Practical 5(GUI cal)

**import** javax.swing.\*;

**import** java.awt.event.\*;

**public** **class** CalculatorGUI **extends** JFrame {

**private** JTextField num1Field;

**private** JTextField num2Field;

**public** CalculatorGUI() {

setTitle("Simple Calculator");

setSize(300, 200);

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

JMenuBar menuBar = **new** JMenuBar();

JMenu fileMenu = **new** JMenu("File");

JMenuItem exitMenuItem = **new** JMenuItem("Exit");

exitMenuItem.addActionListener(**new** ActionListener() {

**public** **void** actionPerformed(ActionEvent e) {

System.*exit*(0);

}

});

fileMenu.add(exitMenuItem);

menuBar.add(fileMenu);

setJMenuBar(menuBar);

JPanel panel = **new** JPanel();

panel.setLayout(**null**);

JLabel num1Label = **new** JLabel("Number 1:");

num1Label.setBounds(20, 20, 80, 25);

panel.add(num1Label);

num1Field = **new** JTextField(10);

num1Field.setBounds(100, 20, 150, 25);

panel.add(num1Field);

JLabel num2Label = **new** JLabel("Number 2:");

num2Label.setBounds(20, 50, 80, 25);

panel.add(num2Label);

num2Field = **new** JTextField(10);

num2Field.setBounds(100, 50, 150, 25);

panel.add(num2Field);

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

calculateButton.setBounds(100, 90, 100, 30);

calculateButton.addActionListener(**new** ActionListener() {

**public** **void** actionPerformed(ActionEvent e) {

**double** num1 = Double.*parseDouble*(num1Field.getText());

**double** num2 = Double.*parseDouble*(num2Field.getText());

**double** addition = num1 + num2;

**double** subtraction = num1 - num2;

**double** multiplication = num1 \* num2;

**double** division = num1 / num2;

**long** factorial1 = factorial((**int**) num1);

**long** factorial2 = factorial((**int**) num2);

String result = "Addition: " + addition + "\n"

+ "Subtraction: " + subtraction + "\n"

+ "Multiplication: " + multiplication + "\n"

+ "Division: " + division + "\n"

+ "Factorial of Number 1: " + factorial1 + "\n"

+ "Factorial of Number 2: " + factorial2;

JOptionPane.*showMessageDialog*(**null**, result);

}

});

panel.add(calculateButton);

add(panel);

setVisible(**true**);

}

**private** **long** factorial(**int** n) {

**if** (n == 0)

**return** 1;

**else**

**return** n \* factorial(n - 1);

}

**public** **static** **void** main(String[] args) {

**new** CalculatorGUI();

}

}