CO7

1. Student management system with Java AWT

```java
import java.awt.*;
import java.awt.event.*;

public class StudentManagementSystemAWT extends Frame implements
ActionListener {
    Label nameLabel, rollNoLabel, courseLabel, markLabel1, markLabel2, markLabel3,
totalMarkLabel, addressLabel, genderLabel, gradeLabel;
    TextField nameField, rollNoField, courseField, markField1, markField2, markField3,
totalMarkField;
    TextArea addressArea;
    CheckboxGroup genderCheckboxGroup;
    Checkbox maleCheckbox, femaleCheckbox;
    Button gradeButton;

    public StudentManagementSystemAWT() {
        setTitle("Student Management System");
        setSize(400, 500);
        setLayout(null);

        nameLabel = new Label("Name:");
        nameLabel.setBounds(50, 50, 50, 20);
        add(nameLabel);

        nameField = new TextField();
        nameField.setBounds(150, 50, 150, 20);
        add(nameField);

        rollNoLabel = new Label("Roll No:");
        rollNoLabel.setBounds(50, 80, 50, 20);
        add(rollNoLabel);

        rollNoField = new TextField();
        rollNoField.setBounds(150, 80, 150, 20);
        add(rollNoField);

        genderLabel = new Label("Gender:");
        genderLabel.setBounds(50, 110, 50, 20);
        add(genderLabel);

        genderCheckboxGroup = new CheckboxGroup();
```

```java
maleCheckbox = new Checkbox("Male", genderCheckboxGroup, true);
maleCheckbox.setBounds(150, 110, 50, 20);
add(maleCheckbox);

femaleCheckbox = new Checkbox("Female", genderCheckboxGroup, false);
femaleCheckbox.setBounds(220, 110, 60, 20);
add(femaleCheckbox);

addressLabel = new Label("Address:");
addressLabel.setBounds(50, 140, 60, 20);
add(addressLabel);

addressArea = new TextArea();
addressArea.setBounds(150, 140, 150, 100);
add(addressArea);

courseLabel = new Label("Course:");
courseLabel.setBounds(50, 260, 50, 20);
add(courseLabel);

courseField = new TextField();
courseField.setBounds(150, 260, 150, 20);
add(courseField);

markLabel1 = new Label("Mark 1:");
markLabel1.setBounds(50, 290, 50, 20);
add(markLabel1);

markField1 = new TextField();
markField1.setBounds(150, 290, 50, 20);
add(markField1);

markLabel2 = new Label("Mark 2:");
markLabel2.setBounds(50, 320, 50, 20);
add(markLabel2);

markField2 = new TextField();
markField2.setBounds(150, 320, 50, 20);
add(markField2);

markLabel3 = new Label("Mark 3:");
markLabel3.setBounds(50, 350, 50, 20);
add(markLabel3);
```

```java
        markField3 = new TextField();
        markField3.setBounds(150, 350, 50, 20);
        add(markField3);

        totalMarkLabel = new Label("Total Mark:");
        totalMarkLabel.setBounds(50, 380, 80, 20);
        add(totalMarkLabel);

        totalMarkField = new TextField();
        totalMarkField.setBounds(150, 380, 50, 20);
        totalMarkField.setEditable(false);
        add(totalMarkField);

        gradeButton = new Button("Calculate Grade");
        gradeButton.setBounds(150, 410, 150, 30);
        gradeButton.addActionListener(this);
        add(gradeButton);

        gradeLabel = new Label("");
        gradeLabel.setBounds(150, 450, 150, 20);
        add(gradeLabel);

        setVisible(true);
    }

    public void actionPerformed(ActionEvent e) {
        if (e.getSource() == gradeButton) {
            // Calculate total marks
            int mark1 = Integer.parseInt(markField1.getText());
            int mark2 = Integer.parseInt(markField2.getText());
            int mark3 = Integer.parseInt(markField3.getText());
            int totalMark = mark1 + mark2 + mark3;
            totalMarkField.setText(String.valueOf(totalMark));

            // Calculate grade based on total marks
            String grade;
            if (totalMark >= 90) {
                grade = "A";
            } else if (totalMark >= 80) {
                grade = "B";
            } else if (totalMark >= 70) {
                grade = "C";
            } else if (totalMark >= 60) {
                grade = "D";
```
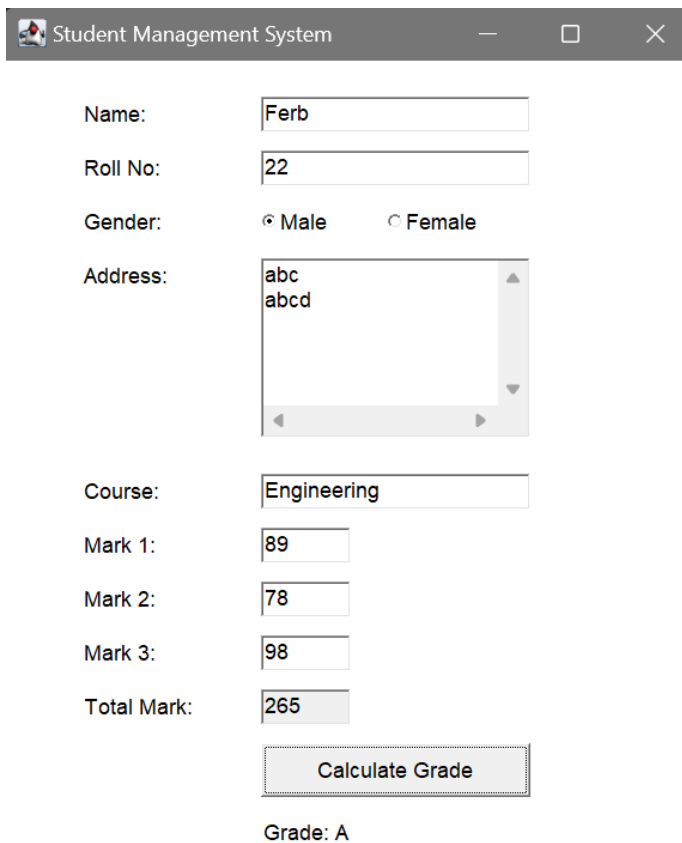
```
        } else {
            grade = "F";
        }
        gradeLabel.setText("Grade: " + grade);
    }
}

public static void main(String[] args) {
    new StudentManagementSystemAWT();
}
}
```

OUTPUT:

2. Student management system using Java Swing

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

```java
import java.awt.event.*;

public class StudentManagementSystemSwing {
    public static void main(String[] args) {
        JFrame frame = new JFrame("Student Management System");
        frame.setSize(400, 500);
        frame.setLayout(null);
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        JLabel nameLabel = new JLabel("Name:");
        nameLabel.setBounds(50, 50, 50, 20);
        frame.add(nameLabel);

        JTextField nameField = new JTextField();
        nameField.setBounds(150, 50, 150, 20);
        frame.add(nameField);

        JLabel rollNoLabel = new JLabel("Roll No:");
        rollNoLabel.setBounds(50, 80, 50, 20);
        frame.add(rollNoLabel);

        JTextField rollNoField = new JTextField();
        rollNoField.setBounds(150, 80, 150, 20);
        frame.add(rollNoField);

        JLabel genderLabel = new JLabel("Gender:");
        genderLabel.setBounds(50, 110, 50, 20);
        frame.add(genderLabel);

        JRadioButton maleRadioButton = new JRadioButton("Male");
        maleRadioButton.setBounds(150, 110, 70, 20);
        frame.add(maleRadioButton);

        JRadioButton femaleRadioButton = new JRadioButton("Female");
        femaleRadioButton.setBounds(230, 110, 80, 20);
        frame.add(femaleRadioButton);

        ButtonGroup genderButtonGroup = new ButtonGroup();
        genderButtonGroup.add(maleRadioButton);
        genderButtonGroup.add(femaleRadioButton);

        JLabel addressLabel = new JLabel("Address:");
        addressLabel.setBounds(50, 140, 60, 20);
        frame.add(addressLabel);
```

```java
JTextArea addressArea = new JTextArea();
addressArea.setBounds(150, 140, 150, 100);
frame.add(addressArea);

JLabel courseLabel = new JLabel("Course:");
courseLabel.setBounds(50, 260, 50, 20);
frame.add(courseLabel);

JTextField courseField = new JTextField();
courseField.setBounds(150, 260, 150, 20);
frame.add(courseField);

JLabel markLabel1 = new JLabel("Mark 1:");
markLabel1.setBounds(50, 290, 50, 20);
frame.add(markLabel1);

JTextField markField1 = new JTextField();
markField1.setBounds(150, 290, 50, 20);
frame.add(markField1);

JLabel markLabel2 = new JLabel("Mark 2:");
markLabel2.setBounds(50, 320, 50, 20);
frame.add(markLabel2);

JTextField markField2 = new JTextField();
markField2.setBounds(150, 320, 50, 20);
frame.add(markField2);

JLabel markLabel3 = new JLabel("Mark 3:");
markLabel3.setBounds(50, 350, 50, 20);
frame.add(markLabel3);

JTextField markField3 = new JTextField();
markField3.setBounds(150, 350, 50, 20);
frame.add(markField3);

JLabel totalMarkLabel = new JLabel("Total Mark:");
totalMarkLabel.setBounds(50, 380, 80, 20);
frame.add(totalMarkLabel);

JTextField totalMarkField = new JTextField();
totalMarkField.setBounds(150, 380, 50, 20);
totalMarkField.setEditable(false);
```

```java
        frame.add(totalMarkField);

        JLabel gradeLabel = new JLabel("");
        gradeLabel.setBounds(150, 410, 150, 20);
        frame.add(gradeLabel);

        JButton gradeButton = new JButton("Calculate Grade");
        gradeButton.setBounds(150, 440, 150, 30);
        gradeButton.addActionListener(new ActionListener() {
            public void actionPerformed(ActionEvent e) {
                // Calculate total marks
                int mark1 = Integer.parseInt(markField1.getText());
                int mark2 = Integer.parseInt(markField2.getText());
                int mark3 = Integer.parseInt(markField3.getText());
                int totalMark = mark1 + mark2 + mark3;
                totalMarkField.setText(String.valueOf(totalMark));

                // Calculate grade based on total marks
                String grade;
                if (totalMark >= 90) {
                    grade = "A";
                } else if (totalMark >= 80) {
                    grade = "B";
                } else if (totalMark >= 70) {
                    grade = "C";
                } else if (totalMark >= 60) {
                    grade = "D";
                } else {
                    grade = "F";
                }
                gradeLabel.setText("Grade: " + grade);
            }
        });
        frame.add(gradeButton);

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

OUTPUT

Student Management System

Name: Phineas

Roll No: 28

Gender: ● Male   ○ Female

Address: pqr
pqrs

Course: Engineering

Mark 1: 89

Mark 2: 88

Mark 3: 90

Total Mark: 267

Grade: A

Calculate Grade