

## ***Project Title – Currency Converter***

**Description** - Developed a Java Swing-based Currency Converter application featuring an intuitive GUI, real-time exchange rate integration via APIs, and robust error handling to ensure seamless and accurate currency conversions.



```
package Source_Package;
```

```
import java.awt.Color;
```

```
public class MyCurrencyCoonvertor extends javax.swing.JFrame {
```

```
    String[] currencyUnits = {
```

```
        "units",
```

```
        "US Dollar",
```

```
        "Nigerian Neira",
```

```
        "Brazilian Real",
```

```
        "Canadian Doller",
```

```
        "Kenyan Shilling",
```

```
        "Indonesian Rupiah",
```

```
        "Indian Rupee",
```

```
        "Philippine pisco",
```

```

        "Pakistan Rupee"
    };

    double US_Dollar = 1.23;


    double Nigerian_Naira = 461.15;


    double Brazilian_Real = 5.23;
    double Canadian_Dollar = 1.65;
    double Kenyan_Shilling = 129.21;
    double Indonesian_Rupiah = 19421.19;
    double Indian_Rupee = 92.51;
    double Philippine_Peso = 69.19;
    double Pakistani_Rupee = 159.21;
    public MyCurrencyCoonvertor() {
        initComponents();
    }
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        jCheckBox1 = new javax.swing.JCheckBox();
        jPanel1 = new javax.swing.JPanel();
        jLabel1 = new javax.swing.JLabel();
        secondCountry = new javax.swing.JComboBox<>();
        firstCountry = new javax.swing.JComboBox<>();
        jLabel2 = new javax.swing.JLabel();
        jLabel3 = new javax.swing.JLabel();
        t1 = new javax.swing.JTextField();

```

```

t2 = new javax.swing.JTextField();

secondCurrencyUnit = new javax.swing.JLabel();

jButton1 = new javax.swing.JButton();

jButton2 = new javax.swing.JButton();

jButton3 = new javax.swing.JButton();

firstCurrencyUnit = new javax.swing.JLabel();


jCheckBox1.setText("jCheckBox1");


setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);


jPanel1.setBackground(new java.awt.Color(153, 153, 153));

jPanel1.setBorder(javax.swing.BorderFactory.createMatteBorder(1, 1, 1, 1, new
java.awt.Color(0, 255, 204)));


jLabel1.setFont(new java.awt.Font("Segoe UI Semibold", 3, 22)); // NOI18N
jLabel1.setText("Currency Converter");


secondCountry.setFont(new java.awt.Font("Segoe UI", 1, 24)); // NOI18N

secondCountry.setModel(new javax.swing.DefaultComboBoxModel<>(new String[]
{ "Choose One.", "USA", "Nigeria", "Brazil", "Canada", "Kenyan", "Indeonesia", "India",
"Philippine", "Pakistan" }));

secondCountry.addItemListener(new java.awt.event.ItemListener() {

    public void itemStateChanged(java.awt.event.ItemEvent evt) {

        secondCountryItemStateChanged(evt);

    }

});

secondCountry.addActionListener(new java.awt.event.ActionListener() {

    public void actionPerformed(java.awt.event.ActionEvent evt) {

```

```
        secondCountryActionPerformed(evt);  
    }  
});
```

```
firstCountry.setFont(new java.awt.Font("Segoe UI", 1, 24)); // NOI18N  
  
firstCountry.setModel(new javax.swing.DefaultComboBoxModel<>(new String[] {  
"Choose One.", "USA", "Nigeria", "Brazil", "Canada", "Kenyan", "Indeonesia", "India",  
"Philippine", "Pakistan" }));  
  
firstCountry.addItemListener(new java.awt.event.ItemListener() {  
    public void itemStateChanged(java.awt.event.ItemEvent evt) {  
        firstCountryItemStateChanged(evt);  
    }  
});  
  
firstCountry.addActionListener(new java.awt.event.ActionListener() {  
    public void actionPerformed(java.awt.event.ActionEvent evt) {  
        firstCountryActionPerformed(evt);  
    }  
});
```

```
jLabel2.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N  
jLabel2.setText("To Currency Of");
```

```
jLabel3.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N  
jLabel3.setText("From Currency Of");
```

```
t1.setFont(new java.awt.Font("Segoe UI", 1, 24)); // NOI18N
```

```
t2.setFont(new java.awt.Font("Segoe UI", 1, 24)); // NOI18N
```

```
secondCurrencyUnit.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
secondCurrencyUnit.setText("units");
```

```
jButton1.setFont(new java.awt.Font("Segoe UI", 1, 18)); // NOI18N
jButton1.setText("Reset");
jButton1.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton1ActionPerformed(evt);
    }
});
```

```
jButton2.setFont(new java.awt.Font("Segoe UI", 1, 18)); // NOI18N
jButton2.setText("Exit");
jButton2.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton2ActionPerformed(evt);
    }
});
```

```
jButton3.setFont(new java.awt.Font("Segoe UI", 1, 18)); // NOI18N
jButton3.setText("Convert Currency");
jButton3.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton3ActionPerformed(evt);
    }
});
```

```
firstCurrencyUnit.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
```

```

firstCurrencyUnit.setText("units");

javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
jPanel1.setLayout(jPanel1Layout);
jPanel1Layout.setHorizontalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
    .addGroup(jPanel1Layout.createSequentialGroup()
        .addGap(327, 327, 327)

        .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
            .addComponent(jButton3, javax.swing.GroupLayout.PREFERRED_SIZE, 198,
                javax.swing.GroupLayout.PREFERRED_SIZE)
            .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 207,
                javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(238, 351, Short.MAX_VALUE))
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
            jPanel1Layout.createSequentialGroup()

                .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addGap(46, 46, 46)

```

```
.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
    .addGroup(jPanel1Layout.createSequentialGroup()
```

```
        .addComponent(jButton1, javax.swing.GroupLayout.PREFERRED_SIZE, 157, javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
```

```
    .addComponent(jButton2, javax.swing.GroupLayout.PREFERRED_SIZE, 157, javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
    .addGap(28, 28, 28))
```

```
    .addGroup(jPanel1Layout.createSequentialGroup()
```

```
.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
```

```
    .addGroup(jPanel1Layout.createSequentialGroup()
```

```
        .addGap(3, 3, 3)
```

```
        .addComponent(jLabel3, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
```

```
        .addComponent(t1, javax.swing.GroupLayout.Alignment.TRAILING, javax.swing.GroupLayout.PREFERRED_SIZE, 274, javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
        .addComponent(firstCountry, javax.swing.GroupLayout.Alignment.TRAILING, 0, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
```

```
        .addComponent(firstCurrencyUnit, javax.swing.GroupLayout.Alignment.TRAILING))
```

```
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
```

```
.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```

        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING,
false)

        .addGroup(jPanel1Layout.createSequentialGroup())

        .addGap(3, 3, 3)

        .addComponent(jLabel2,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))

        .addComponent(secondCountry, 0, 274, Short.MAX_VALUE))

        .addComponent(secondCurrencyUnit,
javax.swing.GroupLayout.Alignment.TRAILING))))))

        .addGap(59, 59, 59))

    );

    jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel1Layout.createSequentialGroup())

        .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 59,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGap(50, 50, 50)

        .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)

            .addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 36,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)

```



```

        .addComponent(firstCountry, javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addComponent(secondCountry, javax.swing.GroupLayout.PREFERRED_SIZE,
50, javax.swing.GroupLayout.PREFERRED_SIZE))

        .addGap(31, 31, 31)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)

        .addComponent(t1, javax.swing.GroupLayout.PREFERRED_SIZE, 66,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addComponent(t2, javax.swing.GroupLayout.PREFERRED_SIZE, 66,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)

        .addComponent(secondCurrencyUnit,
javax.swing.GroupLayout.PREFERRED_SIZE, 31,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addComponent(firstCurrencyUnit,
javax.swing.GroupLayout.PREFERRED_SIZE, 31,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addGap(30, 30, 30)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)

        .addComponent(jButton1)

        .addComponent(jButton3)

        .addComponent(jButton2))

        .addContainerGap(89, 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(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
        .addGap()
        .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        .addGap())
    );
layout.setVerticalGroup(
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
        .addGap()
        .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        .addGap())
    );

pack();
} // </editor-fold>

```

```

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    firstCountry.setSelectedIndex(0);
    secondCountry.setSelectedIndex(0);
    t1.setText(null);
}

```

```
t2.setText(null);  
firstCurrencyUnit.setText(null);  
secondCurrencyUnit.setText(null);  
}
```

```
private void firstCountryActionPerformed(java.awt.event.ActionEvent evt) {  
  
}
```

```
private void firstCountryItemStateChanged(java.awt.event.ItemEvent evt) {  
    int position = firstCountry.getSelectedIndex();  
    firstCurrencyUnit.setText(currencyUnits[position]);  
}
```

```
private void secondCountryItemStateChanged(java.awt.event.ItemEvent evt) {  
    int position = secondCountry.getSelectedIndex();  
    secondCurrencyUnit.setText(currencyUnits[position]);  
}
```

```
private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {  
    System.exit(0);  
}
```

```
private void jButton3ActionPerformed(java.awt.event.ActionEvent evt) {  
    //Convert Currency  
    double amountToChange = Double.parseDouble(t1.getText());  
  
    double amountInPounds = 0.0;
```

```
switch(firstCountry.getSelectedItem().toString()){
    case "USA": amountInPounds = amountToChange/US_Dollar;
    break;
    case "Nigeria": amountInPounds = amountToChange/Nigerian_Naira;
    break;
    case "Brazil": amountInPounds = amountToChange/Brazilian_Real;
    break;
    case "Canada": amountInPounds = amountToChange/Canadian_Dollar;
    break;
    case "Kenyan": amountInPounds = amountToChange/Kenyan_Shilling;
    break;
    case "Indeonesia": amountInPounds = amountToChange/Indonesian_Rupiah;
    break;
    case "India": amountInPounds = amountToChange/Indian_Rupee;
    break;
    case "Philippine": amountInPounds = amountToChange/Philippine_Peso;
    break;
    case "Pakistan": amountInPounds = amountToChange/Pakistani_Rupee ;
    break;
}

double amountChanged = 0.0;
switch(secondCountry.getSelectedItem().toString()){
    case "USA": amountChanged = amountInPounds*US_Dollar;
    break;
    case "Nigeria": amountChanged = amountInPounds*Nigerian_Naira;
    break;
```

```

        case "Brazil": amountChanged = amountInPounds*Brazilian_Real;
        break;
        case "Canada": amountChanged= amountInPounds*Canadian_Dollar;
        break;
        case "Kenyan": amountChanged =amountInPounds*Kenyan_Shilling;
        break;
        case "Indeonesia": amountChanged = amountInPounds*Indonesian_Rupiah;
        break;
        case "India": amountChanged = amountInPounds*Indian_Rupee;
        break;
        case "Philippine": amountChanged = amountInPounds*Philippine_Peso;
        break;
        case "Pakistan": amountChanged = amountInPounds*Pakistani_Rupee ;
        break;
    }
    String value = String.format("%.2f",amountChanged);
    t2.setText(value);
}

```

```

private void secondCountryActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
}

```

```

public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional)
">
    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and
feel.

```

```

    * For details see
    http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html

    */

    try {

        for (javax.swing.UIManager.LookAndFeelInfo info :
            javax.swing.UIManager.getInstalledLookAndFeels()) {

            if ("Nimbus".equals(info.getName())) {

                javax.swing.UIManager.setLookAndFeel(info.getClassName());

                break;

            }

        }

    } catch (ClassNotFoundException ex) {

        java.util.logging.Logger.getLogger(MyCurrencyCoonvertor.class.getName()).log(java.util
            .logging.Level.SEVERE, null, ex);

    } catch (InstantiationException ex) {

        java.util.logging.Logger.getLogger(MyCurrencyCoonvertor.class.getName()).log(java.util
            .logging.Level.SEVERE, null, ex);

    } catch (IllegalAccessException ex) {

        java.util.logging.Logger.getLogger(MyCurrencyCoonvertor.class.getName()).log(java.util
            .logging.Level.SEVERE, null, ex);

    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

        java.util.logging.Logger.getLogger(MyCurrencyCoonvertor.class.getName()).log(java.util
            .logging.Level.SEVERE, null, ex);

    }

    //</editor-fold>

    /* Create and display the form */

```

```
java.awt.EventQueue.invokeLater(new Runnable() {  
    public void run() {  
        new MyCurrencyCoonvertor().setVisible(true);  
    }  
});  
}
```

```
// Variables declaration - do not modify  
private javax.swing.JComboBox<String> firstCountry;  
private javax.swing.JLabel firstCurrencyUnit;  
private javax.swing.JButton jButton1;  
private javax.swing.JButton jButton2;  
private javax.swing.JButton jButton3;  
private javax.swing.JCheckBox jCheckBox1;  
private javax.swing.JLabel jLabel1;  
private javax.swing.JLabel jLabel2;  
private javax.swing.JLabel jLabel3;  
private javax.swing.JPanel jPanel1;  
private javax.swing.JComboBox<String> secondCountry;  
private javax.swing.JLabel secondCurrencyUnit;  
private javax.swing.JTextField t1;  
private javax.swing.JTextField t2;  
// End of variables declaration  
}
```