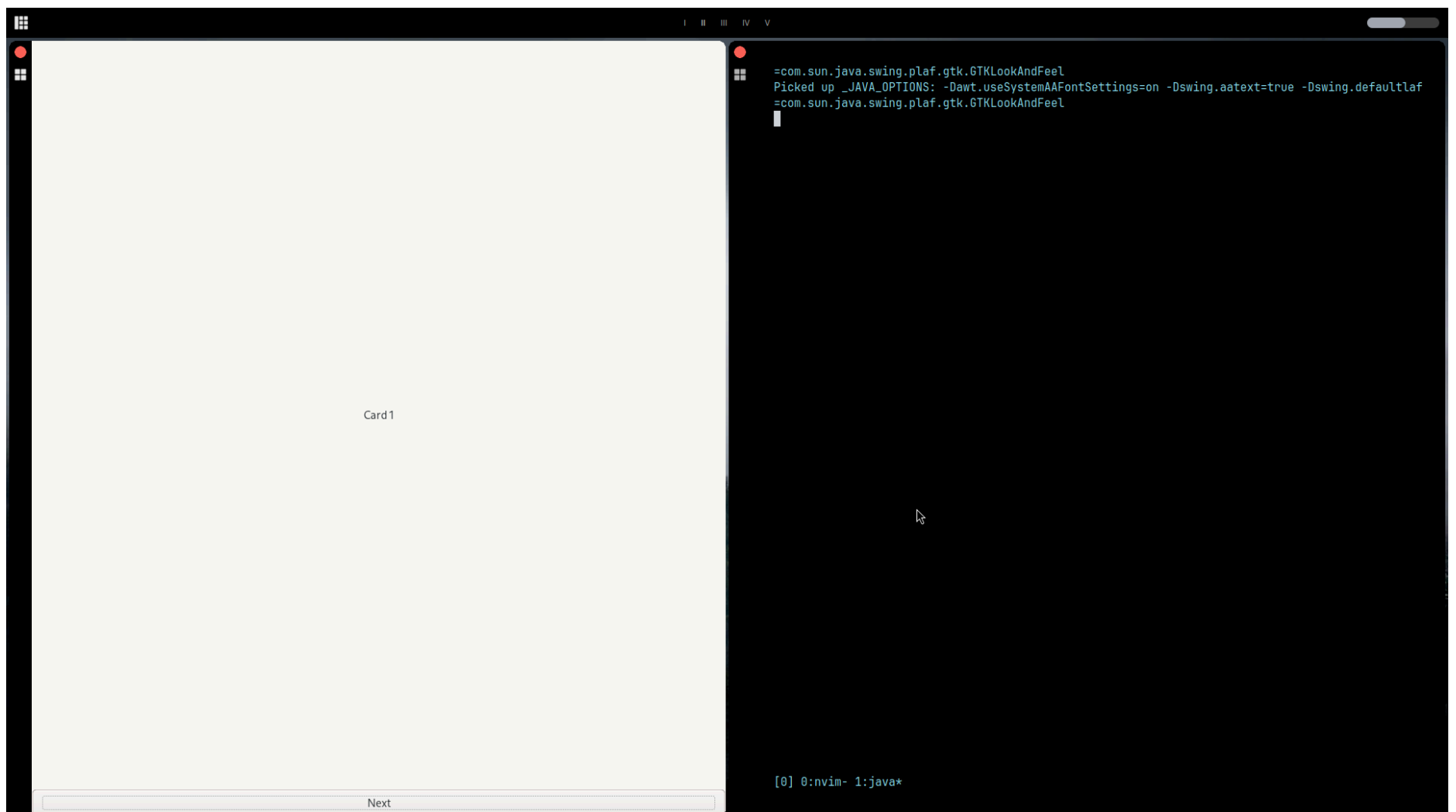


```

1  import javax.swing.*;
1 import javax.swing.table.DefaultTableModel;
2 import java.awt.*;
3 import java.io.BufferedReader;
4 import java.io.FileReader;
5 import java.io.IOException;
6
7 public class Main {
8
9     public static void main(String[] args) {
10         SwingUtilities.invokeLater(() -> {
11             JFrame frame = new JFrame("CSV Data in JTable");
12             frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
13             frame.setSize(600, 400);
14             frame.setLayout(new BorderLayout());
15
16             DefaultTableModel tableModel = new DefaultTableModel();
17             JTable table = new JTable(tableModel);
18
19             try (BufferedReader reader = new BufferedReader(new FileReader("user_data.csv"))) {
20                 String line;
21                 boolean isHeader = true;
22
23                 while ((line = reader.readLine()) != null) {
24                     String[] values = line.split(",");
25                     if (isHeader) {
26                         tableModel.setColumnIdentifiers(values);
27                         isHeader = false;
28                     } else {
29                         tableModel.addRow(values);
30                     }
31                 }
32             } catch (IOException e) {
33                 e.printStackTrace();
34                 JOptionPane.showMessageDialog(frame, "Error reading file", "Error", JOptionPane.ERROR_MESSAGE);
35             }
36
37             frame.add(new JScrollPane(table), BorderLayout.CENTER);
38             frame.setVisible(true);
39         });
40     }
41 }
42

```

5. Demonstrate the use of Card Layout in Java Swing.



- 6.

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

public class Main{
    public static void main(String[] args) {
        JFrame frame = new JFrame("CardLayout Example");
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setSize(300, 200);

        JPanel cardPanel = new JPanel(new CardLayout());
        cardPanel.add(new JLabel("Card 1", SwingConstants.CENTER), "Card 1");
        cardPanel.add(new JLabel("Card 2", SwingConstants.CENTER), "Card 2");
        cardPanel.add(new JLabel("Card 3", SwingConstants.CENTER), "Card 3");

        JButton nextButton = new JButton("Next");
        frame.add(cardPanel, BorderLayout.CENTER);
        frame.add(nextButton, BorderLayout.SOUTH);

        CardLayout cardLayout = (CardLayout) cardPanel.getLayout();
        nextButton.addActionListener(e -> cardLayout.next(cardPanel));

        frame.setVisible(true);
    }
}
```

7.