import javax.swing.\*;

import java.awt.\*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

public class ElectricityBillingSystemSwing {

// Method to calculate the electricity bill based on units consumed

public static double calculateBill(double unitsConsumed) {

double bill = 0;

if (unitsConsumed <= 100) {

bill = unitsConsumed \* 5; // Rs. 5 per unit for the first 100 units

} else if (unitsConsumed <= 200) {

bill = 100 \* 5 + (unitsConsumed - 100) \* 7; // Rs. 7 per unit for 101-200 units

} else if (unitsConsumed <= 300) {

bill = 100 \* 5 + 100 \* 7 + (unitsConsumed - 200) \* 10; // Rs. 10 per unit for 201-300 units

} else {

bill = 100 \* 5 + 100 \* 7 + 100 \* 10 + (unitsConsumed - 300) \* 12; // Rs. 12 per unit for above 300 units

}

return bill;

}

public static void main(String[] args) {

// Create the main frame

JFrame frame = new JFrame("Electricity Billing System");

frame.setSize(400, 400);

frame.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

// Create panels for the layout

JPanel panel = new JPanel();

panel.setLayout(new GridLayout(8, 2, 10, 10));

// Add components for input fields

JLabel nameLabel = new JLabel("Customer Name:");

JTextField nameField = new JTextField();

JLabel idLabel = new JLabel("Customer ID:");

JTextField idField = new JTextField();

JLabel unitsLabel = new JLabel("Units Consumed:");

JTextField unitsField = new JTextField();

JButton calculateButton = new JButton("Calculate Bill");

JLabel billLabel = new JLabel("Total Bill Amount (Rs):");

JLabel billAmountLabel = new JLabel();

JLabel gstLabel = new JLabel("GST (18%):");

JLabel gstAmountLabel = new JLabel();

JLabel totalLabel = new JLabel("Total with GST (Rs):");

JLabel totalWithGstLabel = new JLabel();

// Add components to the panel

panel.add(nameLabel);

panel.add(nameField);

panel.add(idLabel);

panel.add(idField);

panel.add(unitsLabel);

panel.add(unitsField);

panel.add(calculateButton);

panel.add(new JLabel()); // Empty cell

panel.add(billLabel);

panel.add(billAmountLabel);

panel.add(gstLabel);

panel.add(gstAmountLabel);

panel.add(totalLabel);

panel.add(totalWithGstLabel);

// Add panel to frame

frame.add(panel);

// Button action listener to calculate the bill

calculateButton.addActionListener(new ActionListener() {

@Override

public void actionPerformed(ActionEvent e) {

try {

String customerName = nameField.getText();

String customerId = idField.getText();

double unitsConsumed = Double.parseDouble(unitsField.getText());

double billAmount = calculateBill(unitsConsumed);

double gst = billAmount \* 0.18;

double totalWithGST = billAmount + gst;

billAmountLabel.setText(String.format("%.2f", billAmount));

gstAmountLabel.setText(String.format("%.2f", gst));

totalWithGstLabel.setText(String.format("%.2f", totalWithGST));

} catch (NumberFormatException ex) {

JOptionPane.showMessageDialog(frame, "Please enter valid inputs.", "Error", JOptionPane.ERROR\_MESSAGE);

}

}

});

// Set frame visibility

frame.setVisible(true);

}

}