Counselling Code : VBIT
VIGNANA BHARATHI Institute of Technology
(A UGC Autonomous Institution, Approved by AICTE, Accredited by NBA & NAAC-A Grade, Affiliated to JNTUH)

NAME :

N.Yashasvi reddy

CLASS & ROLL NO.

CSD-C, 22P61A67D6

SUBJECT:

JAVA LAB

# CONVERTING APPLET PROGRAMS INTO JFRAME

1. 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;
```

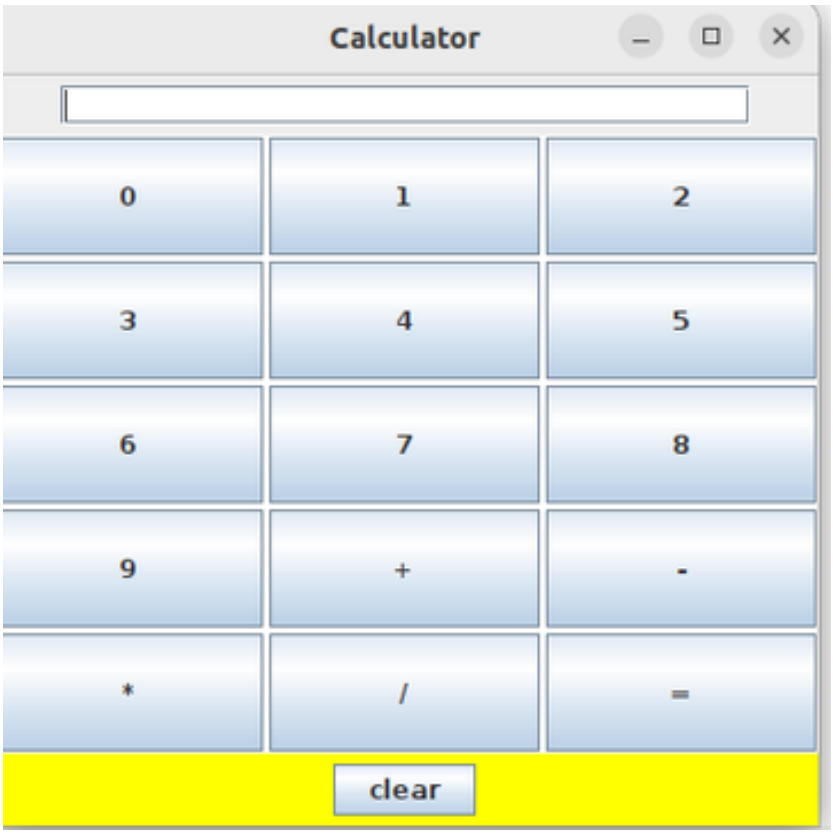
```
char Operation;
JPanel nPanel, CPanel, SPanel;

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:

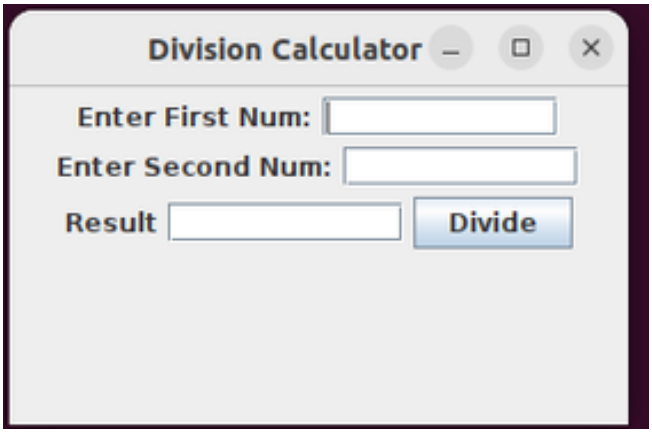



2)Division calculator:

```
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:
```



3)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: