	SCTR's PUNE INSTITUTE OF COMPUTER TECHNOLOGY PUNE - 411043		
	Department of Electronics & Telecommunication Engineering (E&TCE)		
	ASSESMENT YEAR: 2024-2025	CLASS: TE	BATCH:- N7
	SUBJECT: Advanced JAVA Programming		
	Assignment No: 3	**Roll No: 32402**	**Date: 29/01/2025**

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Batch: N7

Problem Statement: Develop a GUI which accepts the information regarding the marks for all the subjects of a student in the examination. Display the result for a student in a separate window

INPUT :

```
package sem2_exp3;

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

public class StudentInfo implements ActionListener {

    JFrame frame;
    JLabel nameLabel, rollNoLabel, studentIdLabel, emailLabel, batchLabel, branchLabel, subjectLabel;
    JTextField nameField, rollNoField, studentIdField, emailField, batchField, branchField;
    JTextField[] subjectFields;
    JLabel[] subjectNameLabels;
    JButton submitButton, resetButton;
    int subjectCount = 5; // Number of subjects
    String[] subjectNames = {"AJP", "PDC", "MP", "CN", "Math"};

    StudentInfo() {
        frame = new JFrame("Student Info GUI");
        frame.setSize(600, 700);
        frame.setLayout(null);
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        initComponents();
        addComponents();
        registerListeners();

        frame.setVisible(true);
    }

    public void initComponents() {
        nameLabel = new JLabel("Name:");
        nameLabel.setBounds(20, 20, 100, 30);
        nameField = new JTextField();
        nameField.setBounds(120, 20, 200, 30);
```

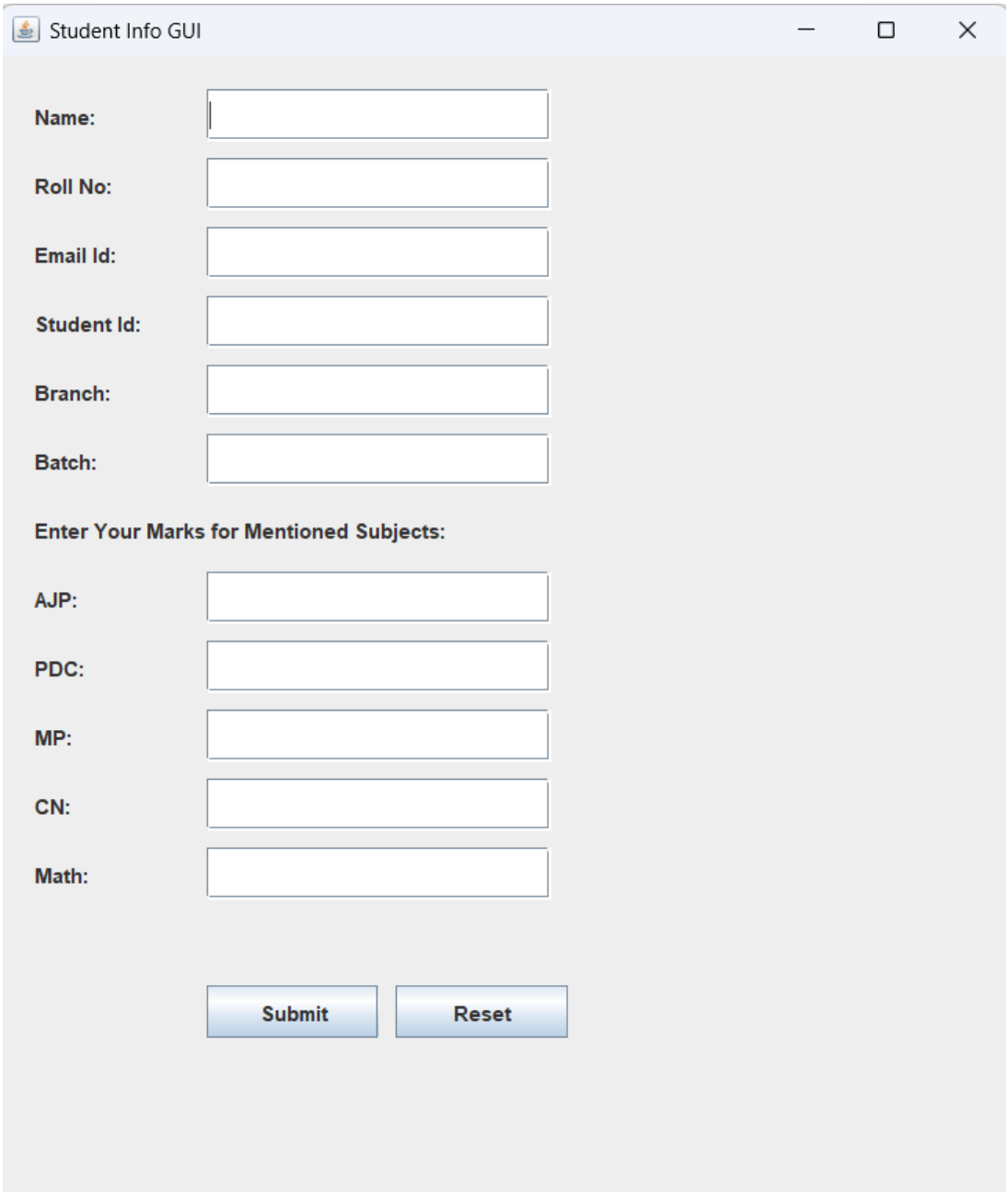
```
        rollNoLabel = new JLabel("Roll No:");
        rollNoLabel.setBounds(20, 60, 100, 30);
        rollNoField = new JTextField();
        rollNoField.setBounds(120, 60, 200, 30);

        studentIdLabel = new JLabel("Email Id:");
        studentIdLabel.setBounds(20, 100, 100, 30);
        studentIdField = new JTextField();
        studentIdField.setBounds(120, 100, 200, 30);

        emailLabel = new JLabel("Student Id:");
        emailLabel.setBounds(20, 140, 100, 30);
        emailField = new JTextField();
        emailField.setBounds(120, 140, 200, 30);

        batchLabel = new JLabel("Branch:");
        batchLabel.setBounds(20, 180, 100, 30);
        batchField = new JTextField();
        batchField.setBounds(120, 180, 200, 30);

        branchLabel = new JLabel("Batch:");
        branchLabel.setBounds(20, 220, 100, 30);
        branchField = new JTextField();
        branchField.setBounds(120, 220, 200, 30);

        subjectLabel = new JLabel("Enter Your Marks for Mentioned Subjects:");
        subjectLabel.setBounds(20, 260, 250, 30);

        subjectFields = new JTextField[subjectCount];
        subjectNameLabels = new JLabel[subjectCount];
        for (int i = 0; i < subjectCount; i++) {
            subjectNameLabels[i] = new JLabel(subjectNames[i] + ":");
            subjectNameLabels[i].setBounds(20, 300 + (i * 40), 100, 30);
            subjectFields[i] = new JTextField();
            subjectFields[i].setBounds(120, 300 + (i * 40), 200, 30);
        }

        submitButton = new JButton("Submit");
        submitButton.setBounds(120, 540, 100, 30);

        resetButton = new JButton("Reset");
        resetButton.setBounds(230, 540, 100, 30);
    }

    public void addComponents() {
```

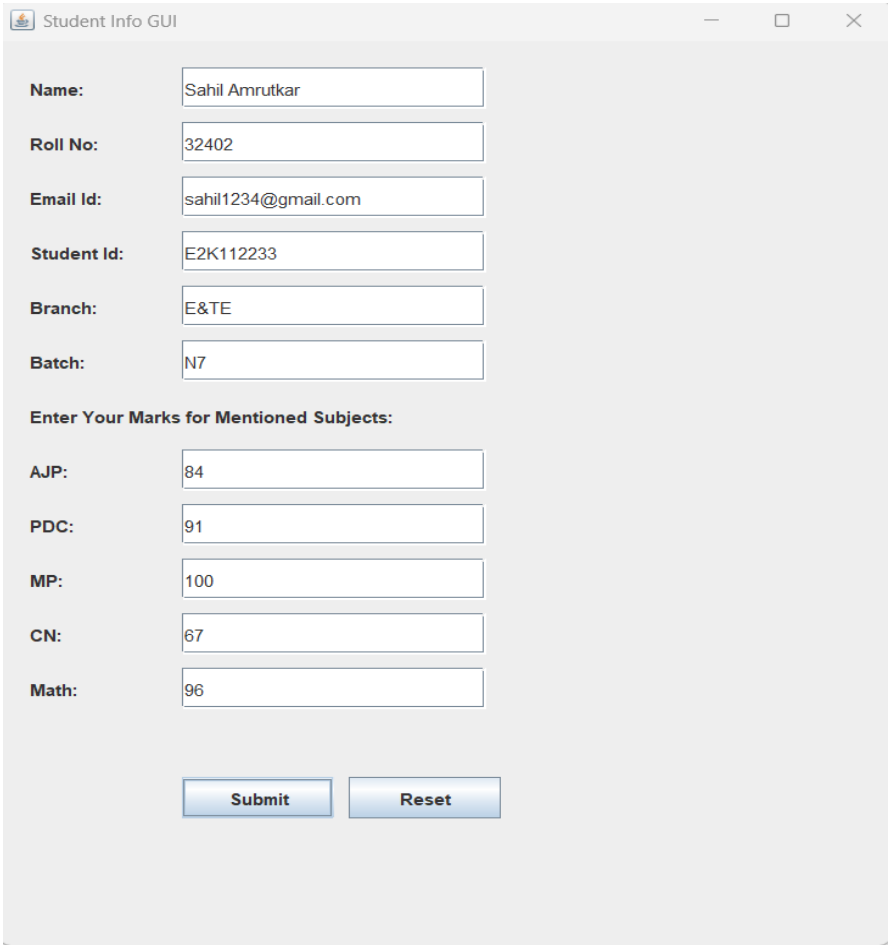
```
        frame.add(nameLabel);
        frame.add(nameField);
        frame.add(rollNoLabel);
        frame.add(rollNoField);
        frame.add(studentIdLabel);
        frame.add(studentIdField);
        frame.add(emailLabel);
        frame.add(emailField);
        frame.add(batchLabel);
        frame.add(batchField);
        frame.add(branchLabel);
        frame.add(branchField);
        frame.add(subjectLabel);
        for (int i = 0; i < subjectCount; i++) {
            frame.add(subjectNameLabels[i]);
            frame.add(subjectFields[i]);
        }
        frame.add(submitButton);
        frame.add(resetButton);
    }

    public void registerListeners() {
        submitButton.addActionListener(this);
        resetButton.addActionListener(this);
    }

    public void actionPerformed(ActionEvent e) {
        if (e.getSource() == submitButton) {
            try {
                String name = nameField.getText().trim();
                String rollNo = rollNoField.getText().trim();
                String studentId = studentIdField.getText().trim();
                String email = emailField.getText().trim();
                String batch = batchField.getText().trim();
                String branch = branchField.getText().trim();

                if (name.isEmpty() || rollNo.isEmpty() || studentId.isEmpty() || email.isEmpty() ||
                        batch.isEmpty() || branch.isEmpty()) {
                    throw new IllegalArgumentException("All fields must be filled.");
                }

                StringBuilder marksDetails = new StringBuilder();
                int totalMarks = 0;

                for (int i = 0; i < subjectCount; i++) {
```

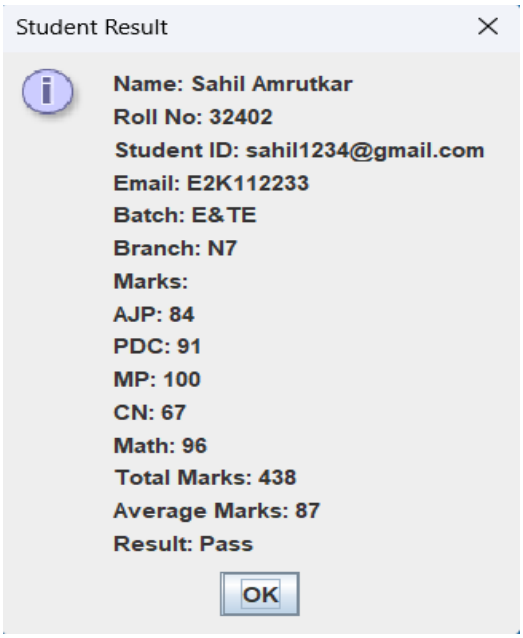
```
            int marks = Integer.parseInt(subjectFields[i].getText().trim());
            totalMarks += marks;
            marksDetails.append(subjectNames[i]).append(": ").append(marks).append("\n");
        }

        int averageMarks = totalMarks / subjectCount;
        String result = averageMarks >= 40 ? "Pass" : "Fail";

        JOptionPane.showMessageDialog(frame,
            "Name: " + name + "\n" +
                "Roll No: " + rollNo + "\n" +
                "Student ID: " + studentId + "\n" +
                "Email: " + email + "\n" +
                "Batch: " + batch + "\n" +
                "Branch: " + branch + "\n" +
                "Marks:\n" + marksDetails +
                "Total Marks: " + totalMarks + "\n" +
                "Average Marks: " + averageMarks + "\n" +
                "Result: " + result,
            "Student Result",
            JOptionPane.INFORMATION_MESSAGE);

      } catch (NumberFormatException ex) {
        JOptionPane.showMessageDialog(frame, "Please enter valid numbers for all subjects.",
            "Input Error", JOptionPane.ERROR_MESSAGE);
      } catch (IllegalArgumentException ex) {
        JOptionPane.showMessageDialog(frame, ex.getMessage(), "Input Error",
            JOptionPane.ERROR_MESSAGE);
      }
    } else if (e.getSource() == resetButton) {
      nameField.setText("");
      rollNoField.setText("");
      studentIdField.setText("");
      emailField.setText("");
      batchField.setText("");
      branchField.setText("");
      for (JTextField field : subjectFields) {
        field.setText("");
      }
    }
  }

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

```
}
```

OUTPUT :


Student Info GUI
Name:
Roll No:
Email Id:
Student Id:
Branch:
Batch:
Enter Your Marks for Mentioned Subjects:
AJP:
PDC:
MP:
CN:
Math:
Submit
Reset


Student Info GUI
Name:
Sahil Amrutkar
Roll No:
32402
Email Id:
sahil1234@gmail.com
Student Id:
E2K112233
Branch:
E&TE
Batch:
N7
Enter Your Marks for Mentioned Subjects:
AJP:
84
PDC:
91
MP:
100
CN:
67
Math:
96
Submit
Reset


Student Result
Name: Sahil Amrutkar
Roll No: 32402
Student ID: sahil1234@gmail.com
Email: E2K112233
Batch: E&TE
Branch: N7
Marks:
AJP: 84
PDC: 91
MP: 100
CN: 67
Math: 96
Total Marks: 438
Average Marks: 87
Result: Pass
OK