



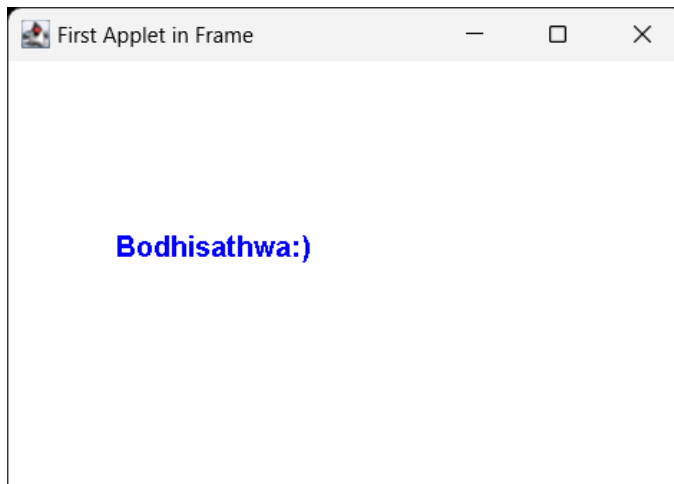
NAME :	VASTUPULA AMMULU
CLASS & ROLL NO.	CSD-C, 22P61A67I5
SUBJECT:	JAVA LAB

CONVERTING APPLLET PROGRAMS INTO JFRAME

- 1) Develop an applet in Java that displays a simple message (INTO JFRAME)

```
import java.awt.*;
import java.awt.event.*;
public class FirstAppletFrame extends Frame {
    public FirstAppletFrame() {
        setSize(400, 300);
        setTitle("First Applet in Frame");
        // Create an instance of your applet
        FirstApplet firstApplet = new FirstApplet();
        // Add the applet to the frame
        add(firstApplet);
        // Set up a WindowListener to handle closing the frame
        addWindowListener(new WindowAdapter() {
            public void windowClosing(WindowEvent we) {
                System.exit(0);
            }
        });
    }
    public static void main(String[] args) {
        // Create and show the frame
        EventQueue.invokeLater(() -> {
            FirstAppletFrame frame = new FirstAppletFrame();
            frame.setVisible(true);
        });
    }
    // Original Applet code
    class FirstApplet extends java.applet.Applet {
        public void paint(Graphics g) {
            g.setColor(Color.blue);
            Font font = new Font("Arial", Font.BOLD, 16);
            g.setFont(font);
            g.drawString("Bodhisathwa:", 60, 110);
        }
    }
}
```

Output:



2) Calculator using JFrame:

```
import java.awt.*;
```

```
import java.awt.event.*;
```

```
import javax.swing.*;
```

```
public class MyCalculatorFrame extends JFrame implements ActionListener {
```

```
    int num1, num2, result;
```

```
    JTextField T1;
```

```
    JButton NumButtons[] = new JButton[10];
```

```
    JButton Add, Sub, Mul, Div, clear, EQ;
```

```
    char Operation;
```

```
    JPanel nPanel, CPanel, SPanel;
```

```
    public MyCalculatorFrame() {
```

```
        nPanel = new JPanel();
```

```
        T1 = new JTextField(30);
```

```
        nPanel.setLayout(new FlowLayout(FlowLayout.CENTER));
```

```
        nPanel.add(T1);
```

```
        CPanel = new JPanel();
```

```
        CPanel.setBackground(Color.white);
```

```
        CPanel.setLayout(new GridLayout(5, 5, 3, 3));
```

```

for (int i = 0; i < 10; i++) {
    NumButtons[i] = new JButton("" + i);
}

Add = new JButton("+");
Sub = new JButton("-");
Mul = new JButton("*");
Div = new JButton("/");
clear = new JButton("clear");
EQ = new JButton("=");
T1.addActionListener(this);
for (int i = 0; i < 10; i++) {
    CPanel.add(NumButtons[i]);
    NumButtons[i].addActionListener(this);
}

CPanel.add(Add);
CPanel.add(Sub);
CPanel.add(Mul);
CPanel.add(Div);
CPanel.add(EQ);


SPanel = new JPanel();
SPanel.setLayout(new FlowLayout(FlowLayout.CENTER));
SPanel.setBackground(Color.yellow);
SPanel.add(clear);
clear.addActionListener(this);
EQ.addActionListener(this);


this.setLayout(new BorderLayout());
add(nPanel, BorderLayout.NORTH);
add(CPanel, BorderLayout.CENTER);
add(SPanel, BorderLayout.SOUTH);

```

```
setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
setSize(400, 400);
setTitle("Calculator");
setLocationRelativeTo(null); // Center the frame on the screen
}
```

```
public void actionPerformed(ActionEvent ae) {
    String str = ae.getActionCommand();
    char ch = str.charAt(0);
    if (Character.isDigit(ch))
        T1.setText(T1.getText() + str);
    else if (str.equals("+")) {
        num1 = Integer.parseInt(T1.getText());
        Operation = '+';
        T1.setText("");
    } else if (str.equals("-")) {
        num1 = Integer.parseInt(T1.getText());
        Operation = '-';
        T1.setText("");
    } else if (str.equals("*")) {
        num1 = Integer.parseInt(T1.getText());
        Operation = '*';
        T1.setText("");
    } else if (str.equals("/")) {
        num1 = Integer.parseInt(T1.getText());
        Operation = '/';
        T1.setText("");
    } else if (str.equals("=")) {
        num2 = Integer.parseInt(T1.getText());
        switch (Operation) {
```

```

        case '+':
            result = num1 + num2;
            break;
        case '-':
            result = num1 - num2;
            break;
        case '*':
            result = num1 * num2;
            break;
        case '/':
            try {
                result = num1 / num2;
            } catch (ArithmeticException e) {
                result = num2;
                JOptionPane.showMessageDialog(this, "Divided by zero");
            }
            break;
    }
    T1.setText("" + result);
} else if (str.equals("clear")) {
    T1.setText("");
}
}

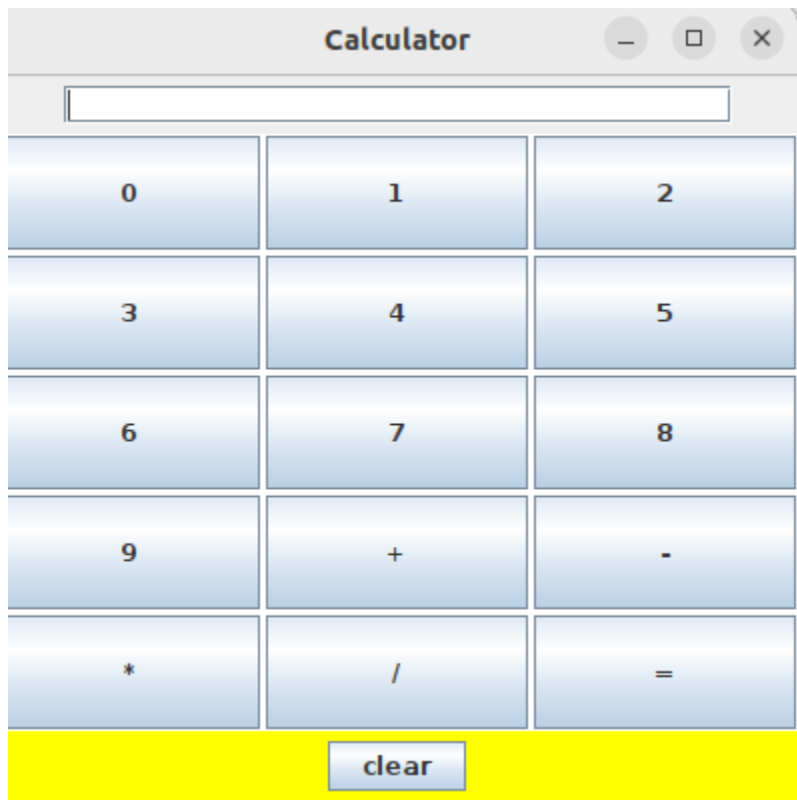
```

```

public static void main(String[] args) {
    SwingUtilities.invokeLater(() -> {
        MyCalculatorFrame calculatorFrame = new MyCalculatorFrame();
        calculatorFrame.setVisible(true);
    });
}
}

```

Output:



3)Division calculator:

```
import java.awt.*;
```

```
import java.awt.event.*;
```

```
import javax.swing.*;
```

```
public class DivisionFrame extends JFrame implements ActionListener {
```

```
    JLabel L1, L2, L3;
```

```
    JTextField T1, T2, Result;
```

```
    JButton B1;
```

```
    public DivisionFrame() {
```

```
        L1 = new JLabel("Enter First Num:");
```

```
        add(L1);
```

```
        T1 = new JTextField(10);
```

```
        add(T1);
```

```
        L2 = new JLabel("Enter Second Num:");
```

```
add(L2);
T2 = new JTextField(10);
add(T2);
L3 = new JLabel("Result");
add(L3);
Result = new JTextField(10);
add(Result);
B1 = new JButton("Divide");
add(B1);
B1.addActionListener(this);

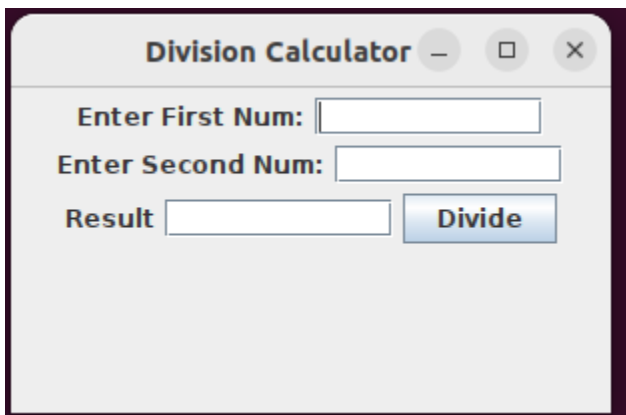
setLayout(new FlowLayout());
setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
setSize(300, 200);
setTitle("Division Calculator");
}
```

```
public void actionPerformed(ActionEvent e) {
    if (e.getSource() == B1) {
        try {
            int value1 = Integer.parseInt(T1.getText());
            int value2 = Integer.parseInt(T2.getText());

            int result = value1 / value2;
            Result.setText(String.valueOf(result));
        } catch (NumberFormatException nfe) {
            JOptionPane.showMessageDialog(this, "Not a number");
        } catch (ArithmeticException ae) {
            JOptionPane.showMessageDialog(this, "Divided by Zero");
        }
    }
}
```

```
}
```

```
public static void main(String[] args) {  
    SwingUtilities.invokeLater(() -> {  
        DivisionFrame divisionFrame = new DivisionFrame();  
        divisionFrame.setVisible(true);  
    });  
}  
}  
}  
output:
```



4)Factorial :

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

```
public class FactorialFrame extends JFrame {  
    private JLabel L1, L2;  
    private JTextField T1, T2;  
    private JButton B1;  
  
    public FactorialFrame() {  
        setLayout(new FlowLayout());  
        L1 = new JLabel("Enter any Number : ");  
        add(L1);
```



```

T1 = new JTextField(10);
add(T1);
L2 = new JLabel("Factorial of Num : ");
add(L2);
T2 = new JTextField(10);
add(T2);
B1 = new JButton("Compute");
add(B1);
B1.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        int value = Integer.parseInt(T1.getText());
        int fact = factorial(value);
        T2.setText(String.valueOf(fact));
    }
});
setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
setSize(500, 250);
setVisible(true);
}

```

```

int factorial(int n) {
    if (n == 0)
        return 1;
    else
        return n * factorial(n - 1);
}

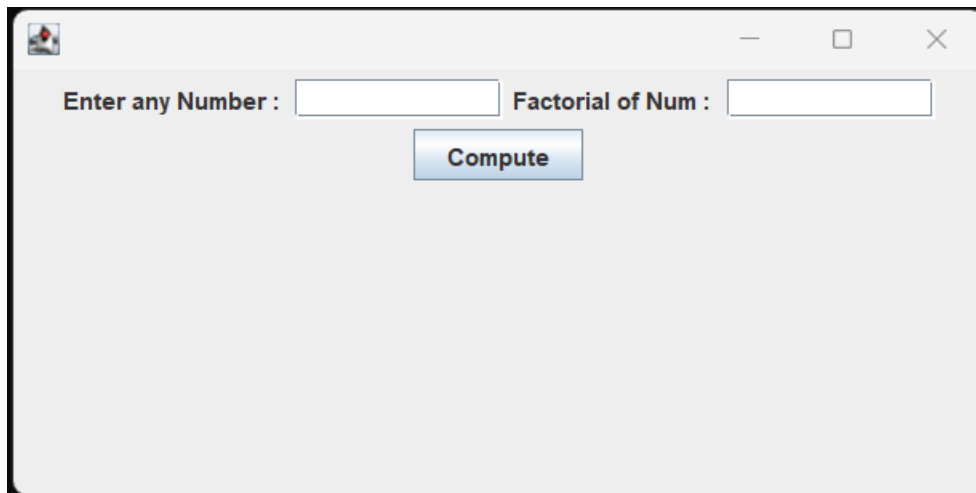
```

```

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

```

Output:



A Java Swing window titled "Factorial of Num" with a standard Mac OS X title bar (red, yellow, and green buttons). The window contains two text input fields: "Enter any Number :" and "Factorial of Num :". Below these fields is a blue "Compute" button. The window has a light gray background and a black border.