BASIC CALCULATOR

XML:

```xml
<?xml version="1.0" encoding="utf-8"?>

<androidx.constraintlayout.widget.ConstraintLayout 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:layout_width="match_parent"

android:layout_height="match_parent"

tools:context=".MainActivity">

<TextView

android:id="@+id/textView4"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_marginStart="43dp"

android:layout_marginTop="75dp"

android:layout_marginEnd="310dp"

android:layout_marginBottom="637dp"

android:text="1st number"

app:layout_constraintBottom_toBottomOf="parent"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toTopOf="parent" />


<TextView

android:id="@+id/textView5"

android:layout_width="wrap_content"

android:layout_height="wrap_content"
```

```xml
android:layout_marginStart="41dp"

android:layout_marginTop="77dp"

android:layout_marginEnd="312dp"

android:layout_marginBottom="400dp"

android:text="2nd number"

app:layout_constraintBottom_toBottomOf="parent"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintHorizontal_bias="0.47"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toBottomOf="@+id/textView4"

app:layout_constraintVertical_bias="0.382" />


<EditText

android:id="@+id/input"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_marginStart="45dp"

android:layout_marginTop="54dp"

android:layout_marginEnd="55dp"

android:layout_marginBottom="632dp"

android:ems="10"

android:inputType="textPersonName"

app:layout_constraintBottom_toBottomOf="parent"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintStart_toEndOf="@+id/textView4"

app:layout_constraintTop_toTopOf="parent" />

<EditText

android:id="@+id/input2"

android:layout_width="wrap_content"
```

```xml
        android:layout_height="wrap_content"

        android:layout_marginEnd="48dp"

        android:ems="10"

        android:inputType="textPersonName"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.262" />

    <Button

        android:id="@+id/add"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="+"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintHorizontal_bias="0.405"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent" />

    <Button

        android:id="@+id/sub"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="-"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintHorizontal_bias="0.043"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent" />

    <Button
```

```
android:id="@+id/mul"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:text="*"

app:layout_constraintBottom_toBottomOf="parent"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintHorizontal_bias="0.049"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toTopOf="parent"

app:layout_constraintVertical_bias="0.655" />

<Button

android:id="@+id/div"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:text="/"

app:layout_constraintBottom_toBottomOf="parent"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintHorizontal_bias="0.405"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toTopOf="parent"

app:layout_constraintVertical_bias="0.655" />

<TextView

android:id="@+id/textView"

android:layout_width="60dp"

android:layout_height="42dp"

android:text="result"

app:layout_constraintBottom_toBottomOf="parent"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintHorizontal_bias="0.076"
```

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toTopOf="parent"

app:layout_constraintVertical_bias="0.783" />

<EditText

android:id="@+id/result"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:ems="10"

android:inputType="textPersonName"

app:layout_constraintBottom_toBottomOf="parent"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintHorizontal_bias="0.651"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toTopOf="parent"

app:layout_constraintVertical_bias="0.756" />

</androidx.constraintlayout.widget.ConstraintLayout>

JAVA:

package com.example.cse4002;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

public class MainActivity extends AppCompatActivity {

```java
@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);


Button b1=findViewById(R.id.add);

Button b2=findViewById(R.id.sub);

Button b3=findViewById(R.id.mul);

Button b4=findViewById(R.id.div);

final EditText t1=findViewById(R.id.input);

final EditText t2=findViewById(R.id.input2);

final EditText t3=findViewById(R.id.result);


b1.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

int x=Integer.parseInt(t1.getText().toString());

int y=Integer.parseInt(t2.getText().toString());

int z=x+y;

t3.setText(String.valueOf(z));

}

});

b2.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

int x=Integer.parseInt(t1.getText().toString());

int y=Integer.parseInt(t2.getText().toString());

int z=x-y;

t3.setText(String.valueOf(z));
```

```
}

});

b3.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

int x=Integer.parseInt(t1.getText().toString());

int y=Integer.parseInt(t2.getText().toString());

int z=x*y;

t3.setText(String.valueOf(z));

}

});

b4.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

int x=Integer.parseInt(t1.getText().toString());

int y=Integer.parseInt(t2.getText().toString());

int z=x/y;

t3.setText(String.valueOf(z));

}

});

}

}
```
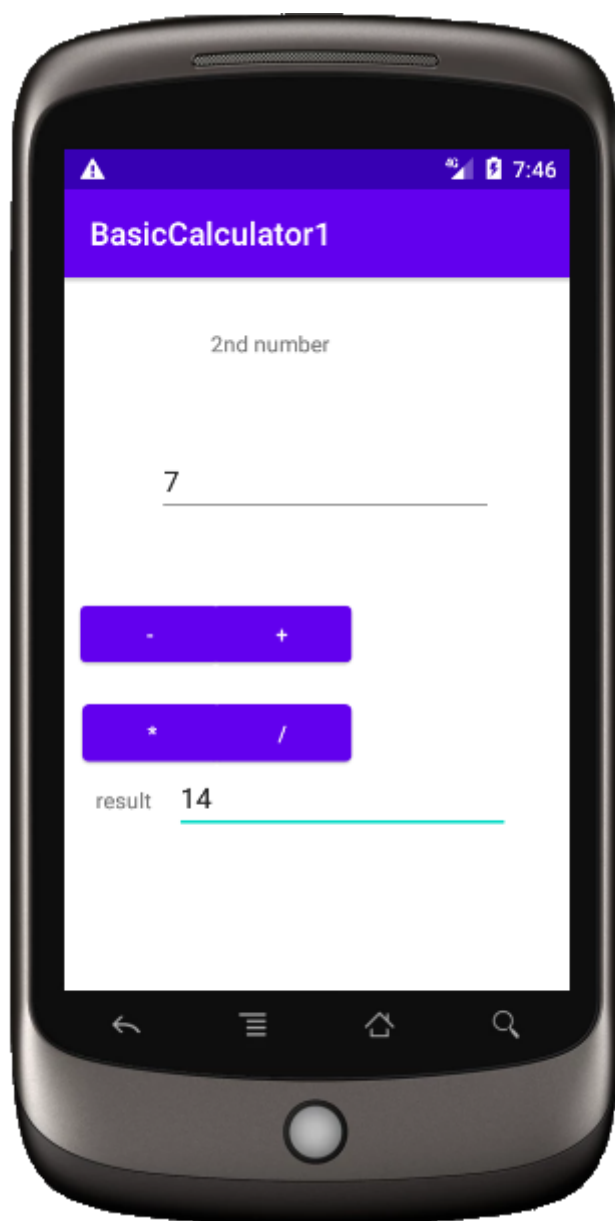
OUTPUT:

CURRENCY CONVERTER APPLICATION

An Android application to convert the currency value from US Dollar (USD) to either Indian Rupees (INR) or Sri Lankan Rupees (LKR)

MainActivity.java

```
package com.example.currencyconvert;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Spinner;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
        Spinner sp1, sp2;
        EditText ed1;
        Button b1;

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

        ed1 = findViewById(R.id.txtamount);
        sp1 = findViewById(R.id.spfrom);
        sp2 = findViewById(R.id.spto);
        b1 = findViewById(R.id.btn1);

        String[] from = {"USD"};
        ArrayAdapter ad = new ArrayAdapter<String>(this, R.layout.support_simple_spinner_dropdown_item,
from);
        sp1.setAdapter(ad);

        String[] to = {"Indian Rupees", "Sri Lankan Rupees"};
        ArrayAdapter ad1 = new ArrayAdapter<String>(this, R.layout.support_simple_spinner_dropdown_item,
to);
        sp2.setAdapter(ad1);

        b1.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
        Double tot;
        Double amount = Double.parseDouble(ed1.getText().toString());
        if(sp1.getSelectedItem().toString() == "USD"&& sp1.getSelectedItem().toString() =="Indian Rupees")
        {
        tot = amount * 70.0;
        Toast.makeText(getApplicationContext(), tot.toString(), Toast.LENGTH_LONG).show();
        }
```

```
else if(sp1.getSelectedItem().toString() == "USD"&& sp1.getSelectedItem().toString() =="Sri Lankan
Rupees")
        {
        tot = amount * 180.0;
        Toast.makeText(getApplicationContext(), tot.toString(), Toast.LENGTH_LONG).show();
        }
        }
        });
        }
}
```

activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:layout_width="match_parent"
        android:layout_height="match_parent"
        android:gravity="center"
        android:orientation="vertical"

        tools:context=".MainActivity">


<LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        >
        <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="30sp"
        android:text="Currency Converter"/>

</LinearLayout>


        <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        >
        <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Enter the Amount"/>
        <EditText
                android:layout_width="wrap_content"
```

```xml
        android:layout_height="wrap_content"
        android:ems="10"
        android:id="@+id/txtamount"/>

    </LinearLayout>

    <LinearLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    >
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="From"/>
    <Spinner
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:id="@+id/spfrom"/>
    </LinearLayout>

    <LinearLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    >
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="To"/>
    <Spinner
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:id="@+id/spto"/>
    </LinearLayout>

    <LinearLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="horizontal">
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Convert"
        android:id="@+id/btn1"
        />
    </LinearLayout>
</LinearLayout>
```