ASSIGNMENT

Java & PHP Lab

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Java GUI

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Contents

Factorial Calculator

A GUI program to calculate factorial

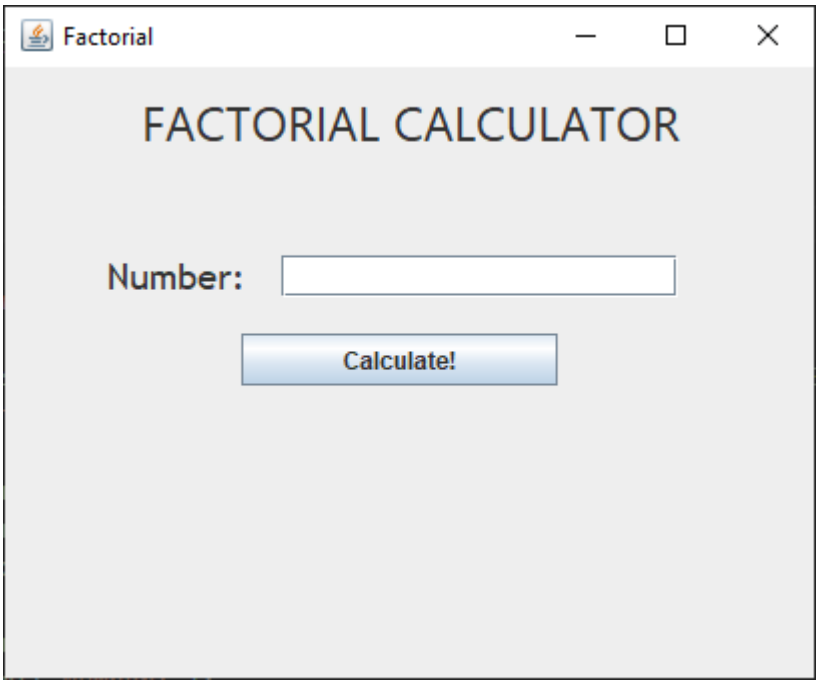
Source Code

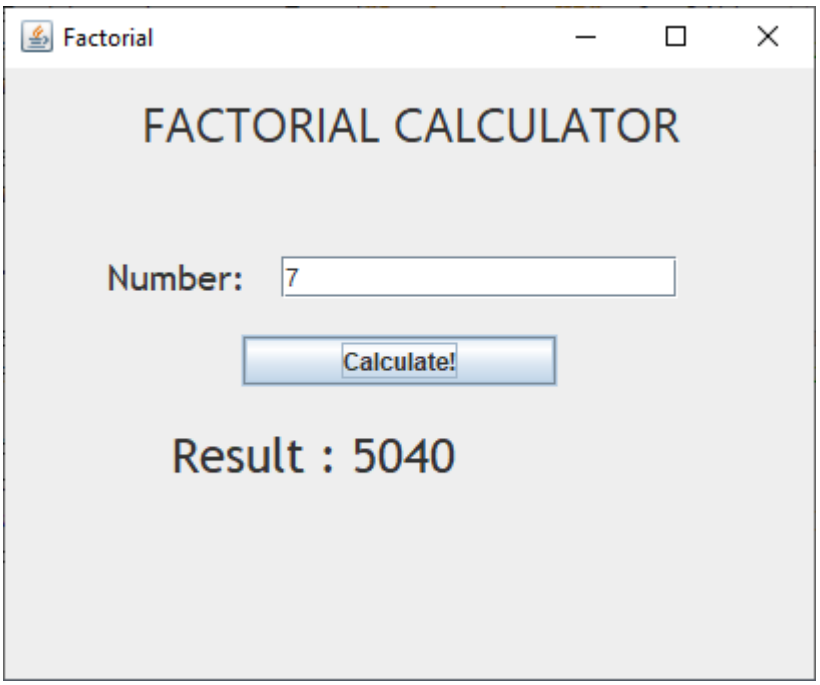
```
import javax.swing.*;

import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
public class q1 extends JFrame{

        private void initComponents() {

        jPanel1 = new javax.swing.JPanel();
        jLabel1 = new javax.swing.JLabel();
        jLabel2 = new javax.swing.JLabel();
        jTextField1 = new javax.swing.JTextField();
        jLabel3 = new javax.swing.JLabel();
        jButton1 = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
        setTitle("Factorial");

        jLabel1.setFont(new java.awt.Font("Leelawadee UI", 0, 24));
        jLabel1.setHorizontalAlignment(javax.swing.SwingConstants.CENTER);
        jLabel1.setText("FACTORIAL CALCULATOR");

        jLabel2.setFont(new java.awt.Font("Trebuchet MS", 0, 18));
        jLabel2.setText("Number:");

        jTextField1.setText("");

        jLabel3.setFont(new java.awt.Font("Trebuchet MS", 0, 24));

        jButton1.setText("Calculate!");
        jButton1.addActionListener( new handler() );

        javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(
            jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jLabel1, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_S
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addGap(39, 39, 39)
                        .addComponent(jLabel2)
                        .addGap(18, 18, 18)
```

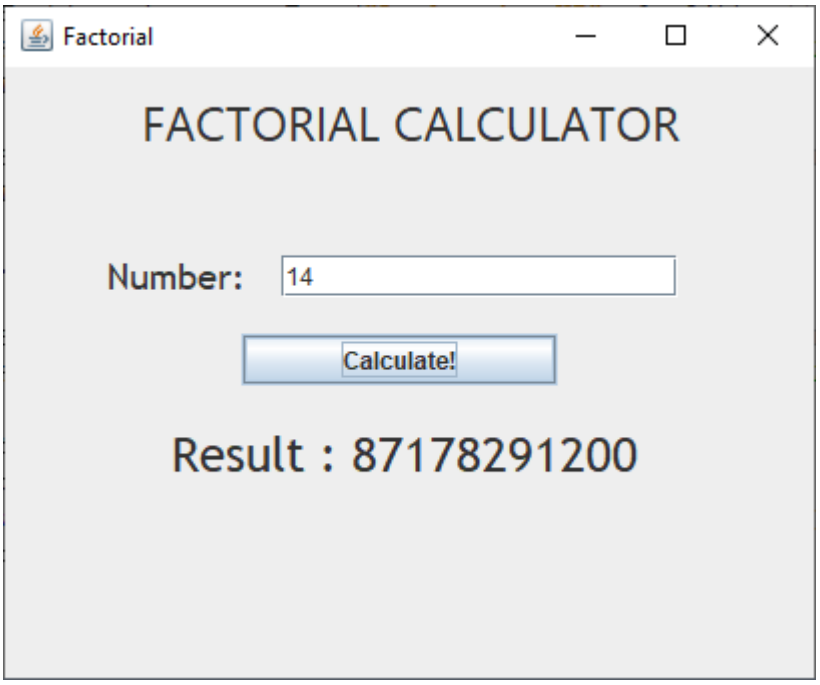
```
                    .addComponent(jTextField1, javax.swing.GroupLayout.PREFERRED_SIZE, 198, javax.swing
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addGap(106, 106, 106)
                    .addComponent(jButton1, javax.swing.GroupLayout.PREFERRED_SIZE, 158, javax.swing.G
            .addContainerGap(56, Short.MAX_VALUE))
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel1Layout.createSequentialGroup()
            .addGap(0, 0, Short.MAX_VALUE)
            .addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED_SIZE, 309, javax.swing.GroupLayou
    );
    jPanel1Layout.setVerticalGroup(
        jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 31, javax.swing.GroupLayout
            .addGap(51, 51, 51)
            .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(jLabel2)
                .addComponent(jTextField1, javax.swing.GroupLayout.PREFERRED_SIZE, 21, javax.swing.Gro
            .addGap(18, 18, 18)
            .addComponent(jButton1)
            .addGap(18, 18, 18)
            .addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED_SIZE, 33, javax.swing.GroupLayout
            .addGap(0, 83, Short.MAX_VALUE))
    );

    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);
    layout.setHorizontalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addContainerGap()
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAU
            .addContainerGap())
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup()
            .addContainerGap()
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAU
            .addContainerGap())
    );

    pack();
}
    private javax.swing.JButton jButton1;
private javax.swing.JLabel jLabel1;
private javax.swing.JLabel jLabel2;
private javax.swing.JLabel jLabel3;
private javax.swing.JPanel jPanel1;
private javax.swing.JTextField jTextField1;


class handler implements ActionListener{
    @Override
    public void actionPerformed(ActionEvent e) {
        int a = Integer.parseInt(jTextField1.getText());
        if(a<0) {
```

```
                jLabel3.setText("Error: Enter positive number.");
                return;
            }
            long fact = 1;
            for(int i=2;i<=a;i++)
                fact*=i;
            jLabel3.setText("Result : "+fact);
        }
    }

    public static void main(String[] args) {
        q1 e = new q1();
        e.setVisible(true);
        e.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        e.initComponents();
    }
}
```

Output




Factorial
FACTORIAL CALCULATOR
Number:
7
Calculate!
Result : 5040


Factorial
FACTORIAL CALCULATOR
Number:
14
Calculate!
Result : 87178291200