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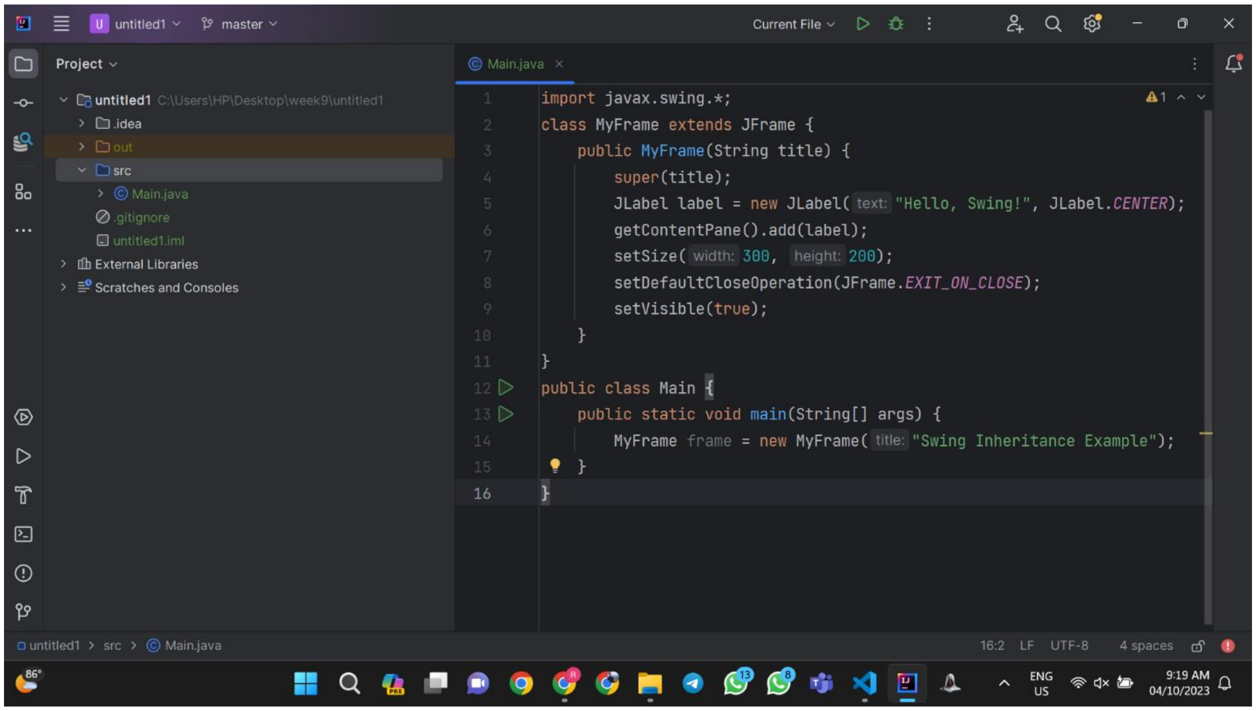
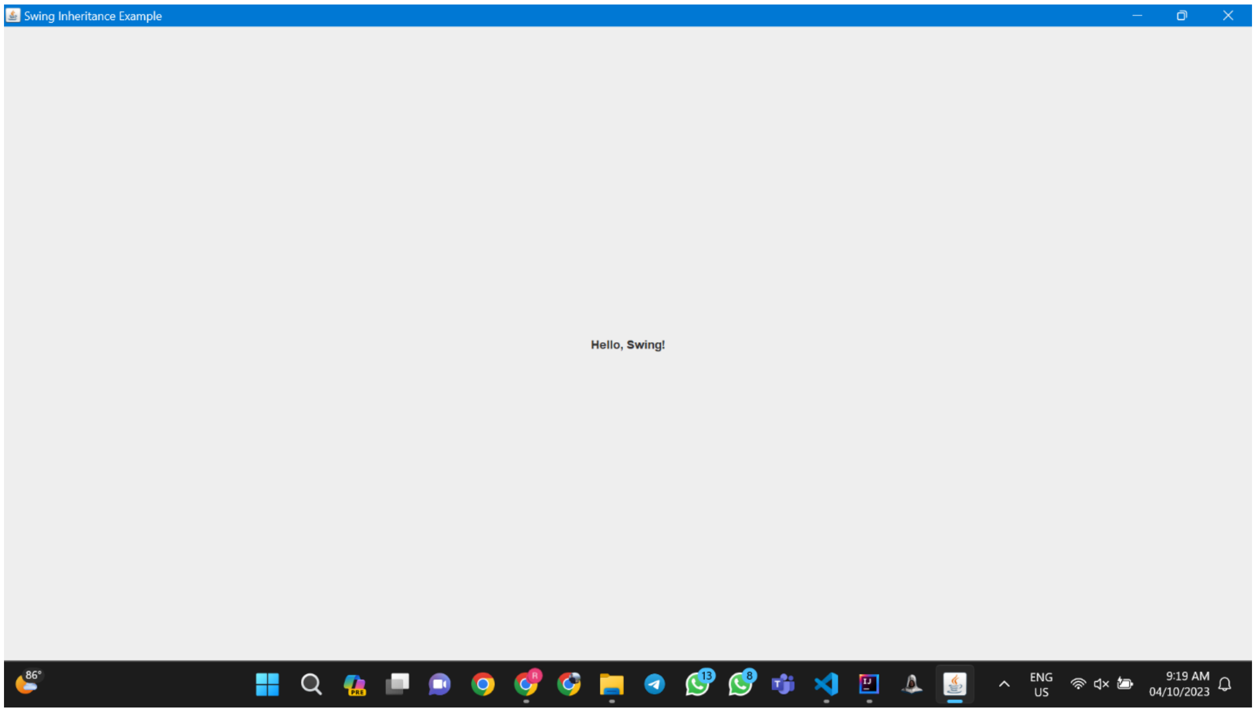
RA2211003012027

WEEK – 9

1. Write a java program using swing by inheritance.



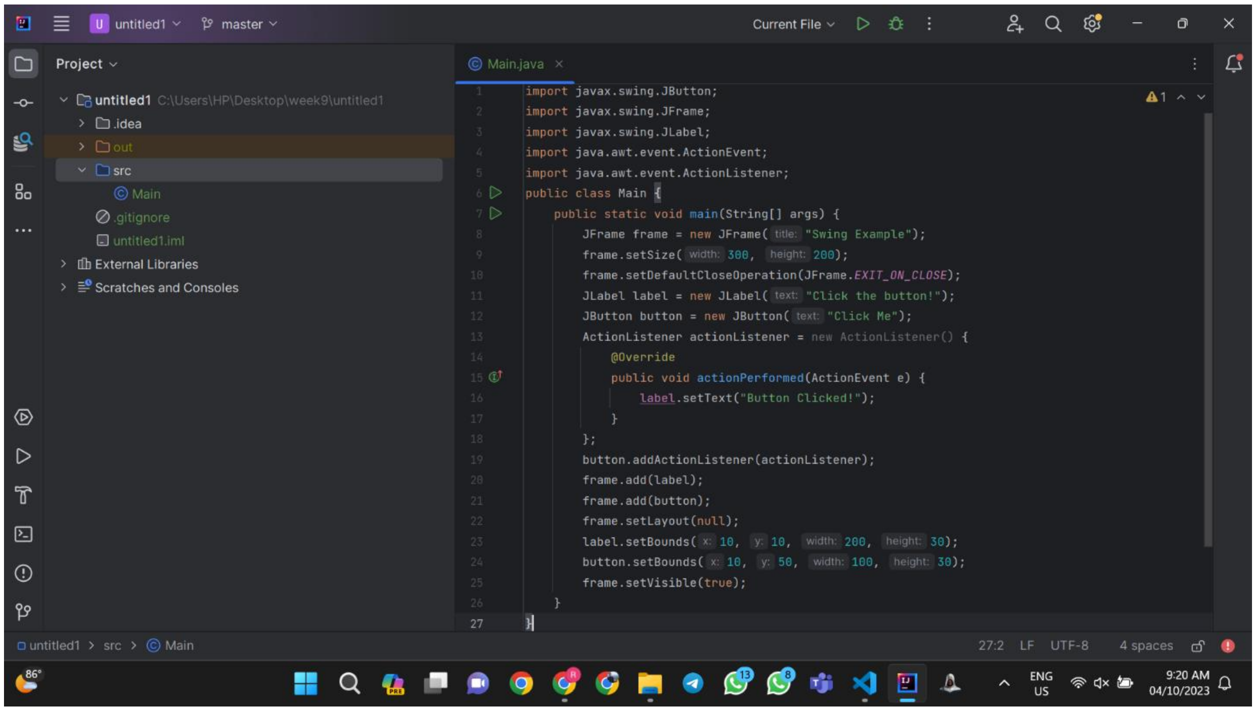
```java
import javax.swing.*;
class MyFrame extends JFrame {
    public MyFrame(String title) {
        super(title);
        JLabel label = new JLabel( text: "Hello, Swing!", JLabel.CENTER);
        getContentPane().add(label);
        setSize( width: 300,  height: 200);
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setVisible(true);
    }
}
public class Main {
    public static void main(String[] args) {
        MyFrame frame = new MyFrame( title: "Swing Inheritance Example");
    }
}
```



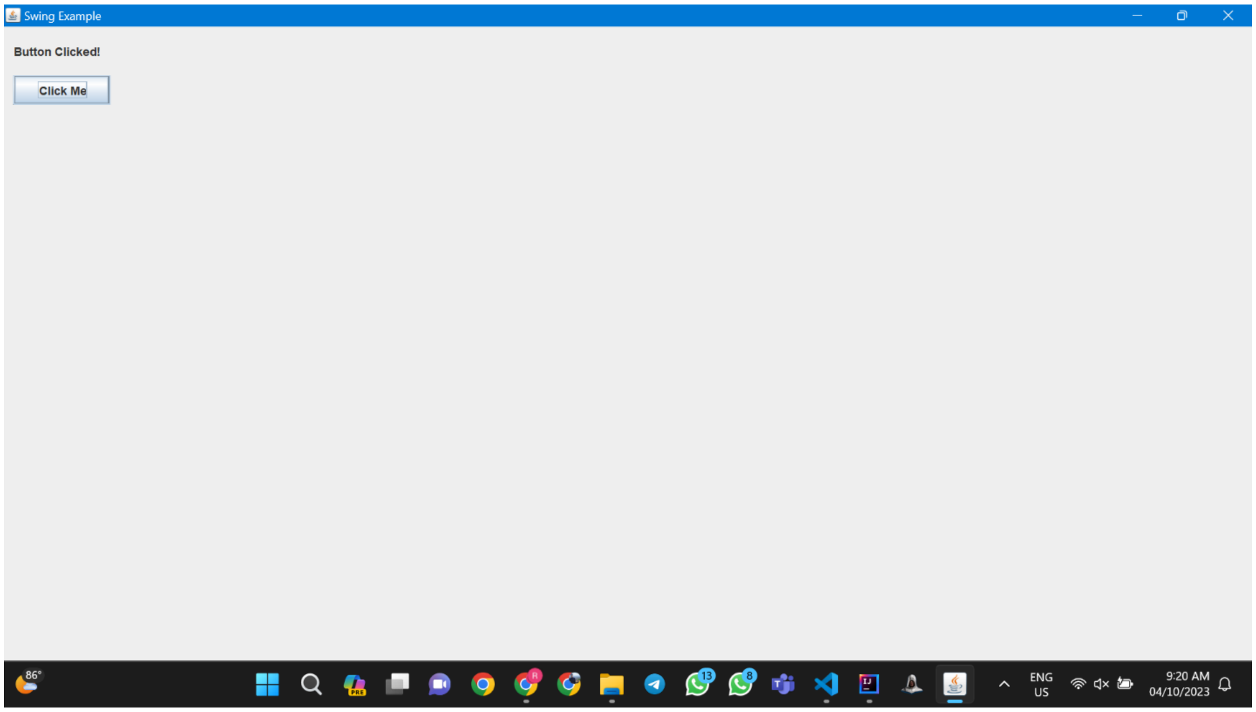
```
Swing Inheritance Example

Hello, Swing!
```

2. Write a java program using swing with ActionListener.

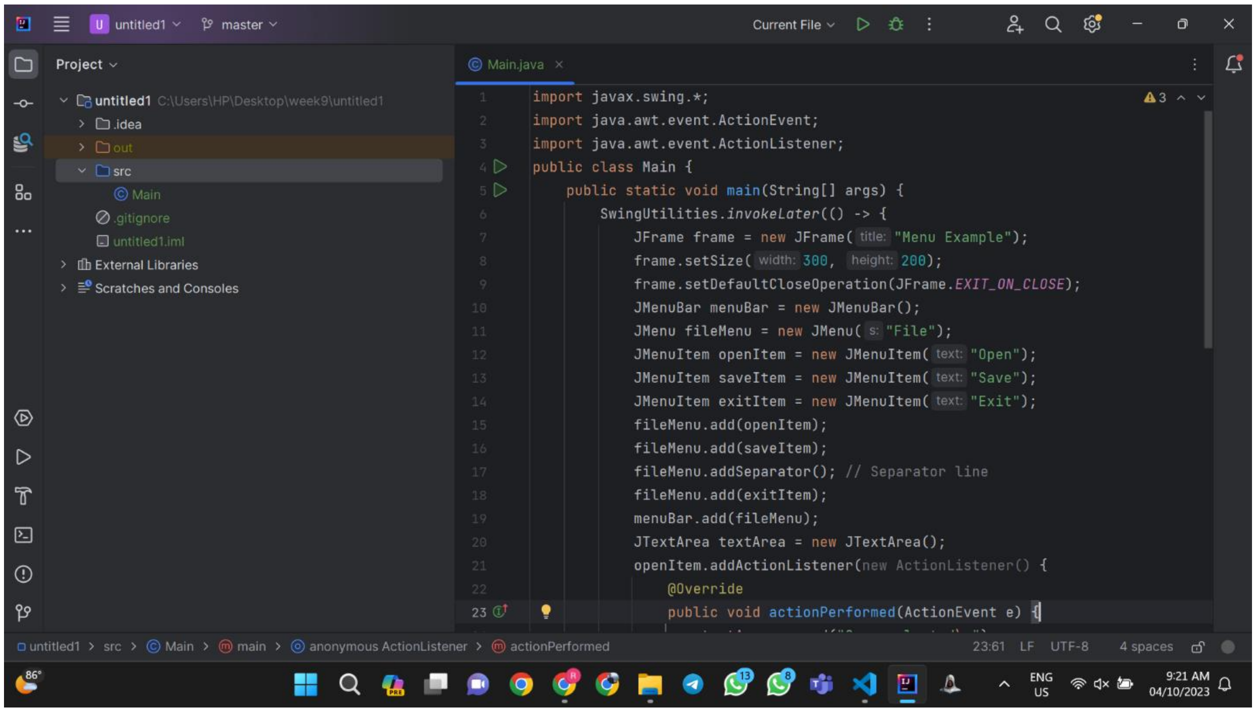


```java
import javax.swing.JButton;
import javax.swing.JFrame;
import javax.swing.JLabel;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
public class Main {
    public static void main(String[] args) {
        JFrame frame = new JFrame("Swing Example");
        frame.setSize(300, 200);
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        JLabel label = new JLabel("Click the button!");
        JButton button = new JButton("Click Me");
        ActionListener actionListener = new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {
                label.setText("Button Clicked!");
            }
        };
        button.addActionListener(actionListener);
        frame.add(label);
        frame.add(button);
        frame.setLayout(null);
        label.setBounds(10, 10, 200, 30);
        button.setBounds(10, 50, 100, 30);
        frame.setVisible(true);
    }
}
```

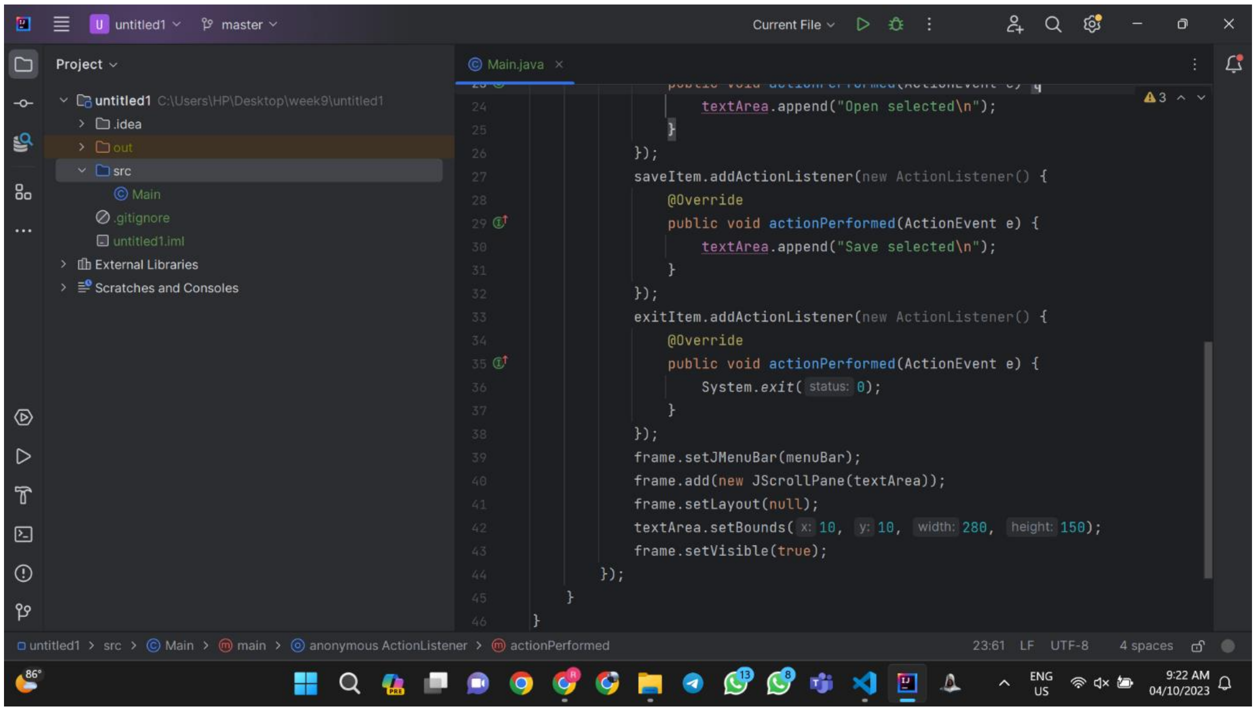


```
Button Clicked!
```

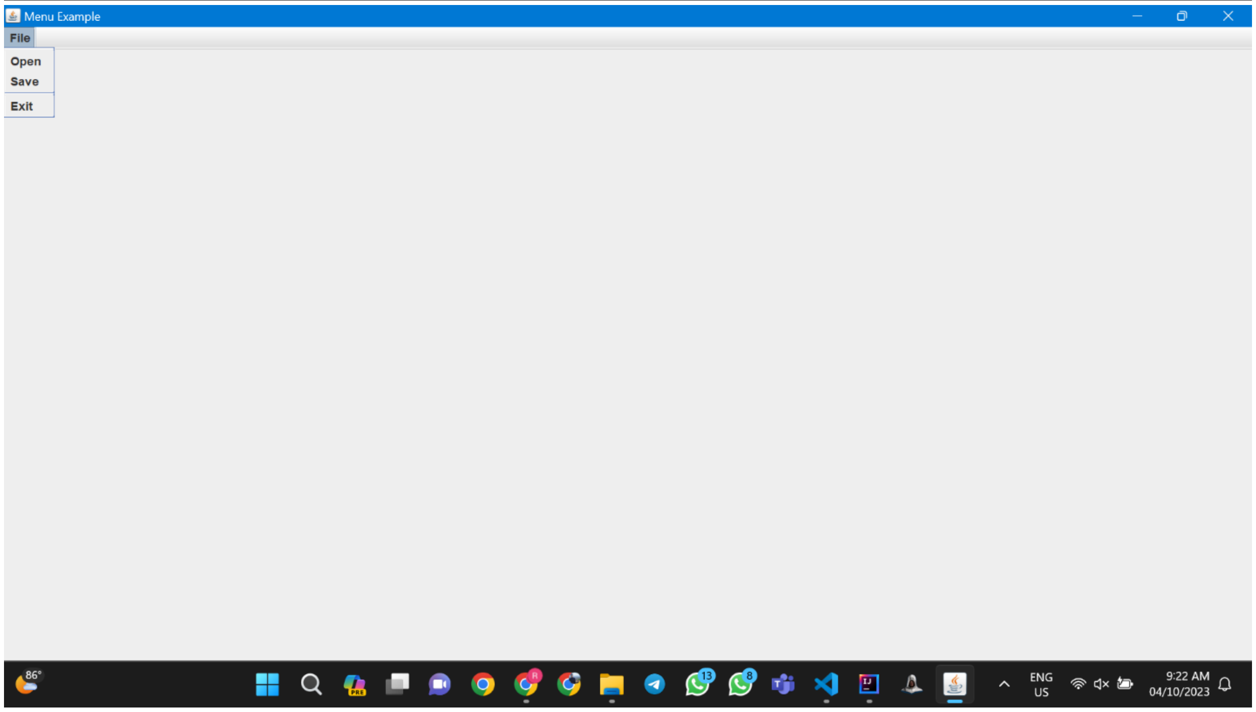
3. Using Java JMenuItem and JMenu implement application swing.



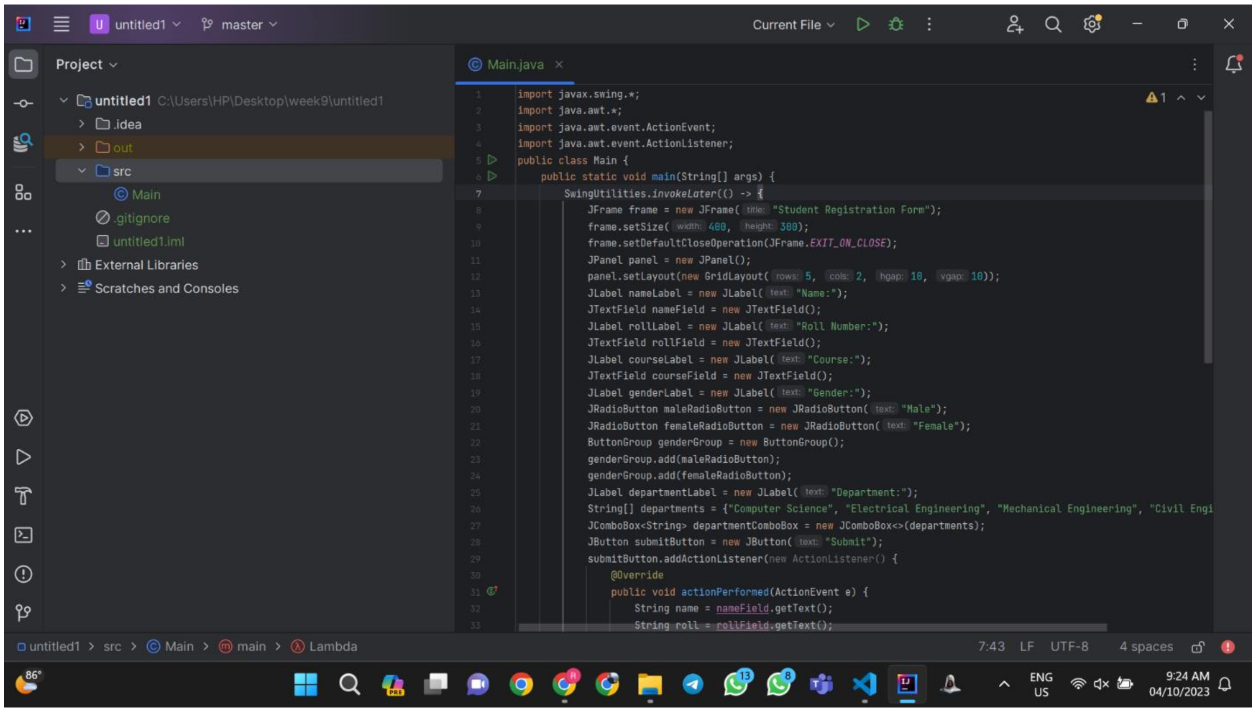
```java
import javax.swing.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
public class Main {
    public static void main(String[] args) {
        SwingUtilities.invokeLater(() -> {
            JFrame frame = new JFrame( title: "Menu Example");
            frame.setSize( width: 300,  height: 200);
            frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
            JMenuBar menuBar = new JMenuBar();
            JMenu fileMenu = new JMenu( s: "File");
            JMenuItem openItem = new JMenuItem( text: "Open");
            JMenuItem saveItem = new JMenuItem( text: "Save");
            JMenuItem exitItem = new JMenuItem( text: "Exit");
            fileMenu.add(openItem);
            fileMenu.add(saveItem);
            fileMenu.addSeparator(); // Separator line
            fileMenu.add(exitItem);
            menuBar.add(fileMenu);
            JTextArea textArea = new JTextArea();
            openItem.addActionListener(new ActionListener() {
                @Override
                public void actionPerformed(ActionEvent e) {
```



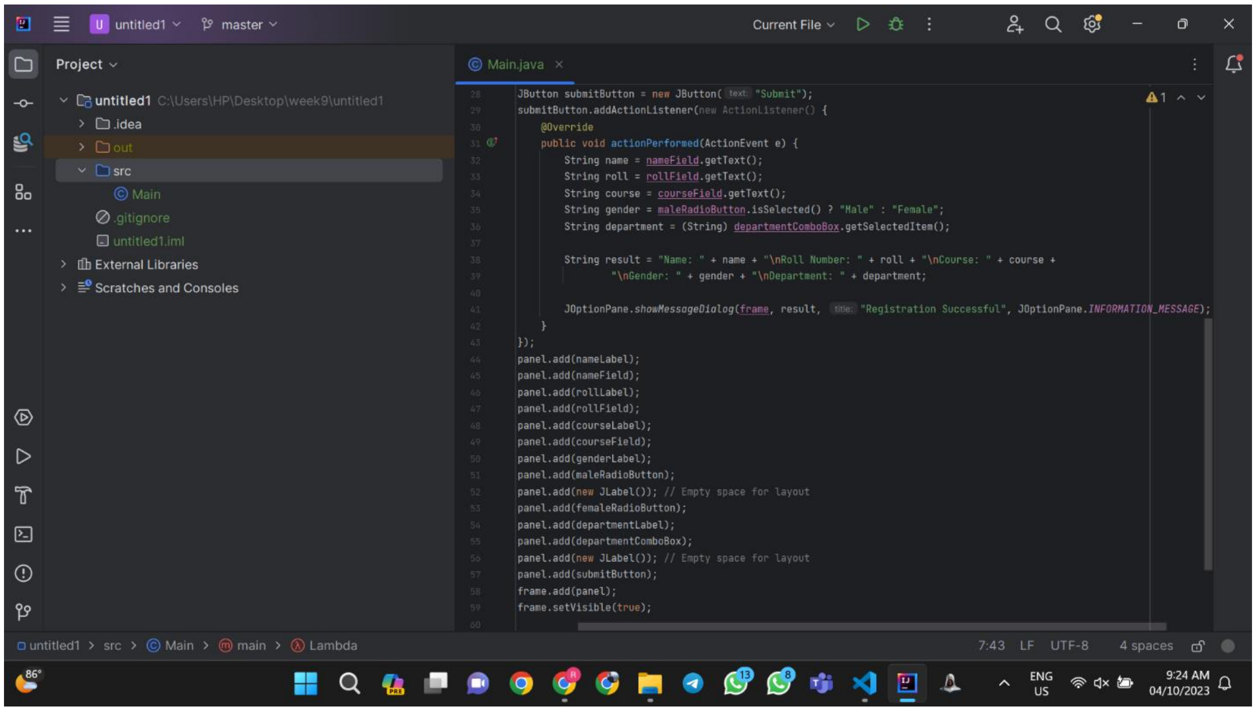
```
                    textArea.append("Open selected\n");
                }
            });
            saveItem.addActionListener(new ActionListener() {
                @Override
                public void actionPerformed(ActionEvent e) {
                    textArea.append("Save selected\n");
                }
            });
            exitItem.addActionListener(new ActionListener() {
                @Override
                public void actionPerformed(ActionEvent e) {
                    System.exit( status: 0);
                }
            });
            frame.setJMenuBar(menuBar);
            frame.add(new JScrollPane(textArea));
            frame.setLayout(null);
            textArea.setBounds( x: 10, y: 10, width: 280, height: 150);
            frame.setVisible(true);
        });
    }
}
```



4. Develop a student registration form using SWING components.



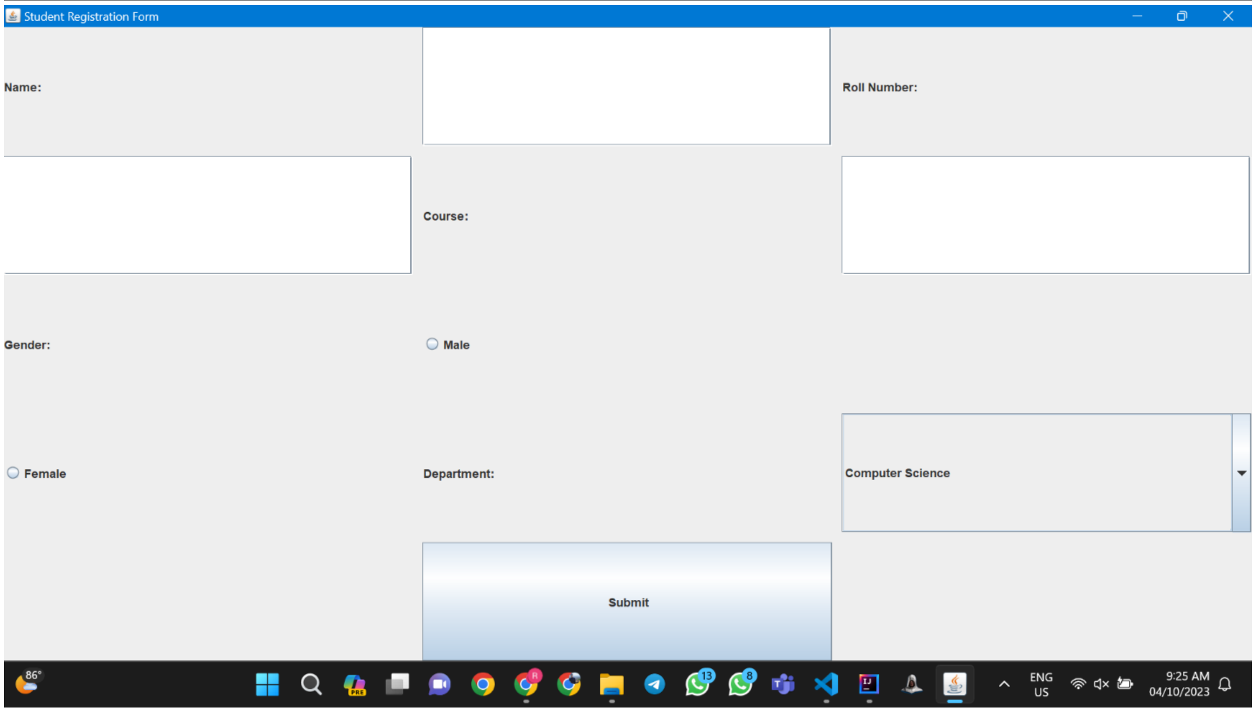
```java
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
public class Main {
    public static void main(String[] args) {
        SwingUtilities.invokeLater(() -> {
            JFrame frame = new JFrame( title: "Student Registration Form");
            frame.setSize( width: 400,  height: 300);
            frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
            JPanel panel = new JPanel();
            panel.setLayout(new GridLayout( rows: 5,  cols: 2,  hgap: 10,  vgap: 10));
            JLabel nameLabel = new JLabel( text: "Name:");
            JTextField nameField = new JTextField();
            JLabel rollLabel = new JLabel( text: "Roll Number:");
            JTextField rollField = new JTextField();
            JLabel courseLabel = new JLabel( text: "Course:");
            JTextField courseField = new JTextField();
            JLabel genderLabel = new JLabel( text: "Gender:");
            JRadioButton maleRadioButton = new JRadioButton( text: "Male");
            JRadioButton femaleRadioButton = new JRadioButton( text: "Female");
            ButtonGroup genderGroup = new ButtonGroup();
            genderGroup.add(maleRadioButton);
            genderGroup.add(femaleRadioButton);
            JLabel departmentLabel = new JLabel( text: "Department:");
            String[] departments = {"Computer Science", "Electrical Engineering", "Mechanical Engineering", "Civil Engi
            JComboBox<String> departmentComboBox = new JComboBox<>(departments);
            JButton submitButton = new JButton( text: "Submit");
            submitButton.addActionListener(new ActionListener() {
                @Override
                public void actionPerformed(ActionEvent e) {
                    String name = nameField.getText();
                    String roll = rollField.getText();
```



```java
JButton submitButton = new JButton( text: "Submit");
submitButton.addActionListener(new ActionListener() {
    @Override
    public void actionPerformed(ActionEvent e) {
        String name = nameField.getText();
        String roll = rollField.getText();
        String course = courseField.getText();
        String gender = maleRadioButton.isSelected() ? "Male" : "Female";
        String department = (String) departmentComboBox.getSelectedItem();

        String result = "Name: " + name + "\nRoll Number: " + roll + "\nCourse: " + course +
                "\nGender: " + gender + "\nDepartment: " + department;

        JOptionPane.showMessageDialog(frame, result,  title: "Registration Successful", JOptionPane.INFORMATION_MESSAGE);
    }
});
panel.add(nameLabel);
panel.add(nameField);
panel.add(rollLabel);
panel.add(rollField);
panel.add(courseLabel);
panel.add(courseField);
panel.add(genderLabel);
panel.add(maleRadioButton);
panel.add(new JLabel()); // Empty space for layout
panel.add(femaleRadioButton);
panel.add(departmentLabel);
panel.add(departmentComboBox);
panel.add(new JLabel()); // Empty space for layout
panel.add(submitButton);
frame.add(panel);
frame.setVisible(true);
```



Name:

Roll Number:

Course:

Gender:

Male

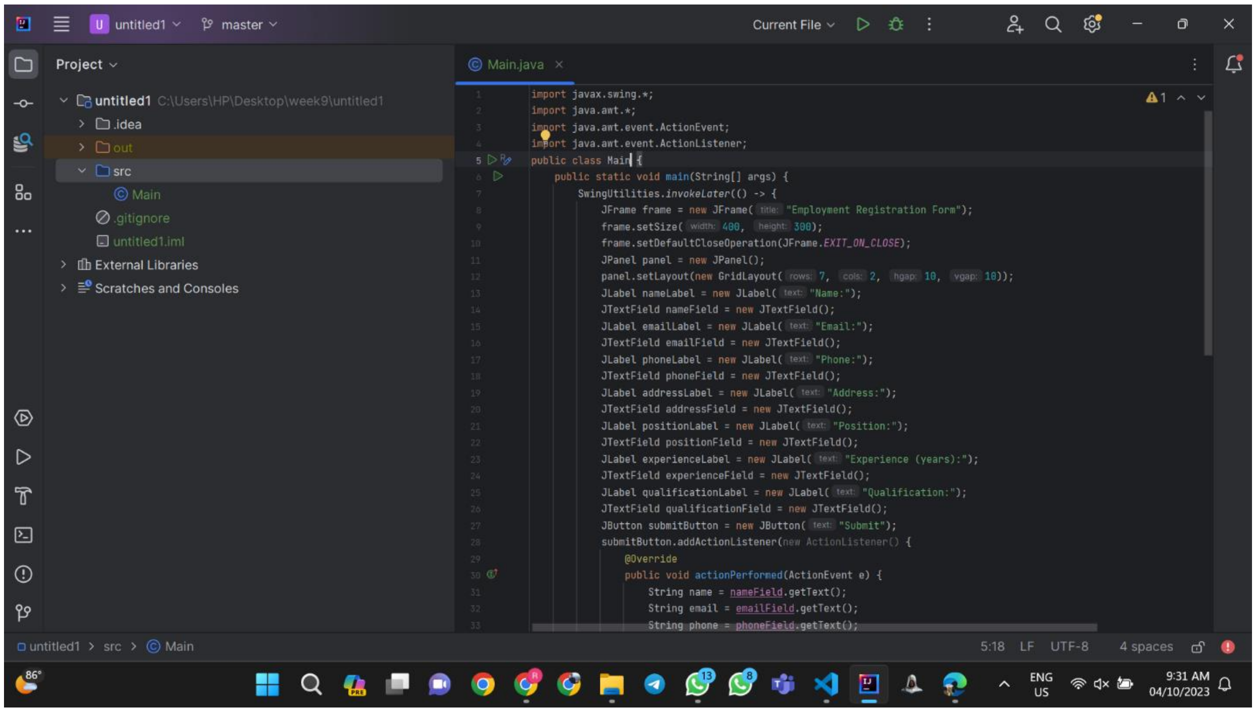
Female

Department:

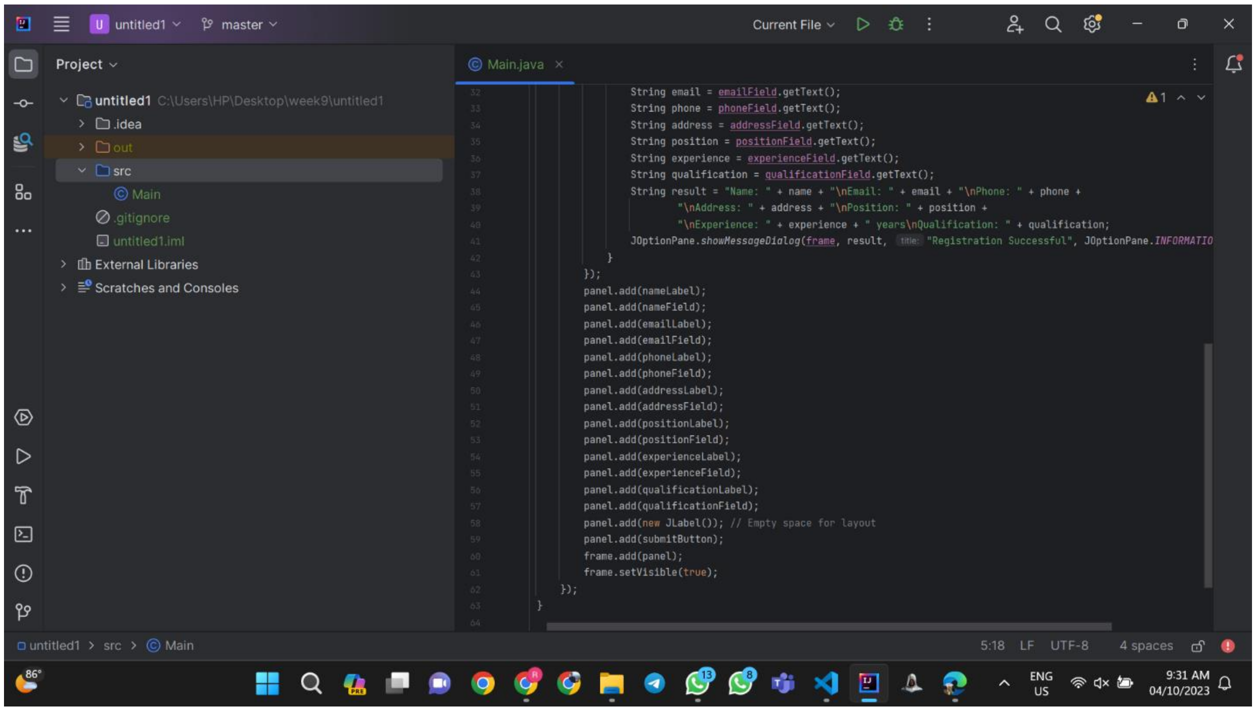
Computer Science

Submit

5. Implement Employment registration form using SWING components.



```java
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) {
        SwingUtilities.invokeLater(() -> {
            JFrame frame = new JFrame( title: "Employment Registration Form");
            frame.setSize( width: 400,  height: 300);
            frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
            JPanel panel = new JPanel();
            panel.setLayout(new GridLayout( rows: 7,  cols: 2,  hgap: 10,  vgap: 10));
            JLabel nameLabel = new JLabel( text: "Name:");
            JTextField nameField = new JTextField();
            JLabel emailLabel = new JLabel( text: "Email:");
            JTextField emailField = new JTextField();
            JLabel phoneLabel = new JLabel( text: "Phone:");
            JTextField phoneField = new JTextField();
            JLabel addressLabel = new JLabel( text: "Address:");
            JTextField addressField = new JTextField();
            JLabel positionLabel = new JLabel( text: "Position:");
            JTextField positionField = new JTextField();
            JLabel experienceLabel = new JLabel( text: "Experience (years):");
            JTextField experienceField = new JTextField();
            JLabel qualificationLabel = new JLabel( text: "Qualification:");
            JTextField qualificationField = new JTextField();
            JButton submitButton = new JButton( text: "Submit");
            submitButton.addActionListener(new ActionListener() {
                @Override
                public void actionPerformed(ActionEvent e) {
                    String name = nameField.getText();
                    String email = emailField.getText();
                    String phone = phoneField.getText();
```



untitled1 master Current File

Project

- untitled1 C:\Users\HP\Desktop\week9\untitled1
  - .idea
  - out
  - src
    - Main
  - .gitignore
  - untitled1.iml
- External Libraries
- Scratches and Consoles

Main.java

```java
                String email = emailField.getText();
                String phone = phoneField.getText();
                String address = addressField.getText();
                String position = positionField.getText();
                String experience = experienceField.getText();
                String qualification = qualificationField.getText();
                String result = "Name: " + name + "\nEmail: " + email + "\nPhone: " + phone +
                        "\nAddress: " + address + "\nPosition: " + position +
                        "\nExperience: " + experience + " years\nQualification: " + qualification;
                JOptionPane.showMessageDialog(frame, result, title: "Registration Successful", JOptionPane.INFORMATIO
            }
        });
        panel.add(nameLabel);
        panel.add(nameField);
        panel.add(emailLabel);
        panel.add(emailField);
        panel.add(phoneLabel);
        panel.add(phoneField);
        panel.add(addressLabel);
        panel.add(addressField);
        panel.add(positionLabel);
        panel.add(positionField);
        panel.add(experienceLabel);
        panel.add(experienceField);
        panel.add(qualificationLabel);
        panel.add(qualificationField);
        panel.add(new JLabel()); // Empty space for layout
        panel.add(submitButton);
        frame.add(panel);
        frame.setVisible(true);
    });
}
```

untitled1 > src > Main   5:18 LF UTF-8 4 spaces

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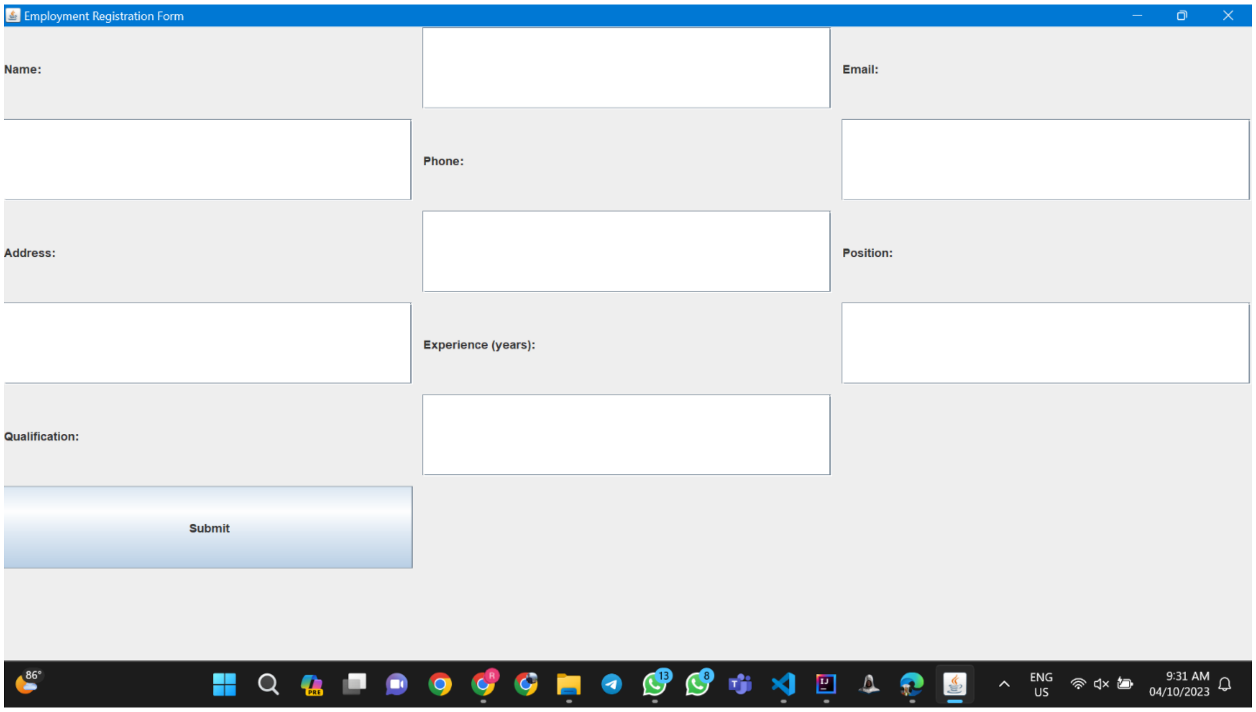

Employment Registration Form

Name:		Email:
	Phone:	
Address:		Position:
	Experience (years):	
Qualification:		
Submit		

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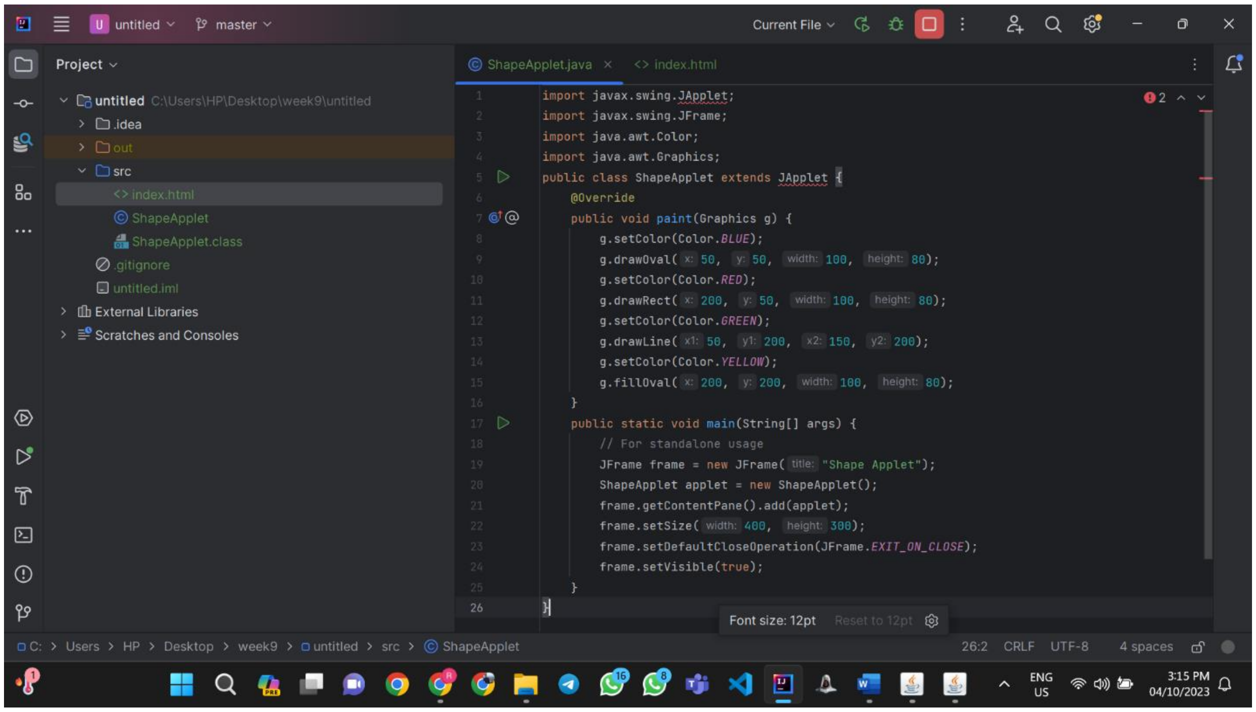
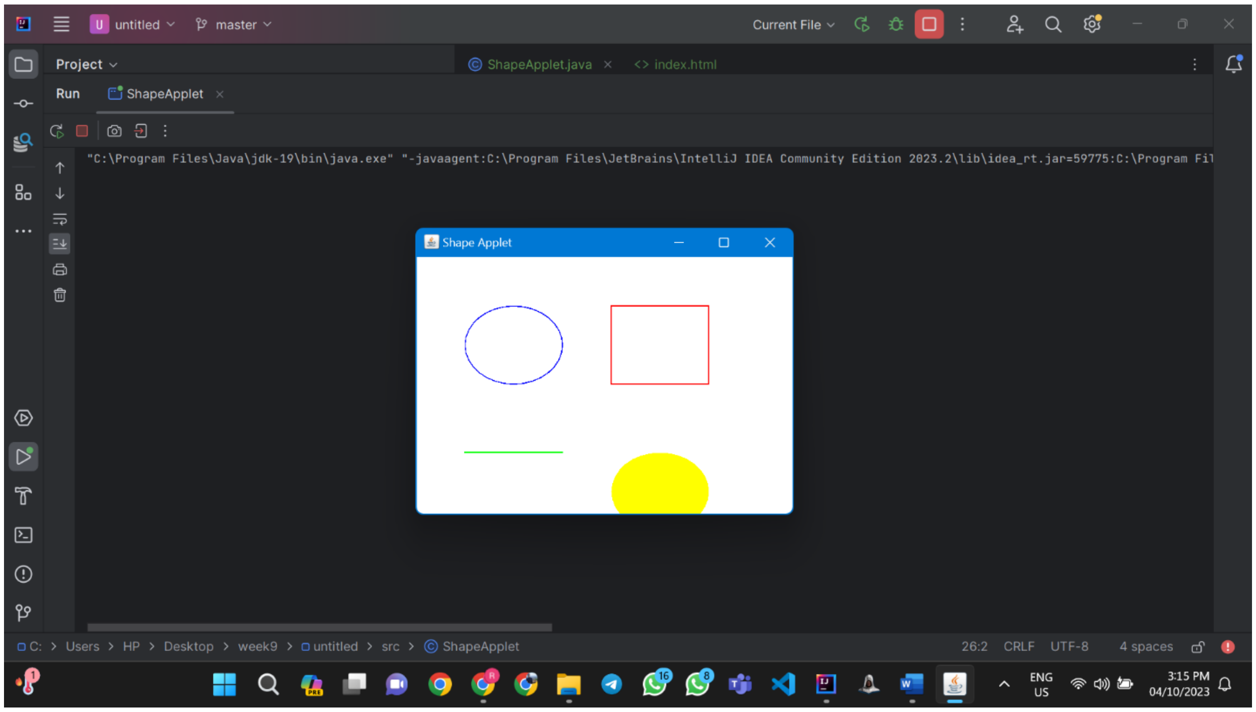
6. Write a java program to draw Oval, Rectangle,Line and fill the color in it.and display it on Applet.



```java
import javax.swing.JApplet;
import javax.swing.JFrame;
import java.awt.Color;
import java.awt.Graphics;
public class ShapeApplet extends JApplet {
    @Override
    public void paint(Graphics g) {
        g.setColor(Color.BLUE);
        g.drawOval(50, 50, 100, 80);
        g.setColor(Color.RED);
        g.drawRect(200, 50, 100, 80);
        g.setColor(Color.GREEN);
        g.drawLine(50, 200, 150, 200);
        g.setColor(Color.YELLOW);
        g.fillOval(200, 200, 100, 80);
    }
    public static void main(String[] args) {
        // For standalone usage
        JFrame frame = new JFrame("Shape Applet");
        ShapeApplet applet = new ShapeApplet();
        frame.getContentPane().add(applet);
        frame.setSize(400, 300);
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setVisible(true);
    }
}
```



```
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```
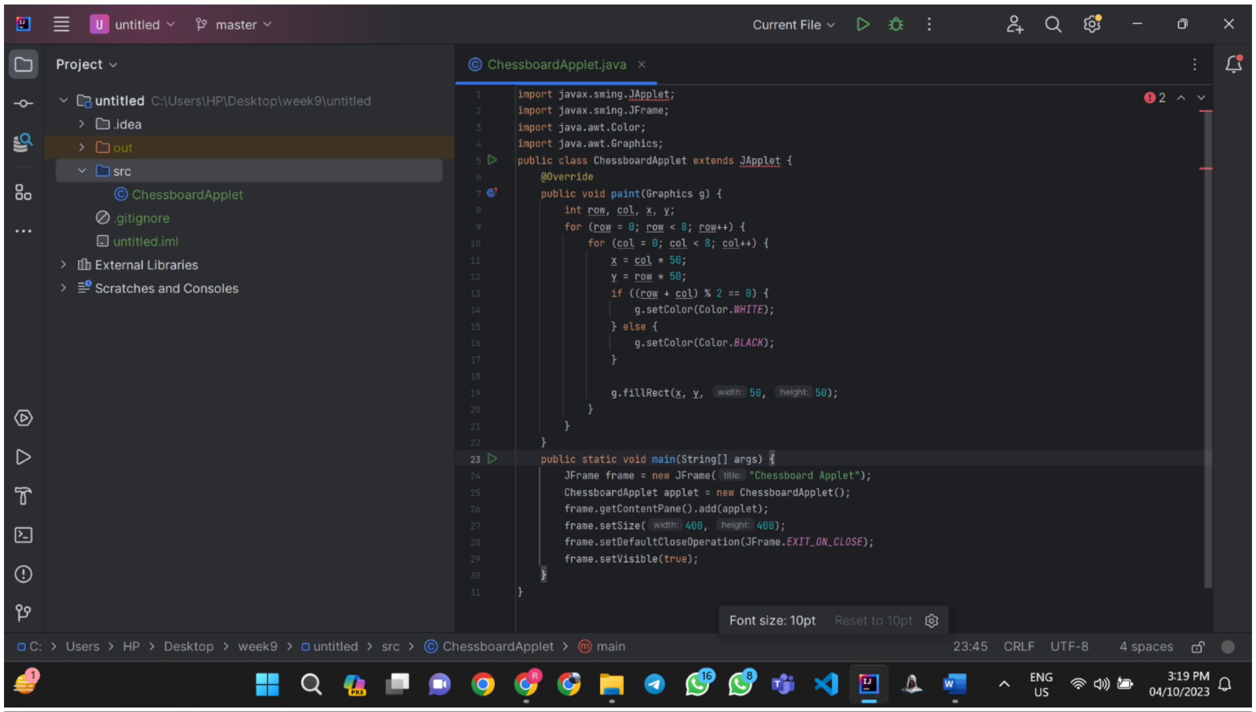
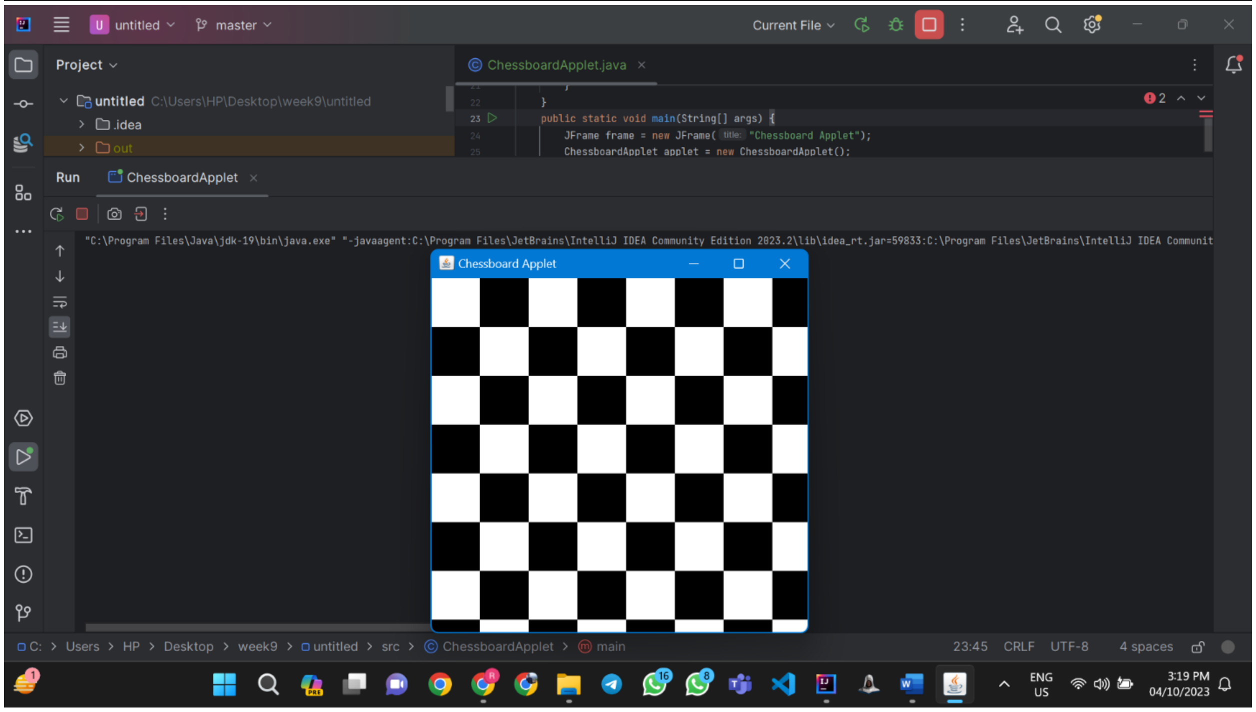

7.Draw a chessboard in java applet.

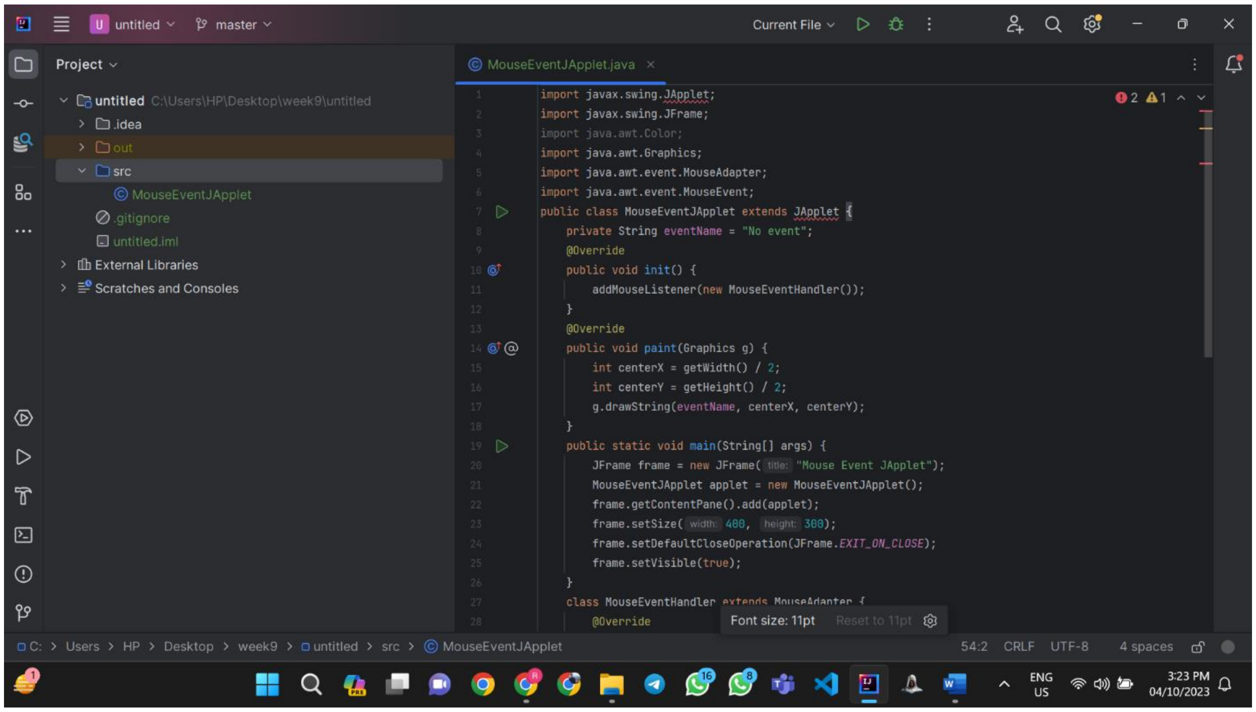


```java
import javax.swing.JApplet;
import javax.swing.JFrame;
import java.awt.Color;
import java.awt.Graphics;
public class ChessboardApplet extends JApplet {
    @Override
    public void paint(Graphics g) {
        int row, col, x, y;
        for (row = 0; row < 8; row++) {
            for (col = 0; col < 8; col++) {
                x = col * 50;
                y = row * 50;
                if ((row + col) % 2 == 0) {
                    g.setColor(Color.WHITE);
                } else {
                    g.setColor(Color.BLACK);
                }

                g.fillRect(x, y, 50, 50);
            }
        }
    }
    public static void main(String[] args) {
        JFrame frame = new JFrame("Chessboard Applet");
        ChessboardApplet applet = new ChessboardApplet();
        frame.getContentPane().add(applet);
        frame.setSize(400, 400);
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setVisible(true);
    }
}
```

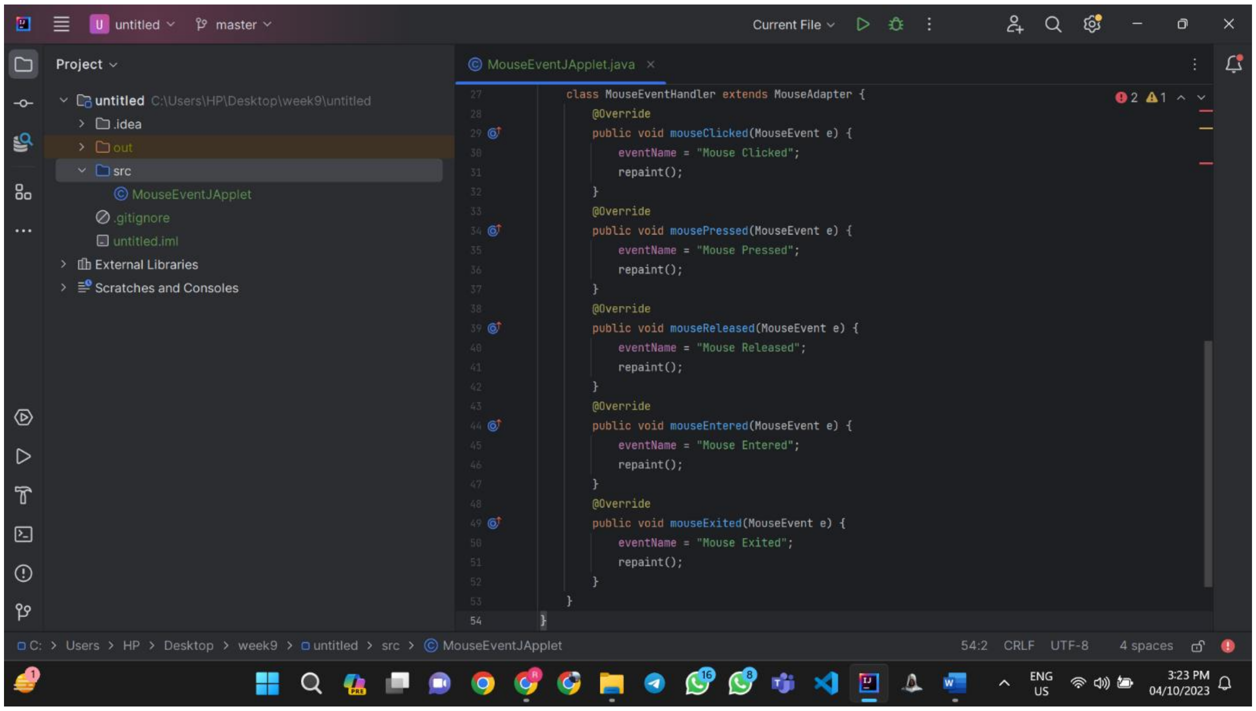


```
"C:\Program Files\Java\jdk-19\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2023.2\lib\idea_rt.jar=59833:C:\Program Files\JetBrains\IntelliJ IDEA Communit
```

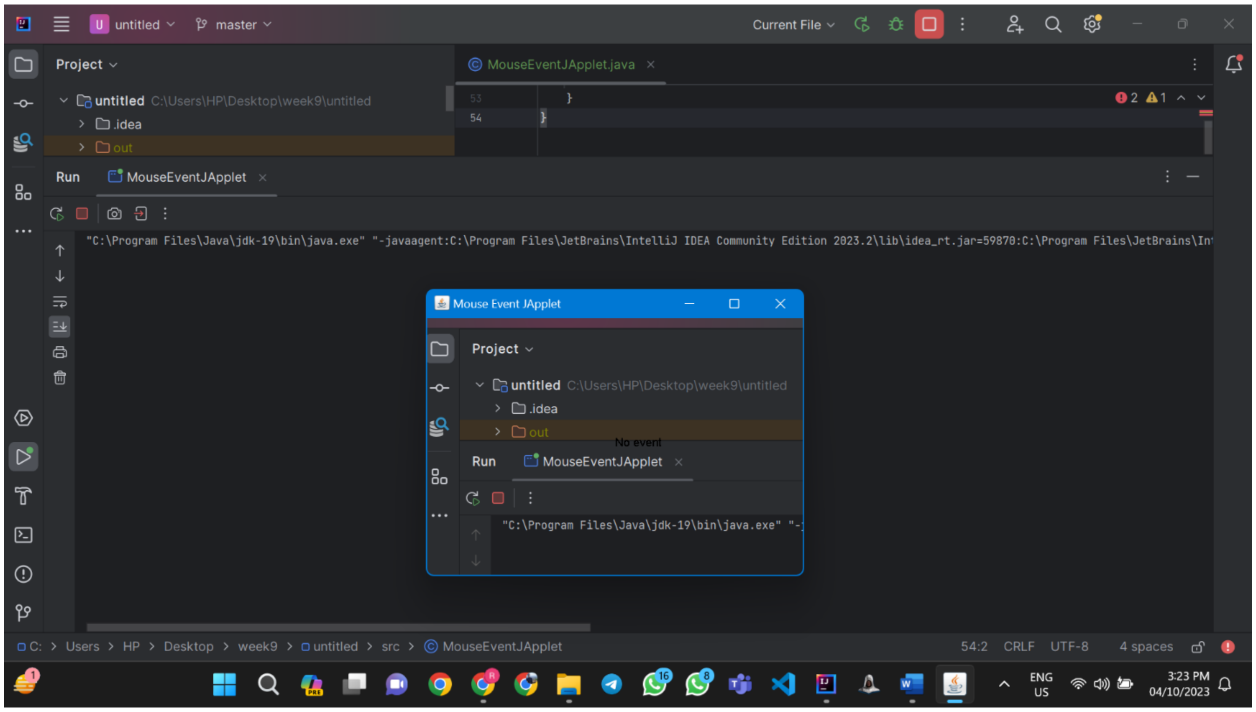
8. Write a java program that handles all mouse events and shows the event name at the center of the window when mouse event is fired (Use Adapter classes and applet).



```java
import javax.swing.JApplet;
import javax.swing.JFrame;
import java.awt.Color;
import java.awt.Graphics;
import java.awt.event.MouseAdapter;
import java.awt.event.MouseEvent;
public class MouseEventJApplet extends JApplet {
    private String eventName = "No event";
    @Override
    public void init() {
        addMouseListener(new MouseEventHandler());
    }
    @Override
    public void paint(Graphics g) {
        int centerX = getWidth() / 2;
        int centerY = getHeight() / 2;
        g.drawString(eventName, centerX, centerY);
    }
    public static void main(String[] args) {
        JFrame frame = new JFrame("Mouse Event JApplet");
        MouseEventJApplet applet = new MouseEventJApplet();
        frame.getContentPane().add(applet);
        frame.setSize(400, 300);
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setVisible(true);
    }
    class MouseEventHandler extends MouseAdapter {
        @Override
```



```java
    class MouseEventHandler extends MouseAdapter {
        @Override
        public void mouseClicked(MouseEvent e) {
            eventName = "Mouse Clicked";
            repaint();
        }
        @Override
        public void mousePressed(MouseEvent e) {
            eventName = "Mouse Pressed";
            repaint();
        }
        @Override
        public void mouseReleased(MouseEvent e) {
            eventName = "Mouse Released";
            repaint();
        }
        @Override
        public void mouseEntered(MouseEvent e) {
            eventName = "Mouse Entered";
            repaint();
        }
        @Override
        public void mouseExited(MouseEvent e) {
            eventName = "Mouse Exited";
            repaint();
        }
    }
}
```



```
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```
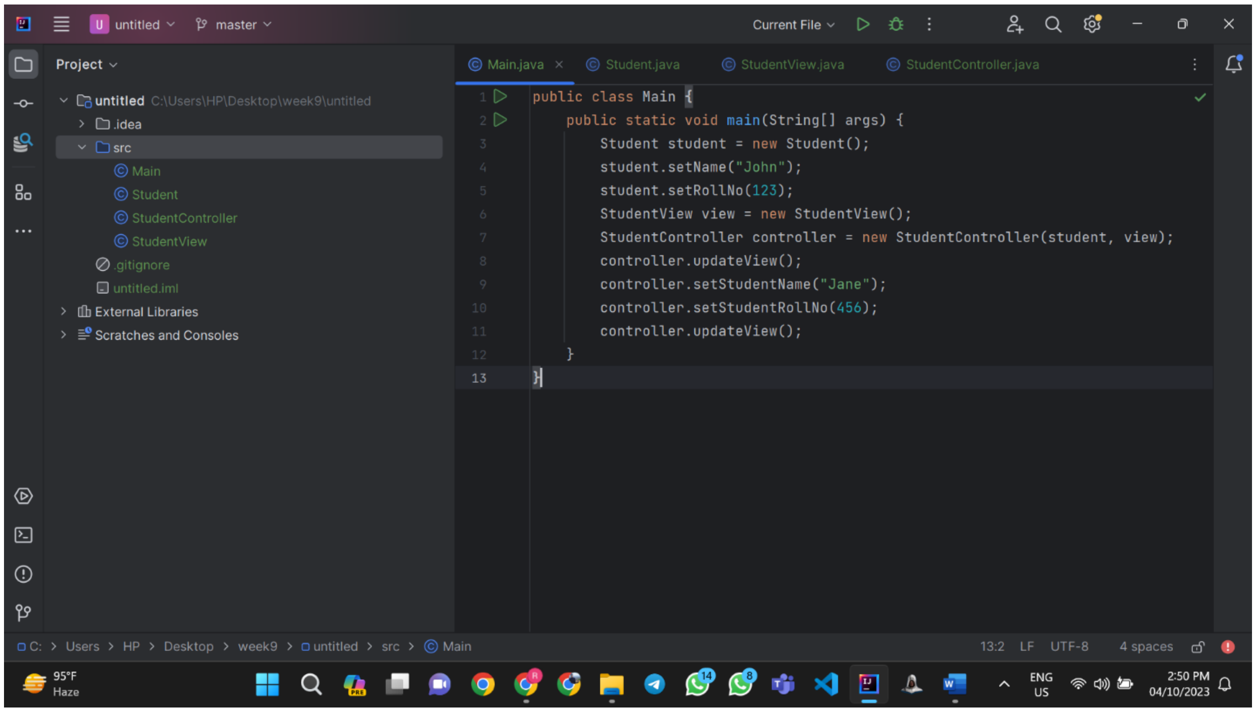
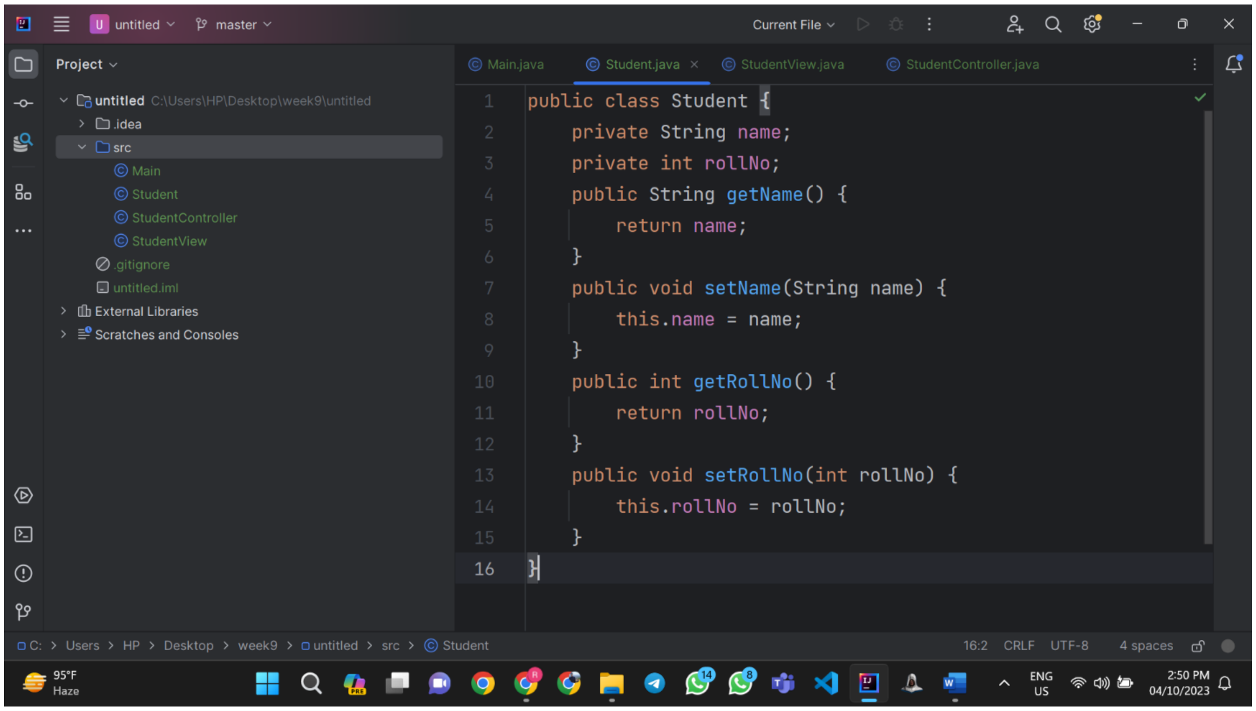
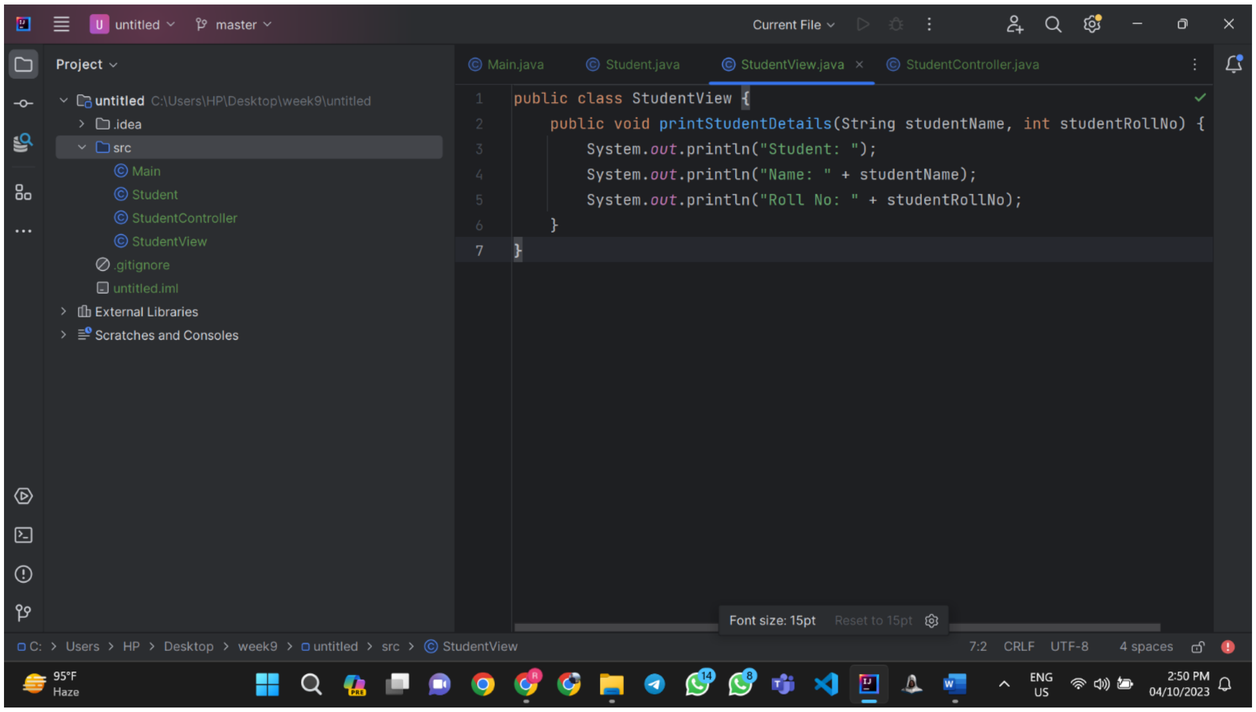

9. Implement java MVC pattern application with Student object Model, StudentView and StudentController.



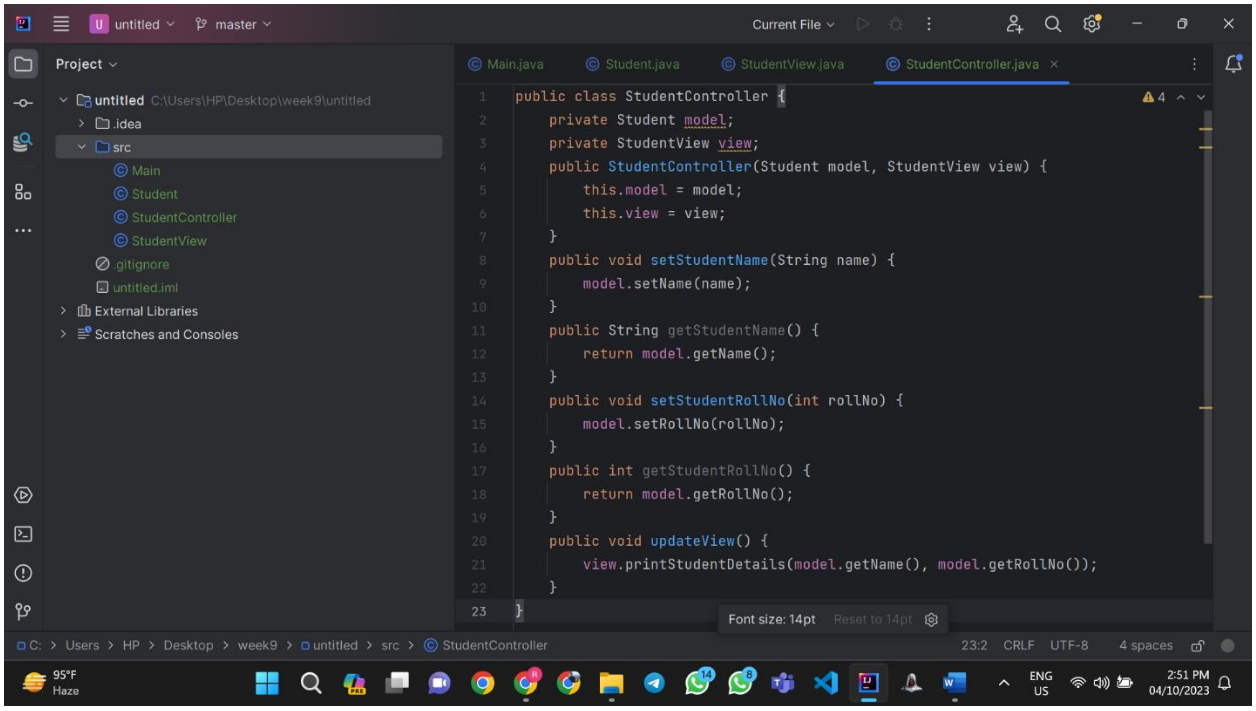
```java
public class Main {
    public static void main(String[] args) {
        Student student = new Student();
        student.setName("John");
        student.setRollNo(123);
        StudentView view = new StudentView();
        StudentController controller = new StudentController(student, view);
        controller.updateView();
        controller.setStudentName("Jane");
        controller.setStudentRollNo(456);
        controller.updateView();
    }
}
```



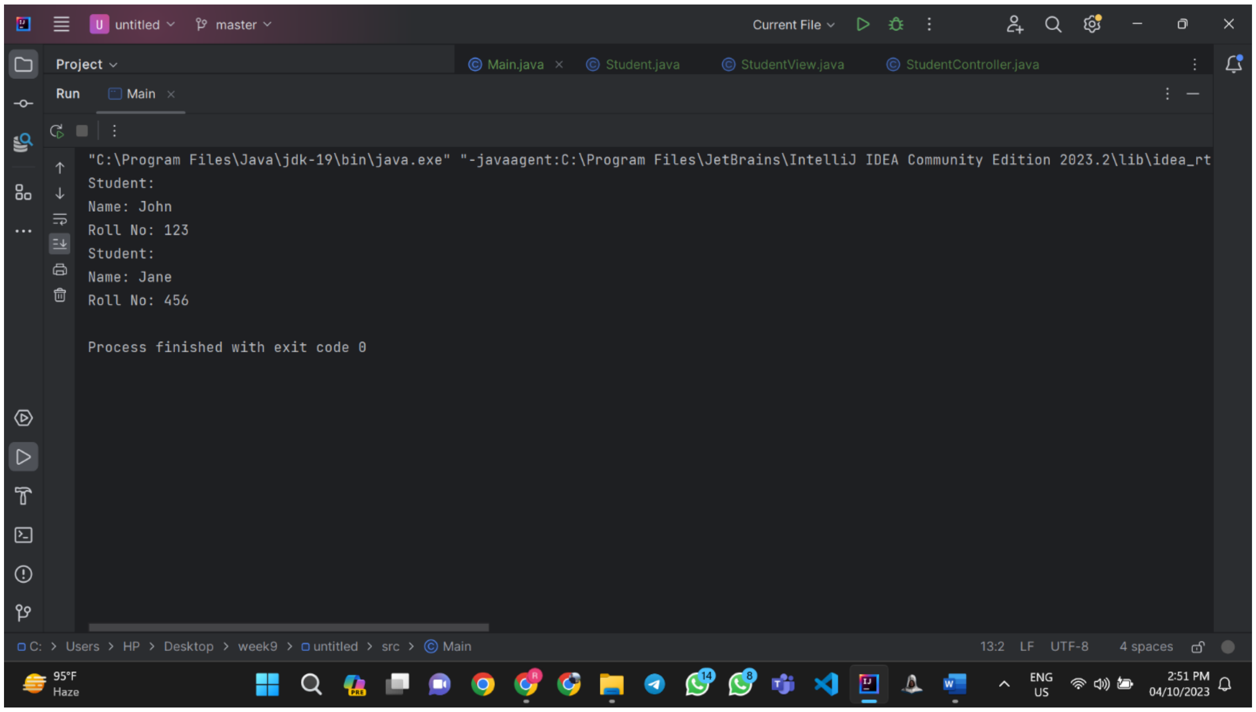
```java
public class Student {
    private String name;
    private int rollNo;
    public String getName() {
        return name;
    }
    public void setName(String name) {
        this.name = name;
    }
    public int getRollNo() {
        return rollNo;
    }
    public void setRollNo(int rollNo) {
        this.rollNo = rollNo;
    }
}
```



```java
public class StudentView {
    public void printStudentDetails(String studentName, int studentRollNo) {
        System.out.println("Student: ");
        System.out.println("Name: " + studentName);
        System.out.println("Roll No: " + studentRollNo);
    }
}
```

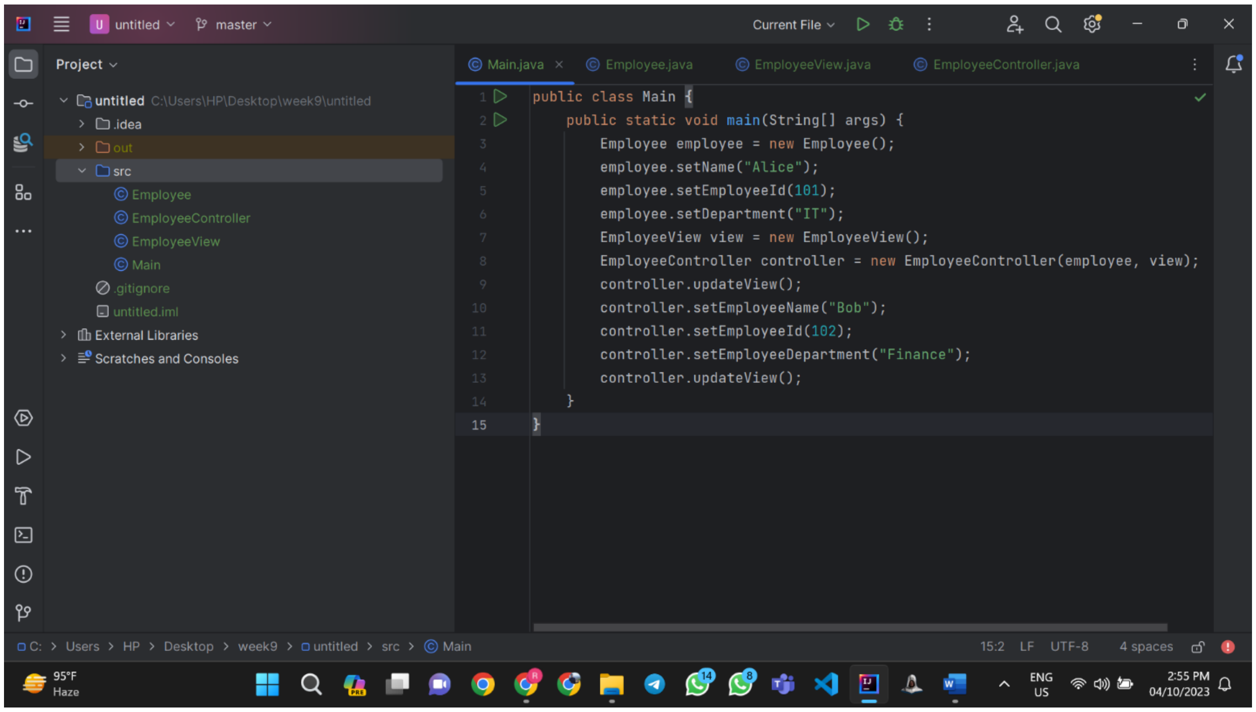


```java
public class StudentController {
    private Student model;
    private StudentView view;
    public StudentController(Student model, StudentView view) {
        this.model = model;
        this.view = view;
    }
    public void setStudentName(String name) {
        model.setName(name);
    }
    public String getStudentName() {
        return model.getName();
    }
    public void setStudentRollNo(int rollNo) {
        model.setRollNo(rollNo);
    }
    public int getStudentRollNo() {
        return model.getRollNo();
    }
    public void updateView() {
        view.printStudentDetails(model.getName(), model.getRollNo());
    }
}
```

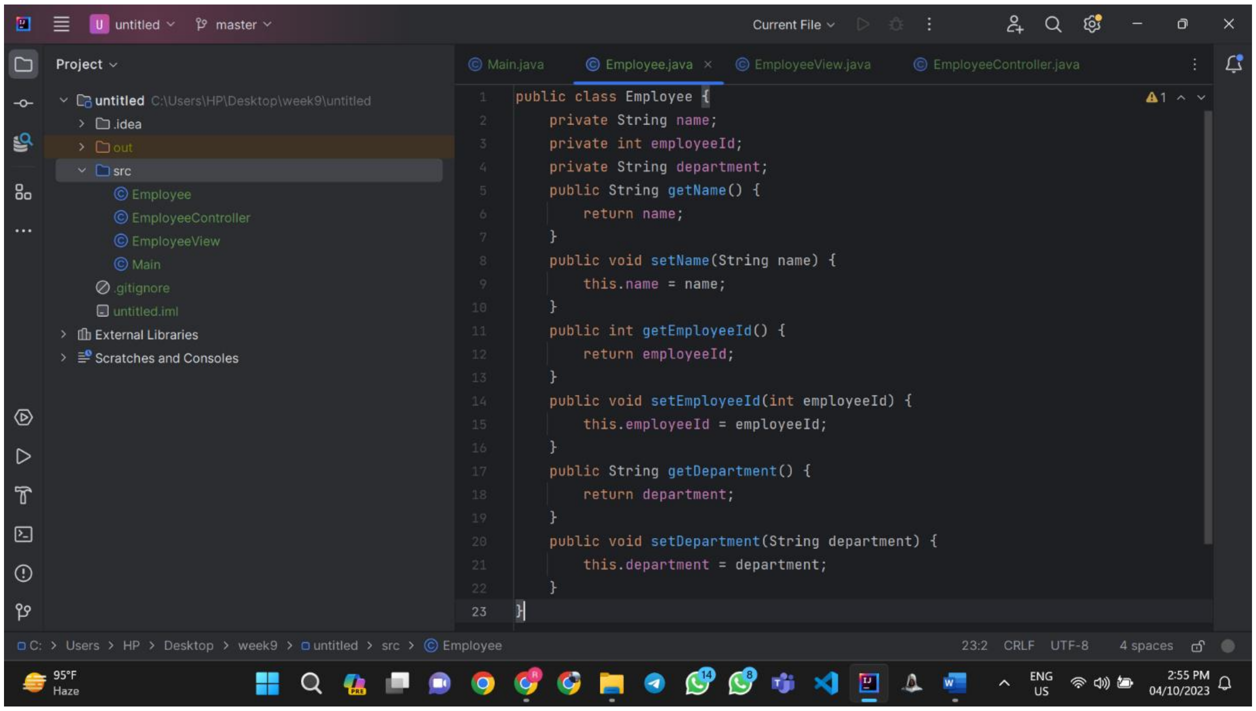


```
"C:\Program Files\Java\jdk-19\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2023.2\lib\idea_rt
Student:
Name: John
Roll No: 123
Student:
Name: Jane
Roll No: 456

Process finished with exit code 0
```

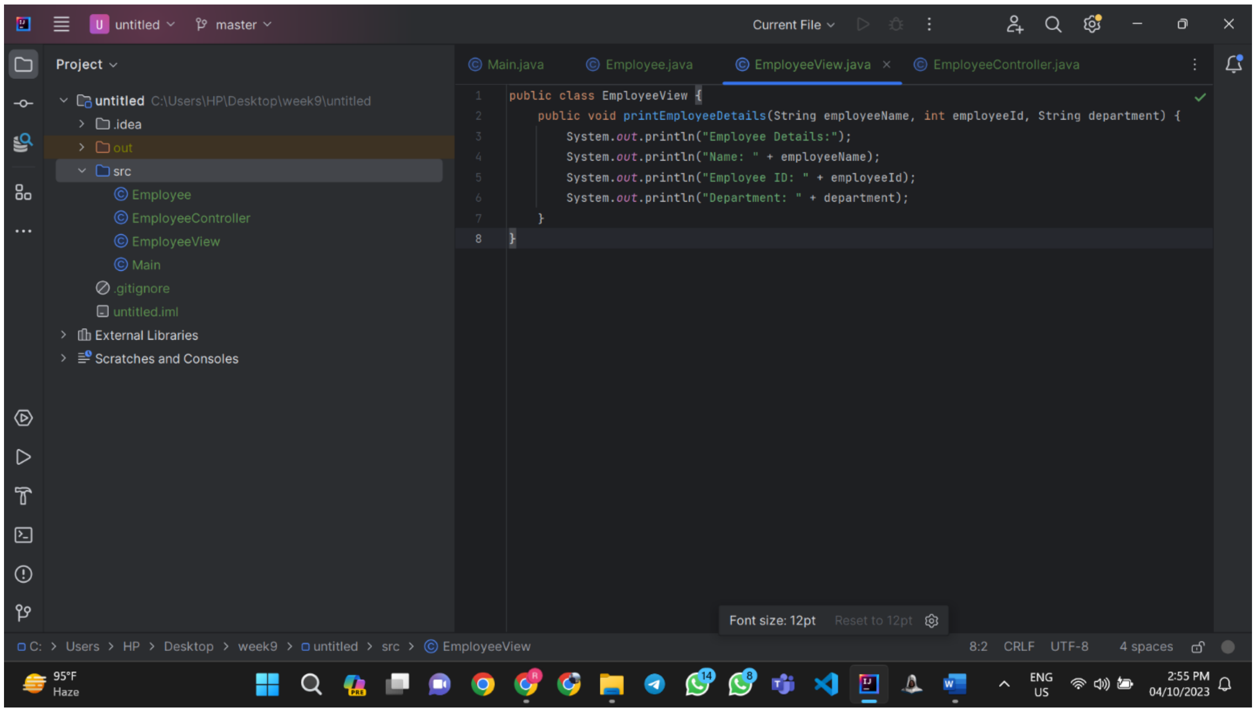
10. Implement java MVC to display Employee details.



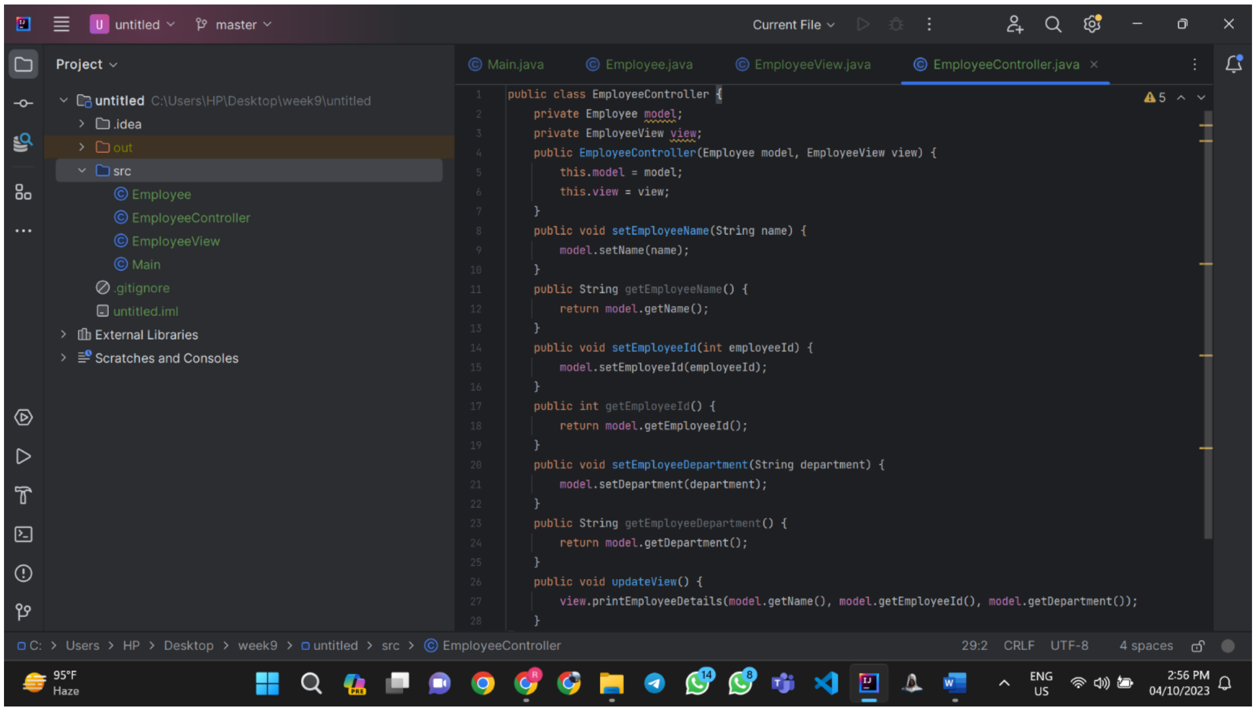
```java
public class Main {
    public static void main(String[] args) {
        Employee employee = new Employee();
        employee.setName("Alice");
        employee.setEmployeeId(101);
        employee.setDepartment("IT");
        EmployeeView view = new EmployeeView();
        EmployeeController controller = new EmployeeController(employee, view);
        controller.updateView();
        controller.setEmployeeName("Bob");
        controller.setEmployeeId(102);
        controller.setEmployeeDepartment("Finance");
        controller.updateView();
    }
}
```



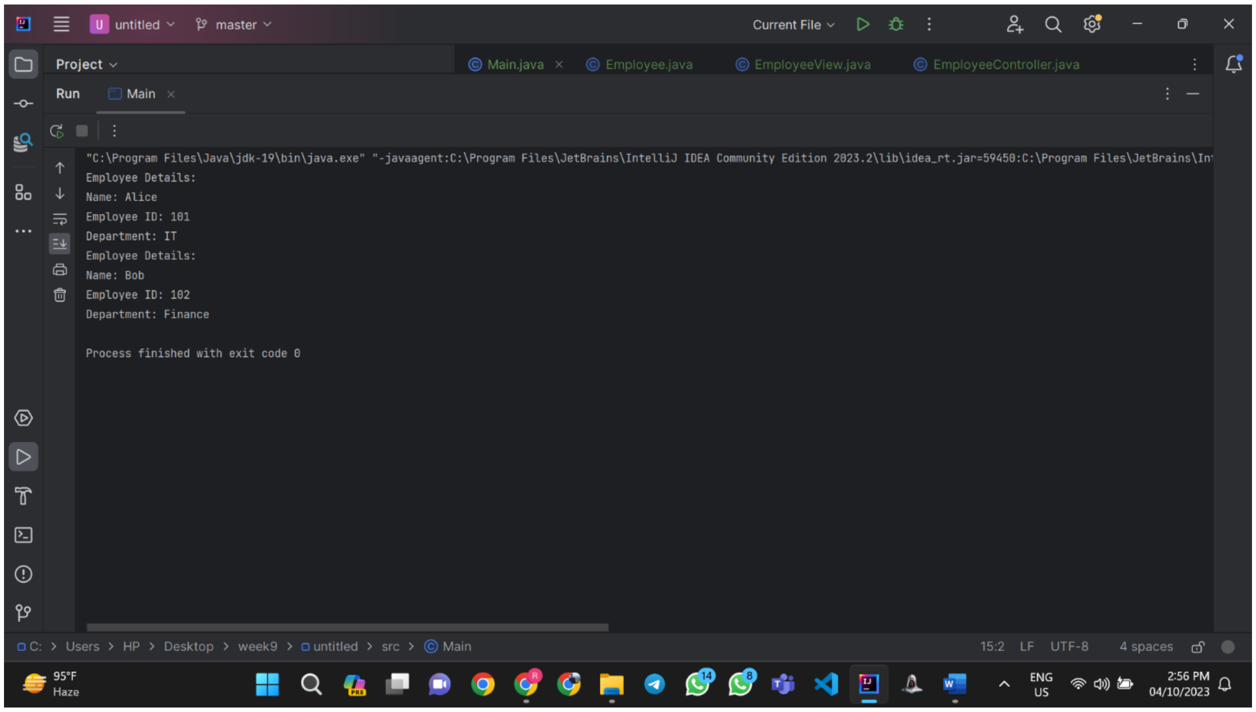
```
public class Employee {
    private String name;
    private int employeeId;
    private String department;
    public String getName() {
        return name;
    }
    public void setName(String name) {
        this.name = name;
    }
    public int getEmployeeId() {
        return employeeId;
    }
    public void setEmployeeId(int employeeId) {
        this.employeeId = employeeId;
    }
    public String getDepartment() {
        return department;
    }
    public void setDepartment(String department) {
        this.department = department;
    }
}
```



```
public class EmployeeView {
    public void printEmployeeDetails(String employeeName, int employeeId, String department) {
        System.out.println("Employee Details:");
        System.out.println("Name: " + employeeName);
        System.out.println("Employee ID: " + employeeId);
        System.out.println("Department: " + department);
    }
}
```



```java
public class EmployeeController {
    private Employee model;
    private EmployeeView view;
    public EmployeeController(Employee model, EmployeeView view) {
        this.model = model;
        this.view = view;
    }
    public void setEmployeeName(String name) {
        model.setName(name);
    }
    public String getEmployeeName() {
        return model.getName();
    }
    public void setEmployeeId(int employeeId) {
        model.setEmployeeId(employeeId);
    }
    public int getEmployeeId() {
        return model.getEmployeeId();
    }
    public void setEmployeeDepartment(String department) {
        model.setDepartment(department);
    }
    public String getEmployeeDepartment() {
        return model.getDepartment();
    }
    public void updateView() {
        view.printEmployeeDetails(model.getName(), model.getEmployeeId(), model.getDepartment());
    }
```



```
"C:\Program Files\Java\jdk-19\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2023.2\lib\idea_rt.jar=59450:C:\Program Files\JetBrains\In
Employee Details:
Name: Alice
Employee ID: 101
Department: IT
Employee Details:
Name: Bob
Employee ID: 102
Department: Finance

Process finished with exit code 0
```