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CLASS & ROLL NO.	CSD-C, 22P61A67I6
SUBJECT:	JAVA LAB

CONVERTING APPLET PROGRAMS INTO JFRAME

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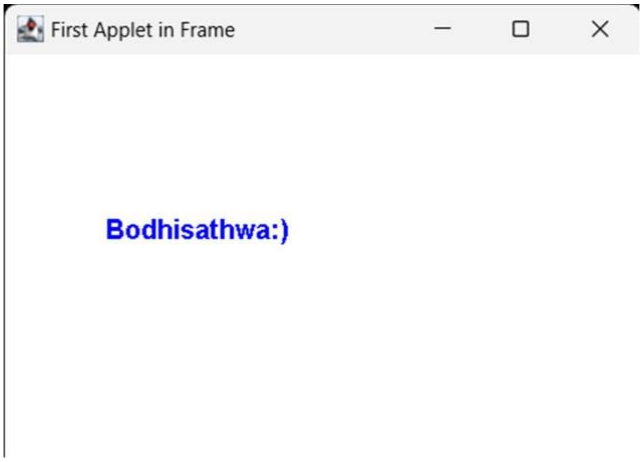
1) Develop an applet in Java that displays a simple message (INTO JFRAME) import java.awt.*; import java.awt.event.*; public class FirstAppletFrame extends Frame { public FirstAppletFrame() { setSize(400, 300); setTitle("First Applet in Frame");
// Create an instance of your applet
FirstApplet firstApplet = 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_CLO
SE);
```

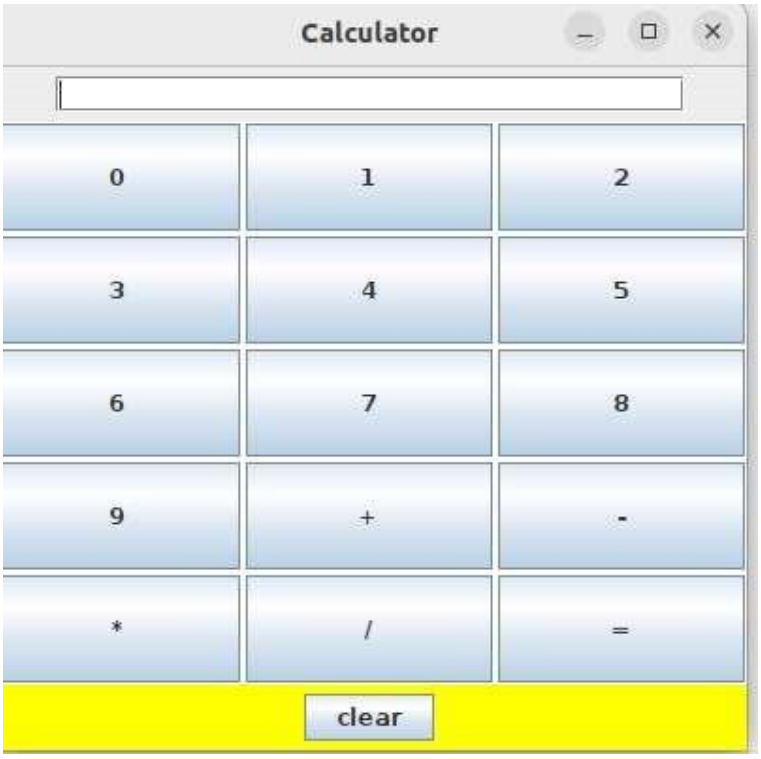
```
        setSize(400, 400);         setTitle("Calculator");
setLocationRelativeTo(null); // Center the frame on the screen
    }

    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);
```

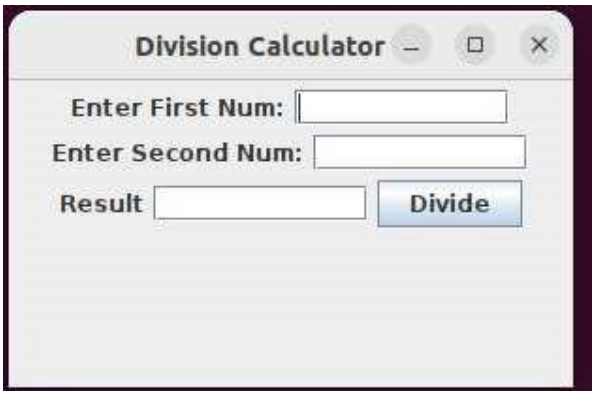
```
        T2 = new JTextField(10);
add(T2);
        L3 = new JLabel("Result");
add(L3);
        Result = new JTextField(10);
add(Result);
        B1 = new JButton("Divide");
add(B1);
        B1.addActionListener(this);

        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;

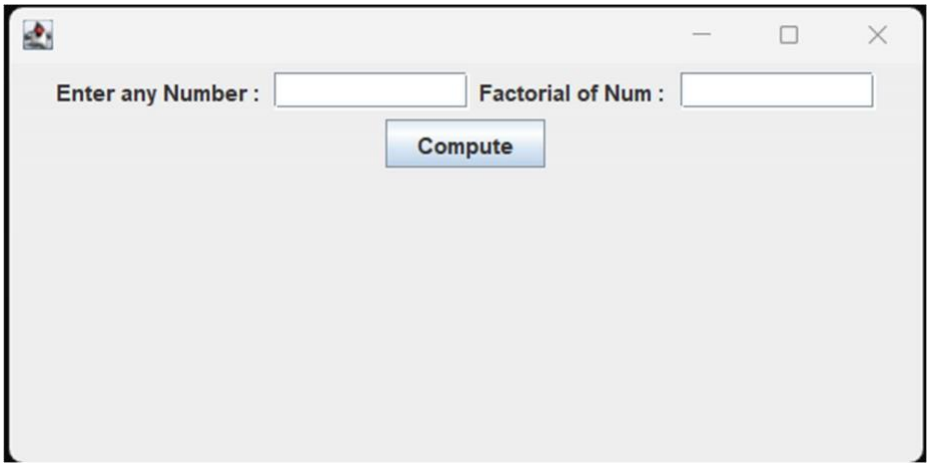
```
    public FactorialFrame() {
setLayout(new FlowLayout());        L1 =
new JLabel("Enter any Number : ");
add(L1);
        T1 = new JTextField(10);
        add(T1);
```

```
        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:


Enter any Number :
Factorial of Num :
Compute