**R. CONCEICAO RODRIGUES COLLEGE OF ENGINEERIG**

**Department of Computer Engineering**

**Experiment 7- Based on Swing**

1. **Course Details:**

| **Academic Year** | **2023 - 24** | **Estimated Time** | **Experiment No. 7– 02 Hours** |
| --- | --- | --- | --- |
| **Course & Semester** | **S.E. (COMP) – Sem. III** | **Subject Name** | **Skill based lab Course-OOP with Java** |
| **Module No.** | **06** | **Chapter Title** | **GUI programming in Java** |
| **Experiment Type** | **Software Performance** | **Subject Code** | **CSL304** |
|  |  |  |  |

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| --- | --- | --- | --- |
| **Date of**  **Performance:** | 27/09/2023 | **Date of Submission:** | 04/10/2023 |
| **CO Mapping** | **CSL304.5 Develop real world application using libraries/GUI, Database in Java** | | |

| **Timeline**  **(2)** | **Preparedness**  **(2)** | **Effort**  **(3)** | **Result**  **(3)** | **Total (10)** |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

**Problem statement:**

1. Write a Java program that creates a user interface to perform integer addition, subtraction, multiplication, divisions. The user enters two numbers in the text fields, Num1 and Num2. The answer of Num1 and Num 2 operation should display as message dialog box when the button is clicked.

CODE:

import javax.swing.\*;

import java.awt.\*;

import java.awt.event.\*;

class MyFrame extends JFrame implements ActionListener {

private int count = 0;

private JTextField input1, input2;

private JButton add, sub, div, mul;

private JLabel title1, title2;

**MyFrame**() {

*// creating the instances*

title1 = new **JLabel**("First Number");

input1 = new **JTextField**(20);

title2 = new **JLabel**("Second Number");

input2 = new **JTextField**(20);

add = new **JButton**("Add");

sub = new **JButton**("Sub");

mul = new **JButton**("Mul");

div = new **JButton**("Div");

*// adding event listeners*

add.**addActionListener**(this);

sub.**addActionListener**(this);

mul.**addActionListener**(this);

div.**addActionListener**(this);

*// setting the layout so they don't overlap*

**setLayout**(new **FlowLayout**());

*// adding to the frame*

**add**(title1);

**add**(input1);

**add**(title2);

**add**(input2);

**add**(add);

**add**(sub);

**add**(mul);

**add**(div);

}

*// setting the output based on the clicked button*

@Override

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

int n1 = Integer.**parseInt**(input1.**getText**());

int n2 = Integer.**parseInt**(input2.**getText**());

int result;

*// getActionCommand returns Uppercase Characters*

switch (*ae*.**getActionCommand**().**toLowerCase**()) {

case "add":

result = n1 + n2;

JOptionPane.**showMessageDialog**(null, "Addition of " + n1 + " and " + n2 + " is " + result);

break;

case "sub":

result = n1 - n2;

JOptionPane.**showMessageDialog**(null, "Subtraction of " + n1 + " from " + n2 + " is " + result);

break;

case "mul":

result = n1 \* n2;

JOptionPane.**showMessageDialog**(null, "Multiplication of " + n1 + " and " + n2 + " is " + result);

break;

case "div":

result = n1 / n2;

JOptionPane.**showMessageDialog**(null, "Division of " + n1 + " and " + n2 + " is " + result);

break;

}

}

}

public class Calculator {

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

MyFrame frame = new **MyFrame**();

frame.**setSize**(500, 500);

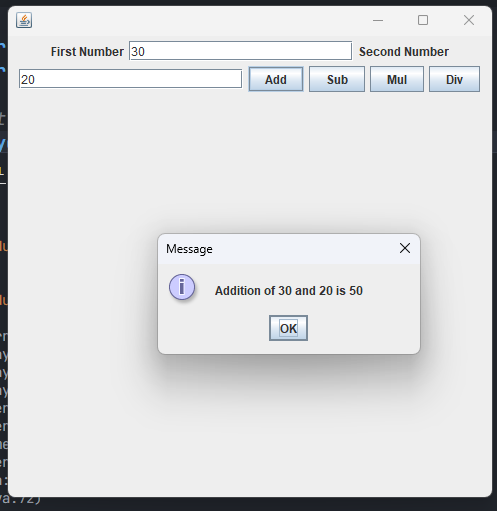
frame.**setVisible**(true);

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

}

}

OUTPUT:



1. Write a Java program that creates a user interface to perform number of times, a button clicked.

CODE:

import javax.swing.\*;

import java.awt.\*;

import java.awt.event.\*;

class MyFrame extends JFrame implements ActionListener {

private int count = 0;

private JLabel label;

private JButton button;

**MyFrame**() {

super("Counter");

label = new **JLabel**(Integer.**toString**(count));

button = new **JButton**("increment");

button.**addActionListener**(this);

*// create the layout*

**setLayout**(new **FlowLayout**());

**add**(label);

**add**(button);

}

*// to make sure overridden method exists*

@Override

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

*// for any action performed the count will be incremented by one*

count++;

label.**setText**(Integer.**toString**(count));*// this is used to update the value of the label*

}

}

public class Counter {

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

*// initialize the frame*

MyFrame frame = new **MyFrame**();

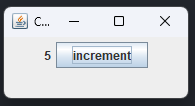
frame.**setSize**(200, 100);

frame.**setVisible**(true);

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

}

}



OUTPUT:

1. Write a Java program that creates a user interface to perform create username and password field for fix set of value. If username and password matches create new frame with message “welcome to My world” and if doesn’t match display message “Something went wrong” as a message dialog box.

CODE:

import javax.swing.\*;

import java.awt.\*;

import java.awt.event.\*;

class SuccessFrame extends JFrame {

private JLabel l1;

**SuccessFrame**() {

l1 = new **JLabel**("Welcome to my World");

**setLayout**(new **FlowLayout**());

**add**(l1);

}

}

class MyFrame extends JFrame implements ActionListener {

private String username = "universe";

private String password = "universe";

private JLabel l1, l2;

private JTextField tf1, tf2;

private JButton btn;

**MyFrame**() {

l1 = new **JLabel**("Username : ");

tf1 = new **JTextField**(20);

l2 = new **JLabel**("Password : ");

tf2 = new **JTextField**(20);

btn = new **JButton**("Submit");

btn.**addActionListener**(this);

**setLayout**(new **FlowLayout**());

**add**(l1);

**add**(tf1);

**add**(l2);

**add**(tf2);

**add**(btn);

}

@Override

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

if (username.**equals**(tf1.**getText**()) && password.**equals**(tf2.**getText**())) {

this.**setVisible**(false);

SuccessFrame frame = new **SuccessFrame**();

frame.**setSize**(500, 500);

frame.**setVisible**(true);

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

} else {

*// l1.setText(tf1.getText());*

*// l2.setText(tf2.getText());*

JOptionPane.**showMessageDialog**(this, "Incorrect input. Please recheck your username and password");

}

}

}

public class Validation {

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

MyFrame frame = new **MyFrame**();

frame.**setSize**(500, 500);

frame.**setVisible**(true);

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

}

}

OUTPUT:

