

## Q1. Implement Currency Converter for atleast Five Currency's Using Two Spinner.

### MainActivity.java

```
package com.example.currencyconveter_assignment3;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.text.Editable;
import android.text.TextWatcher;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.EditText;
import android.widget.Spinner;

public class MainActivity extends AppCompatActivity {

    Spinner sp1, sp2;
    EditText inputAmount, outputAmount;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        sp1 = findViewById(R.id.Sp1);
        sp2 = findViewById(R.id.Sp2);
        inputAmount = findViewById(R.id.inputAmount);
        outputAmount = findViewById(R.id.outputAmount);

        ArrayAdapter<CharSequence> ad = ArrayAdapter.createFromResource(this,
            R.array.countries, android.R.layout.simple_spinner_item);
        ad.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
        sp1.setAdapter(ad);

        ArrayAdapter<CharSequence> ad1 = ArrayAdapter.createFromResource(this,
            R.array.countries, android.R.layout.simple_spinner_item);
        ad1.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
        sp2.setAdapter(ad1);

        // Set default amount and perform initial conversion
        inputAmount.setText("1");
        convertCurrency();

        sp1.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> parent, View view, int position, long id)
```

```

{
    convertCurrency();
}

@Override
public void onNothingSelected(AdapterView<?> parent) {}
});

sp2.setOnItemClickListener(new AdapterView.OnItemClickListener() {
    @Override
    public void onItemClick(AdapterView<?> parent, View view, int position, long id)
{
    convertCurrency();
}

@Override
public void onNothingSelected(AdapterView<?> parent) {}
});

inputAmount.addTextChangedListener(new TextWatcher() {
    @Override
    public void beforeTextChanged(CharSequence s, int start, int count, int after) {}

    @Override
    public void onTextChanged(CharSequence s, int start, int before, int count) {
        convertCurrency();
    }

    @Override
    public void afterTextChanged(Editable s) {}
});
}

private void convertCurrency() {
    String fromCurrency = sp1.getSelectedItem().toString();
    String toCurrency = sp2.getSelectedItem().toString();
    String inputText = inputAmount.getText().toString();

    if (inputText.isEmpty()) {
        outputAmount.setText("");
        return;
    }

    double amount = Double.parseDouble(inputText);

    // Example conversion rates (You should replace these with actual rates or API calls)
    double conversionRate = getConversionRate(fromCurrency, toCurrency);

```

```

double convertedAmount = amount * conversionRate;
outputAmount.setText(String.format("%.2f", convertedAmount));
}

// Method to get conversion rate based on selected currencies
private double getConversionRate(String fromCurrency, String toCurrency) {
    double rate = 1.0; // Default rate is 1.0 for same currency

    // Define conversion rates
    if (fromCurrency.equals("INR") && toCurrency.equals("GBP")) {
        rate = 0.010;
    } else if (fromCurrency.equals("GBP") && toCurrency.equals("INR")) {
        rate = 100.0;
    } else if (fromCurrency.equals("INR") && toCurrency.equals("PKR")) {
        rate = 2.88;
    } else if (fromCurrency.equals("PKR") && toCurrency.equals("INR")) {
        rate = 1 / 2.88;
    } else if (fromCurrency.equals("INR") && toCurrency.equals("CDF")) {
        rate = 25.2;
    } else if (fromCurrency.equals("CDF") && toCurrency.equals("INR")) {
        rate = 1 / 25.2;
    }
    else if (fromCurrency.equals("USD") && toCurrency.equals("INR")) {
        rate = 83;
    }
    else if (fromCurrency.equals("INR") && toCurrency.equals("USD")) {
        rate = 0.012;
    }
    // Add more rates as needed

    return rate;
}
}

```

## **activity main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/Main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <Spinner
        android:id="@+id/Sp1"
        android:layout_width="346dp"
        android:layout_height="34dp"
        android:layout_below="@id/fromLbl"
        android:layout_alignParentStart="true"
        android:layout_alignParentEnd="true"
        android:layout_marginStart="37dp"
        android:layout_marginTop="-14dp"
        android:layout_marginEnd="28dp"
        tools:layout_editor_absoluteX="33dp"
        tools:layout_editor_absoluteY="166dp" />

    <Spinner
        android:id="@+id/Sp2"
        android:layout_width="346dp"
        android:layout_height="34dp"
        android:layout_below="@id/toLbl"
        android:layout_alignParentStart="true"
        android:layout_alignParentEnd="true"
        android:layout_marginStart="30dp"
        android:layout_marginTop="25dp"
        android:layout_marginEnd="34dp" />

    <TextView
        android:id="@+id/Lable1"
        android:layout_width="206dp"
        android:layout_height="34dp"
        android:layout_alignParentStart="true"
        android:layout_alignParentTop="true"
        android:layout_alignParentEnd="true"
        android:layout_marginStart="103dp"
        android:layout_marginTop="46dp"
        android:layout_marginEnd="102dp"
        android:text="Currency Conveter"
        android:textSize="24sp" />

    <TextView
```

```
android:id="@+id/fromLbl"  
android:layout_width="57dp"  
android:layout_height="30dp"  
android:layout_below="@id/Lable1"  
android:layout_alignParentStart="true"  
android:layout_alignParentEnd="true"  
android:layout_marginStart="18dp"  
android:layout_marginTop="33dp"  
android:layout_marginEnd="334dp"  
android:hint="From"  
android:textSize="16sp" />
```

<TextView

```
android:id="@+id/toLbl"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:layout_below="@id/Sp1"  
android:layout_alignParentStart="true"  
android:layout_alignParentEnd="true"  
android:layout_marginStart="28dp"  
android:layout_marginTop="56dp"  
android:layout_marginEnd="354dp"  
android:hint="To"  
android:textSize="16sp" />
```

<EditText

```
android:id="@+id/inputAmount"  
android:layout_width="346dp"  
android:layout_height="wrap_content"  
android:layout_below="@id/fromLbl"  
android:layout_alignParentStart="true"  
android:layout_marginStart="34dp"  
android:layout_marginTop="32dp"  
android:layout_marginEnd="28dp"  
android:hint="1"  
android:inputType="numberDecimal" />
```

<EditText

```
android:id="@+id/outputAmount"  
android:layout_width="346dp"  
android:layout_height="wrap_content"  
android:layout_below="@id/Sp2"  
android:layout_alignParentStart="true"  
android:layout_marginStart="42dp"  
android:layout_marginTop="28dp"  
android:layout_marginEnd="28dp"  
android:focusable="false"  
android:hint="Converted amount"
```

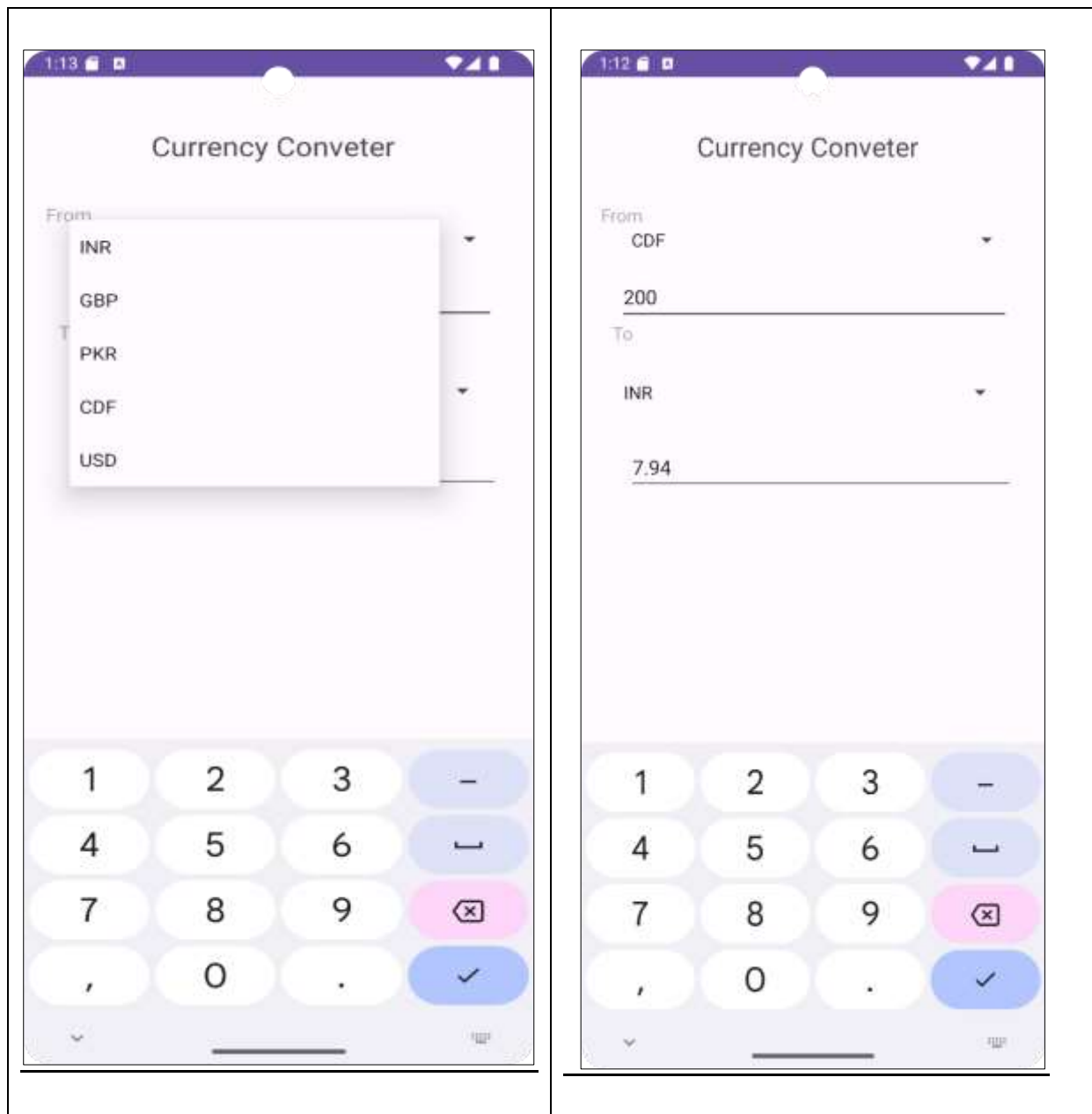
```
        android:inputType="none" />

<TextView
    android:id="@+id/ans"
    android:layout_width="271dp"
    android:layout_height="69dp"
    android:layout_below="@id/Sp2"
    android:layout_alignParentStart="true"
    android:layout_alignParentEnd="true"
    android:layout_marginStart="71dp"
    android:layout_marginTop="93dp"
    android:layout_marginEnd="69dp" />
</RelativeLayout>
```

### **Strings.xml**

```
<resources>
    <string name="app_name">CurrencyConveter_assignment3</string>
    <string-array name="countries">
        <item>INR</item>
        <item>GBP</item>
        <item>PKR</item>
        <item>CDF</item>
        <item>USD</item>
    </string-array>
</resources>
```

## Output:



1:12

Currency Conveter

From

GBP

20

To

INR

2000.00

1234567890.+-\*/

1:11

Currency Conveter

From

INR

20

To

PKR

57.60

1234567890.+-\*/



1:11

Currency Conveter

From

INR

▼

150

To

USD

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1.80

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