Java Assignment 10

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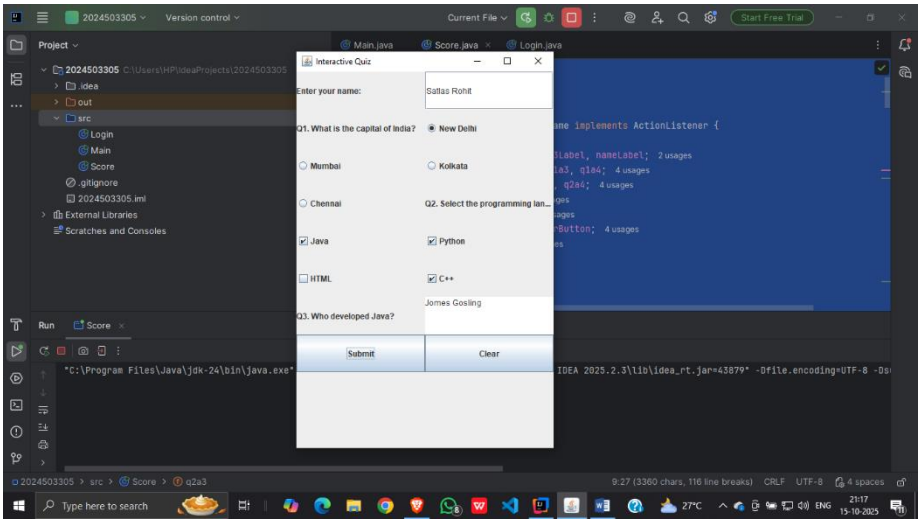
Code 1:

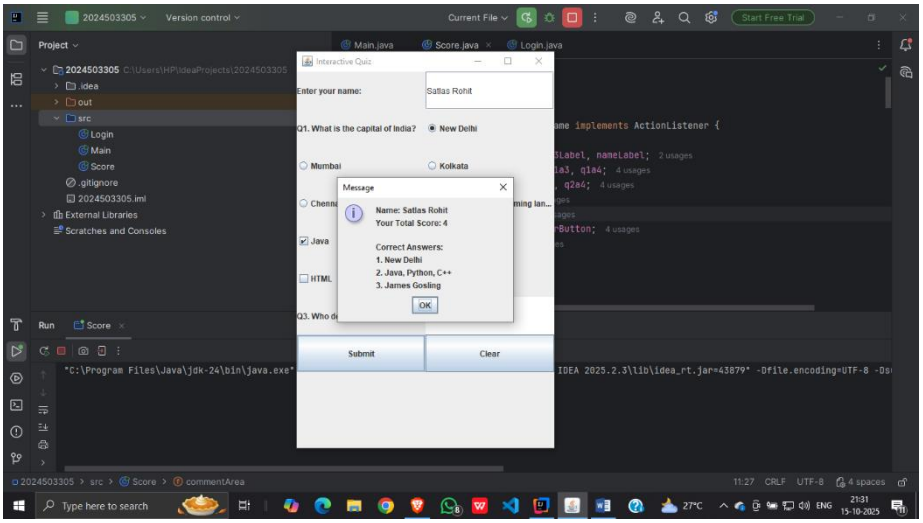
```
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;
public class Score extends JFrame implements ActionListener {
   JLabel q1Label, q2Label, q3Label, nameLabel;
   JRadioButton q1a1, q1a2, q1a3, q1a4;
   JCheckBox q2a1, q2a2, q2a3, q2a4;
   JTextField nameField;
   JTextArea commentArea;
   JButton submitButton, clearButton;
   ButtonGroup q1Group;
   int score = 0;
   Score() {
      setTitle("Interactive Quiz");
      setLayout(new GridLayout(10, 1));
      setSize(400, 600);
      setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
      nameLabel = new JLabel("Enter your name:");
      nameField = new JTextField(15);
      add(nameLabel);
      add(nameField);
      q1Label = new JLabel("Q1. What is the capital of India?");
      q1a1 = new JRadioButton("New Delhi");
      q1a2 = new JRadioButton("Mumbai");
      q1a3 = new JRadioButton("Kolkata");
      q1a4 = new JRadioButton("Chennai");
      q1Group = new ButtonGroup();
      q1Group.add(q1a1);
      q1Group.add(q1a2);
      q1Group.add(q1a3);
      q1Group.add(q1a4);
```

```
        add(q1Label);
        add(q1a1); add(q1a2); add(q1a3); add(q1a4);
        q2Label = new JLabel("Q2. Select the programming languages:");
        q2a1 = new JCheckBox("Java");
        q2a2 = new JCheckBox("Python");
        q2a3 = new JCheckBox("HTML");
        q2a4 = new JCheckBox("C++");
        add(q2Label);
        add(q2a1); add(q2a2); add(q2a3); add(q2a4);
        q3Label = new JLabel("Q3. Who developed Java?");
        commentArea = new JTextArea(2, 15);
        add(q3Label);
        add(commentArea);
        submitButton = new JButton("Submit");
        clearButton = new JButton("Clear");
        add(submitButton);
        add(clearButton);
        submitButton.addActionListener(this);
        clearButton.addActionListener(this);
        setVisible(true);
    }
    @Override
    public void actionPerformed(ActionEvent e) {
        if (e.getSource() == submitButton) {
            calculateScore();
        } else if (e.getSource() == clearButton) {
            clearAll();
        }
    }
    void calculateScore() {
        score = 0;
        if (q1a1.isSelected()) score += 1;
        if (q2a1.isSelected()) score += 1;
        if (q2a2.isSelected()) score += 1;
        if (q2a4.isSelected()) score += 1;
        if (commentArea.getText().trim().equalsIgnoreCase("James Gosling"))
score += 1;
```

```
        JOptionPane.showMessageDialog(this,
                "Name: " + nameField.getText() +
                        "\nYour Total Score: " + score +
                        "\n\nCorrect Answers:\n1. New Delhi\n2. Java, Python, C++\n3.
James Gosling");
    }
    void clearAll() {
        nameField.setText("");
        q1Group.clearSelection();
        q2a1.setSelected(false);
        q2a2.setSelected(false);
        q2a3.setSelected(false);
        q2a4.setSelected(false);
        commentArea.setText("");
    }
    public static void main(String[] args) {
        new Score();
    }
}
```

Output:





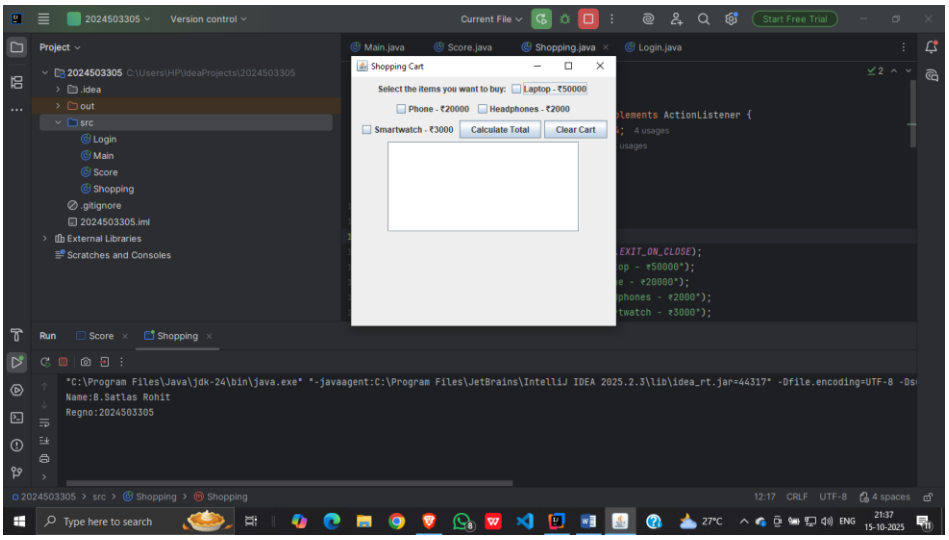
Code 2:

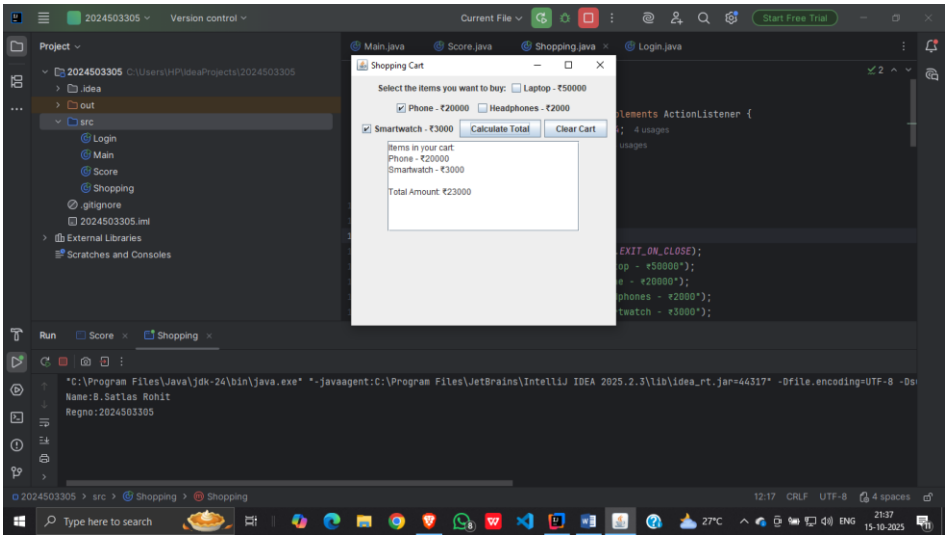
```
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;
public class Shopping extends JFrame implements ActionListener {
   JCheckBox item1, item2, item3, item4;
   JButton totalButton, clearButton;
   JTextArea displayArea;
   int total = 0;
   Shopping() {
      setTitle("Shopping Cart");
      setSize(400, 400);
      setLayout(new FlowLayout());
      setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
      item1 = new JCheckBox("Laptop - ₹50000");
      item2 = new JCheckBox("Phone - ₹20000");
      item3 = new JCheckBox("Headphones - ₹2000");
      item4 = new JCheckBox("Smartwatch - ₹3000");
      totalButton = new JButton("Calculate Total");
      clearButton = new JButton("Clear Cart");
      displayArea = new JTextArea(8, 25);
      displayArea.setEditable(false);
      add(new JLabel("Select the items you want to buy:"));
      add(item1); add(item2); add(item3); add(item4);
      add(totalButton); add(clearButton);
      add(new JScrollPane(displayArea));
      totalButton.addActionListener(this);
```

```
        clearButton.addActionListener(this);
        setVisible(true);
    }
    public void actionPerformed(ActionEvent e) {
        if (e.getSource() == totalButton) {
            total = 0;
            StringBuilder sb = new StringBuilder("Items in your cart:\n");

            if (item1.isSelected()) { sb.append("Laptop - ₹50000\n"); total +=
50000; }
            if (item2.isSelected()) { sb.append("Phone - ₹20000\n"); total +=
20000; }
            if (item3.isSelected()) { sb.append("Headphones - ₹2000\n"); total +=
2000; }
            if (item4.isSelected()) { sb.append("Smartwatch - ₹3000\n"); total +=
3000; }
            sb.append("\nTotal Amount: ₹").append(total);
            displayArea.setText(sb.toString());
        } else if (e.getSource() == clearButton) {
            item1.setSelected(false);
            item2.setSelected(false);
            item3.setSelected(false);
            item4.setSelected(false);
            displayArea.setText("");
        }
    }
    public static void main(String[] args) {
        System.out.println("Name:B.Satlas Rohit\nRegno:2024503305");
        new Shopping();
    }
}
```

Output:





Code 3:

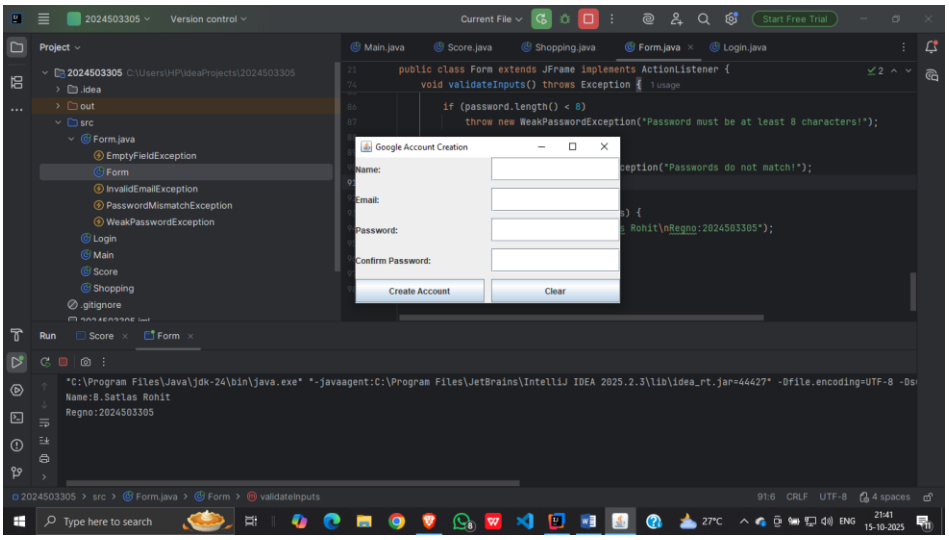
```
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;
class EmptyFieldException extends Exception {
    public EmptyFieldException(String msg) { super(msg); }
}
```

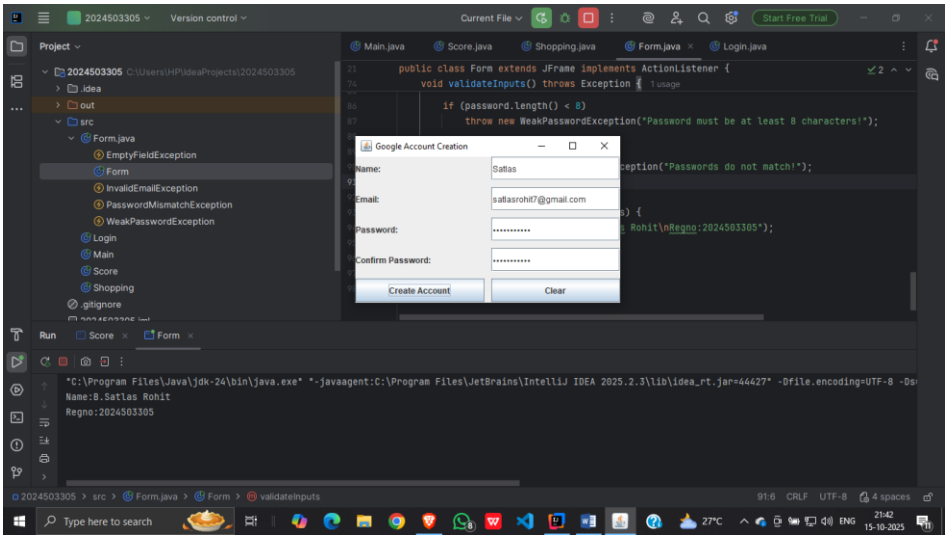
```
class InvalidEmailException extends Exception {
   public InvalidEmailException(String msg) { super(msg); }
}
class PasswordMismatchException extends Exception {
   public PasswordMismatchException(String msg) { super(msg); }
}
class WeakPasswordException extends Exception {
   public WeakPasswordException(String msg) { super(msg); }
}
public class GoogleAccountForm extends JFrame implements ActionListener {
   JLabel nameLabel, emailLabel, passLabel, confirmLabel;
   JTextField nameField, emailField;
   JPasswordField passField, confirmField;
   JButton submitButton, clearButton;
   GoogleAccountForm() {
      setTitle("Google Account Creation");
      setLayout(new GridLayout(5, 2, 10, 10));
      setSize(400, 250);
      setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
      nameLabel = new JLabel("Name:");
      emailLabel = new JLabel("Email:");
      passLabel = new JLabel("Password:");
      confirmLabel = new JLabel("Confirm Password:");
      nameField = new JTextField(15);
      emailField = new JTextField(15);
      passField = new JPasswordField(15);
```

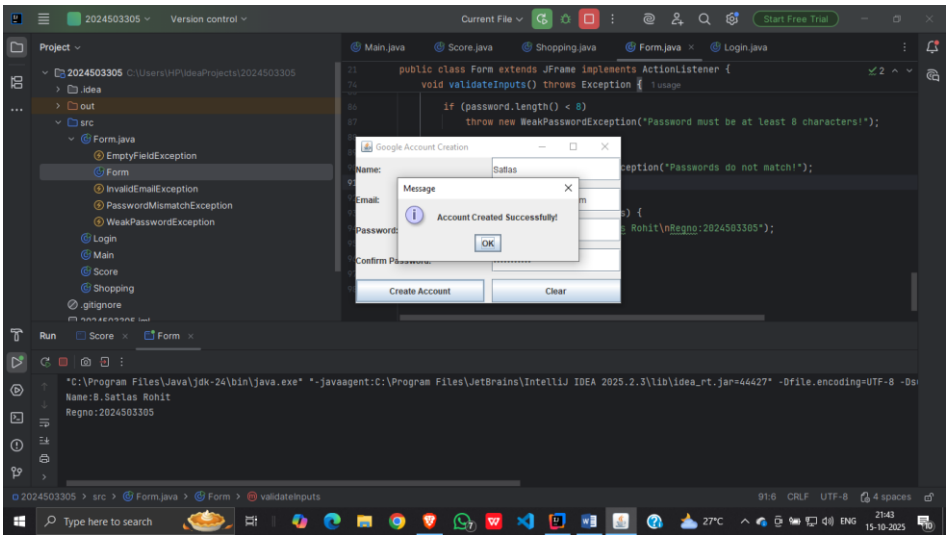
```
        confirmField = new JPasswordField(15);
        submitButton = new JButton("Create Account");
        clearButton = new JButton("Clear");
        add(nameLabel); add(nameField);
        add(emailLabel); add(emailField);
        add(passLabel); add(passField);
        add(confirmLabel); add(confirmField);
        add(submitButton); add(clearButton);
        submitButton.addActionListener(this);
        clearButton.addActionListener(this);
        setVisible(true);
    }
    public void actionPerformed(ActionEvent e) {
        if (e.getSource() == submitButton) {
            try {
                validateInputs();
                JOptionPane.showMessageDialog(this, "Account Created
Successfully!");
            } catch (Exception ex) {
                JOptionPane.showMessageDialog(this, ex.getMessage(), "Error",
JOptionPane.ERROR_MESSAGE);
            }
        } else if (e.getSource() == clearButton) {
            nameField.setText("");
            emailField.setText("");
            passField.setText("");
            confirmField.setText("");
```

```
        }
    }
    void validateInputs() throws Exception {
        String name = nameField.getText().trim();
        String email = emailField.getText().trim();
        String password = new String(passField.getPassword());
        String confirm = new String(confirmField.getPassword());
        if (name.isEmpty() || email.isEmpty() || password.isEmpty() ||
confirm.isEmpty())
            throw new EmptyFieldException("All fields are required!");
        if (!email.contains("@") || !email.endsWith(".com"))
            throw new InvalidEmailException("Invalid email address!");
        if (password.length() < 8)
            throw new WeakPasswordException("Password must be at least 8
characters!");
        if (!password.equals(confirm))
            throw new PasswordMismatchException("Passwords do not match!");
    }
    public static void main(String[] args) {
        new GoogleAccountForm();
    }
}
```

Output:


Google Account Creation
Name:
Email:
Password:
Confirm Password:
Create Account
Clear
"C:\Program Files\Java\jdk-24\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2025.2.3\lib\idea_rt.jar=44427" -Dfile.encoding=UTF-8 -Ds
Name:B.Satlas Rohit
Regno:2024503305


Google Account Creation
Satlas
satlasrohit7@gmail.com
Create Account
Clear
"C:\Program Files\Java\jdk-24\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2025.2.3\lib\idea_rt.jar=44427" -Dfile.encoding=UTF-8 -Ds
Name:B.Satlas Rohit
Regno:2024503305


Message
Account Created Successfully!
OK
Create Account
Clear
"C:\Program Files\Java\jdk-24\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2025.2.3\lib\idea_rt.jar=44427" -Dfile.encoding=UTF-8 -Ds
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