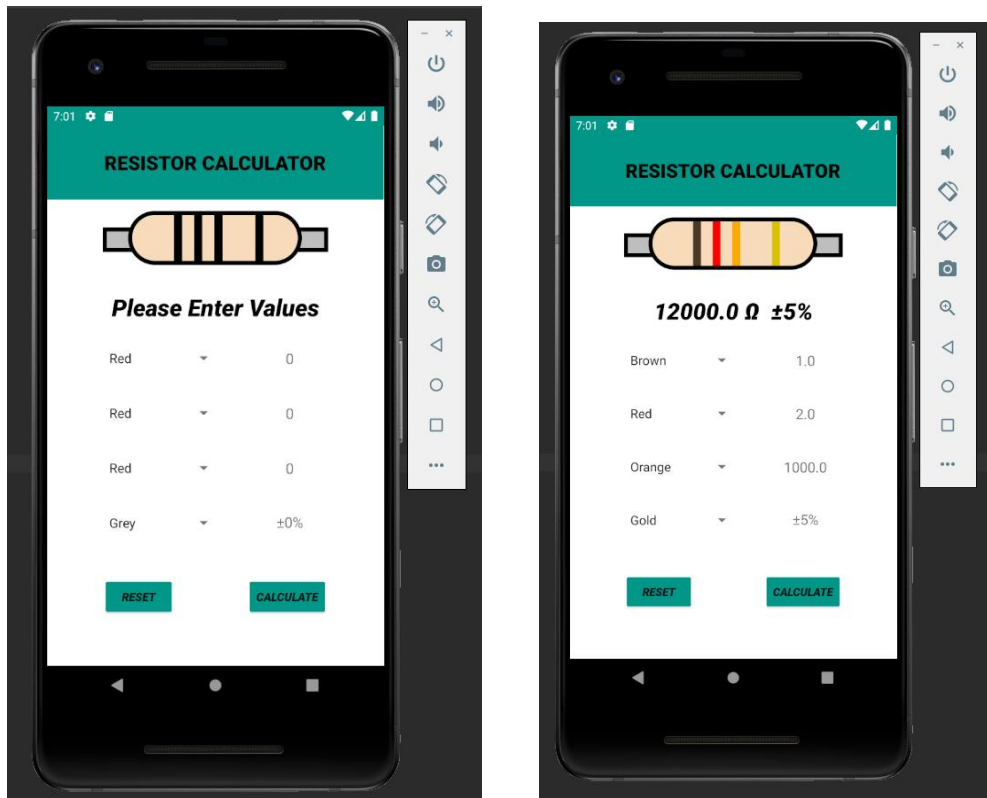# App working screenshot

activity_main.xml code

```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"
    android:background="#FFFFFF"
    tools:context=".MainActivity">

    <Spinner
        android:id="@+id/spinner3"
        android:layout_width="147dp"
        android:layout_height="27dp"
        android:layout_marginStart="68dp"
        android:layout_marginTop="40dp"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/spinner2" />

    <Spinner
        android:id="@+id/spinner4"
        android:layout_width="147dp"
        android:layout_height="27dp"
        android:layout_marginStart="68dp"
        android:layout_marginTop="40dp"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/spinner3" />
```

```xml
<Spinner
    android:id="@+id/spinner2"
    android:layout_width="147dp"
    android:layout_height="27dp"
    android:layout_marginStart="68dp"
    android:layout_marginTop="40dp"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/spinner1" />

<Spinner
    android:id="@+id/spinner1"
    android:layout_width="147dp"
    android:layout_height="27dp"
    android:layout_marginStart="68dp"
    android:layout_marginTop="270dp"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<TextView
    android:id="@+id/textView1"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_marginTop="272dp"
    android:layout_marginEnd="40dp"
    android:textAlignment="center"
    android:textAppearance="@style/TextAppearance.AppCompat.Medium"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<TextView
    android:id="@+id/textView4"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_marginTop="42dp"
    android:layout_marginEnd="40dp"
    android:layout_marginBottom="40dp"
    android:textAlignment="center"
    android:textAppearance="@style/TextAppearance.AppCompat.Medium"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView3"
    app:layout_constraintVertical_bias="0.0" />

<TextView
    android:id="@+id/textView2"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_marginTop="43dp"
    android:layout_marginEnd="40dp"
    android:textAlignment="center"
    android:textAppearance="@style/TextAppearance.AppCompat.Medium"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView1" />

<TextView
    android:id="@+id/textView3"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_marginTop="43dp"
```

```xml
        android:layout_marginEnd="40dp"
        android:textAlignment="center"
        android:textAppearance="@style/TextAppearance.AppCompat.Medium"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView2" />

    <Button
        android:id="@+id/buttonReset"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="68dp"
        android:layout_marginBottom="60dp"
        android:backgroundTint="#009688"
        android:fontFamily="sans-serif-black"
        android:onClick="doReset"
        android:text="Reset"
        android:textStyle="bold|italic"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintStart_toStartOf="parent" />

    <Button
        android:id="@+id/buttonCalc"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginEnd="68dp"
        android:layout_marginBottom="60dp"
        android:backgroundTint="#009688"
        android:fontFamily="sans-serif-black"
        android:onClick="doCalc"
        android:text="Calculate"
        android:textStyle="bold|italic"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent" />

    <TextView
        android:id="@+id/tvResistorEnd1"
        android:layout_width="98dp"
        android:layout_height="30dp"
        android:layout_marginStart="68dp"
        android:layout_marginTop="124dp"
        android:background="@drawable/myline"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
        android:id="@+id/tvResistorEnd"
        android:layout_width="98dp"
        android:layout_height="30dp"
        android:layout_marginTop="124dp"
        android:layout_marginEnd="68dp"
        android:background="@drawable/myline"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
        android:id="@+id/tvResistor"
        android:layout_width="212dp"
        android:layout_height="66dp"
        android:layout_marginStart="99dp"
```

```xml
            android:layout_marginTop="104dp"
            android:layout_marginEnd="100dp"
            android:background="@drawable/myshape"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent" />

        <TextView
            android:id="@+id/tvBand1"
            android:layout_width="10dp"
            android:layout_height="56dp"
            android:layout_marginStart="155dp"
            android:layout_marginTop="109dp"
            android:background="@android:color/black"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent" />

        <TextView
            android:id="@+id/tvBand2"
            android:layout_width="10dp"
            android:layout_height="56dp"
            android:layout_marginStart="15dp"
            android:layout_marginTop="109dp"
            android:background="@android:color/black"
            app:layout_constraintStart_toEndOf="@+id/tvBand1"
            app:layout_constraintTop_toTopOf="parent" />

        <TextView
            android:id="@+id/tvMultiBand"
            android:layout_width="10dp"
            android:layout_height="56dp"
            android:layout_marginStart="15dp"
            android:layout_marginTop="109dp"
            android:background="@android:color/black"
            app:layout_constraintStart_toEndOf="@+id/tvBand2"
            app:layout_constraintTop_toTopOf="parent" />

        <TextView
            android:id="@+id/tvtolerBand"
            android:layout_width="10dp"
            android:layout_height="56dp"
            android:layout_marginStart="40dp"
            android:layout_marginTop="109dp"
            android:background="@android:color/black"
            app:layout_constraintStart_toEndOf="@+id/tvMultiBand"
            app:layout_constraintTop_toTopOf="parent" />

        <TextView
            android:id="@+id/tvFinalResult"
            android:layout_width="261dp"
            android:layout_height="wrap_content"
            android:layout_marginStart="68dp"
            android:layout_marginTop="32dp"
            android:layout_marginEnd="68dp"
            android:elegantTextHeight="false"
            android:fontFamily="sans-serif-black"
            android:text="Please Enter Values"
            android:textAlignment="center"
            android:textAppearance="@style/TextAppearance.AppCompat.Medium"
```

```xml
        android:textColor="#000000"
        android:textIsSelectable="false"
        android:textSize="29sp"
        android:textStyle="bold|italic"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/tvResistor" />

    <Button
        android:id="@+id/button"
        android:layout_width="411dp"
        android:layout_height="90dp"
        android:background="#009688"
        android:fontFamily="sans-serif-black"
        android:text="Resistor Calculator"
        android:textColor="#000000"
        android:textIsSelectable="false"
        android:textSize="24sp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java code

```java
package jamie.itsligo.newresistor;

//my imports
import android.app.Activity;
import android.graphics.Color;
import android.graphics.drawable.ColorDrawable;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.Spinner;
import android.widget.TextView;

public class MainActivity extends Activity {

    //declaring and initializing for later
    public Spinner spinner1,spinner2,spinner3,spinner4;
    public TextView tvRate1, tvRate2, tvMultiplier,
tvTolerance,tvBand1,tvBand2,tvMultiband,tvTolerBand,tvResult1,tvResult2,tvResult3,
tvResult4,tvFinalResult;

    // my arrays used throughout project
    String[] bandsArray =
{"Black","Brown","Red","Orange","Yellow","Green","Blue","Violet","Grey","White"};
    String[] multiplierColourArray =
{"Black","Brown","Red","Orange","Yellow","Green","Blue","Violet","Grey","White","G
old","Silver"};
    String[] toleranceColourArray =
{"Brown","Red","Green","Blue","Violet","Grey","Gold","Silver","None"};
    double[] valueArray = {0,1,2,3,4,5,6,7,8,9};
    double[] multiplierArray =
{1,10,100,1000,10000,100000,1000000,10000000,100000000,1000000000,0.1,0.01};
```

```java
    String[] toleranceArray =
{"±1%","±2%","±0.5%","±0.25%","±0.1%","±0.05%","±5%","±10%","±20%"};

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

        //finding my elements to use thorughout code
        tvFinalResult = findViewById(R.id.tvFinalResult);
        tvResult1 = findViewById(R.id.textView1);
        tvResult2 = findViewById(R.id.textView2);
        tvResult3 = findViewById(R.id.textView3);
        tvResult4 = findViewById(R.id.textView4);

        tvFinalResult.setText("Please enter Values");


        //----------------------------------------Spinner1 code ----------------
--------------------------
        //setting up the spinner and telling it to listen for user
        spinner1 = (Spinner)findViewById(R.id.spinner1);
        ArrayAdapter<String> adapter1 = new ArrayAdapter<String>(this,
android.R.layout.simple_spinner_item, bandsArray);
        spinner1.setAdapter(adapter1);
        spinner1.setOnItemSelectedListener(
                new AdapterView.OnItemSelectedListener() {
                    @Override
                    // when the listener hears soemting it will run the switch
                    public void onItemSelected(AdapterView<?> arg0, View arg1,int
arg2, long arg3) {
                        int position = spinner1.getSelectedItemPosition();
                        // depending the the position of the array I have
specified
                        // it will change Text and Colour of the the given
elements
                        switch(position) {
                            case 0:
                                tvRate1 = findViewById(R.id.textView1);
                                tvRate1.setText(String.valueOf(valueArray[0]));
                                tvBand1 = findViewById(R.id.tvBand1);

tvBand1.setBackgroundColor(Color.parseColor("#000000"));
                                break;
                            case 1:
                                tvRate1 = findViewById(R.id.textView1);
                                tvRate1.setText(String.valueOf(valueArray[1]));
                                tvBand1 = findViewById(R.id.tvBand1);

tvBand1.setBackgroundColor(Color.parseColor("#4B3A26"));
                                break;
                            case 2:
                                tvRate1 = findViewById(R.id.textView1);
                                tvRate1.setText(String.valueOf(valueArray[2]));
                                tvBand1 = findViewById(R.id.tvBand1);

tvBand1.setBackgroundColor(Color.parseColor("#ff0000"));
                                break;
                            case 3:
```

```java
                                    tvRate1 = findViewById(R.id.textView1);
                                    tvRate1.setText(String.valueOf(valueArray[3]));
                                    tvBand1 = findViewById(R.id.tvBand1);

tvBand1.setBackgroundColor(Color.parseColor("#ffaa00"));
                                break;
                            case 4:
                                    tvRate1 = findViewById(R.id.textView1);
                                    tvRate1.setText(String.valueOf(valueArray[4]));
                                    tvBand1 = findViewById(R.id.tvBand1);

tvBand1.setBackgroundColor(Color.parseColor("#ffea00"));
                                break;
                            case 5:
                                    tvRate1 = findViewById(R.id.textView1);
                                    tvRate1.setText(String.valueOf(valueArray[5]));
                                    tvBand1 = findViewById(R.id.tvBand1);

tvBand1.setBackgroundColor(Color.parseColor("#00ff11"));
                                break;
                            case 6:
                                    tvRate1 = findViewById(R.id.textView1);
                                    tvRate1.setText(String.valueOf(valueArray[6]));
                                    tvBand1 = findViewById(R.id.tvBand1);

tvBand1.setBackgroundColor(Color.parseColor("#0051ff"));
                                break;
                            case 7:
                                    tvRate1 = findViewById(R.id.textView1);
                                    tvRate1.setText(String.valueOf(valueArray[7]));
                                    tvBand1 = findViewById(R.id.tvBand1);

tvBand1.setBackgroundColor(Color.parseColor("#782fde"));
                                break;
                            case 8:
                                    tvRate1 = findViewById(R.id.textView1);
                                    tvRate1.setText(String.valueOf(valueArray[8]));
                                    tvBand1 = findViewById(R.id.tvBand1);

tvBand1.setBackgroundColor(Color.parseColor("#a3a3a3"));
                                break;
                            case 9:
                                    tvRate1 = findViewById(R.id.textView1);
                                    tvRate1.setText(String.valueOf(valueArray[9]));
                                    tvBand1 = findViewById(R.id.tvBand1);

tvBand1.setBackgroundColor(Color.parseColor("#fffcfc"));
                                break;
                            default:
                                // code block
                        }
                    }

                    @Override
                    public void onNothingSelected(AdapterView<?> arg0) {
                    }
                }
        );
```

```java
        //----------------------------------------spinner2 code----------------
------------------------
        //setting up the spinner and telling it to listen for user
        spinner2 = (Spinner)findViewById(R.id.spinner2);
        ArrayAdapter<String> adapter2 = new ArrayAdapter<String>(this,
android.R.layout.simple_spinner_item, bandsArray);
        spinner2.setAdapter(adapter2);
        spinner2.setOnItemSelectedListener(
                new AdapterView.OnItemSelectedListener() {

                    @Override
                    // when the listener hears soemting it will run the switch
                    public void onItemSelected(AdapterView<?> arg0, View arg1,int
arg2, long arg3) {
                        int position = spinner2.getSelectedItemPosition();
                        // depending the the position of the array I have
specified
                        // it will change Text and Colour of the the given
elements
                        switch(position) {
                            case 0:
                                tvRate2 = findViewById(R.id.textView2);
                                tvRate2.setText(String.valueOf(valueArray[0]));
                                tvBand2 = findViewById(R.id.tvBand2);

tvBand2.setBackgroundColor(Color.parseColor("#000000"));
                                break;
                            case 1:
                                tvRate2 = findViewById(R.id.textView2);
                                tvRate2.setText(String.valueOf(valueArray[1]));
                                tvBand2 = findViewById(R.id.tvBand2);

tvBand2.setBackgroundColor(Color.parseColor("#4B3A26"));
                                break;
                            case 2:
                                tvRate2 = findViewById(R.id.textView2);
                                tvRate2.setText(String.valueOf(valueArray[2]));
                                tvBand2 = findViewById(R.id.tvBand2);

tvBand2.setBackgroundColor(Color.parseColor("#ff0000"));
                                break;
                            case 3:
                                tvRate2 = findViewById(R.id.textView2);
                                tvRate2.setText(String.valueOf(valueArray[3]));
                                tvBand2 = findViewById(R.id.tvBand2);

tvBand2.setBackgroundColor(Color.parseColor("#ffaa00"));
                                break;
                            case 4:
                                tvRate2 = findViewById(R.id.textView2);
                                tvRate2.setText(String.valueOf(valueArray[4]));
                                tvBand2 = findViewById(R.id.tvBand2);

tvBand2.setBackgroundColor(Color.parseColor("#ffea00"));
                                break;
                            case 5:
                                tvRate2 = findViewById(R.id.textView2);
                                tvRate2.setText(String.valueOf(valueArray[5]));
```

```java
                                     tvBand2 = findViewById(R.id.tvBand2);

tvBand2.setBackgroundColor(Color.parseColor("#00ff11"));
                                     break;
                                 case 6:
                                     tvRate2 = findViewById(R.id.textView2);
                                     tvRate2.setText(String.valueOf(valueArray[6]));
                                     tvBand2 = findViewById(R.id.tvBand2);

tvBand2.setBackgroundColor(Color.parseColor("#0051ff"));
                                     break;
                                 case 7:
                                     tvRate2 = findViewById(R.id.textView2);
                                     tvRate2.setText(String.valueOf(valueArray[7]));
                                     tvBand2 = findViewById(R.id.tvBand2);

tvBand2.setBackgroundColor(Color.parseColor("#782fde"));
                                     break;
                                 case 8:
                                     tvRate2 = findViewById(R.id.textView2);
                                     tvRate2.setText(String.valueOf(valueArray[8]));
                                     tvBand2 = findViewById(R.id.tvBand2);

tvBand2.setBackgroundColor(Color.parseColor("#a3a3a3"));
                                     break;
                                 case 9:
                                     tvRate2 = findViewById(R.id.textView2);
                                     tvRate2.setText(String.valueOf(valueArray[9]));
                                     tvBand2 = findViewById(R.id.tvBand2);

tvBand2.setBackgroundColor(Color.parseColor("#fffcfc"));
                                     break;
                                 default:
                                     // code block
                             }
                         }

                 @Override
                 public void onNothingSelected(AdapterView<?> arg0) {
                 }

             }
         );

         //----------------------------------------spinner3 code-----------------
--------------------------
         //setting up the spinner and telling it to listen for user
         spinner3 = (Spinner)findViewById(R.id.spinner3);
         ArrayAdapter<String> adapter3 = new ArrayAdapter<String>(this,
android.R.layout.simple_spinner_item, multiplierColourArray);
         spinner3.setAdapter(adapter3);
         spinner3.setOnItemSelectedListener(
                 new AdapterView.OnItemSelectedListener() {

                 @Override
                 // when the listener hears soemting it will run the switch
                 public void onItemSelected(AdapterView<?> arg0, View arg1,int
arg2, long arg3) {
                         int position = spinner3.getSelectedItemPosition();
```

```java
                            // depending the the position of the array I have
specified
                            // it will change Text and Colour of the the given
elements
                            switch(position) {
                                case 0:
                                    tvMultiplier = findViewById(R.id.textView3);

tvMultiplier.setText(String.valueOf(multiplierArray[0]));
                                    tvMultiband = findViewById(R.id.tvMultiBand);

tvMultiband.setBackgroundColor(Color.parseColor("#000000"));
                                    break;
                                case 1:
                                    tvMultiplier = findViewById(R.id.textView3);

tvMultiplier.setText(String.valueOf(multiplierArray[1]));
                                    tvMultiband = findViewById(R.id.tvMultiBand);

tvMultiband.setBackgroundColor(Color.parseColor("#4B3A26"));
                                    break;
                                case 2:
                                    tvMultiplier = findViewById(R.id.textView3);

tvMultiplier.setText(String.valueOf(multiplierArray[2]));
                                    tvMultiband = findViewById(R.id.tvMultiBand);

tvMultiband.setBackgroundColor(Color.parseColor("#ff0000"));
                                    break;
                                case 3:
                                    tvMultiplier = findViewById(R.id.textView3);

tvMultiplier.setText(String.valueOf(multiplierArray[3]));
                                    tvMultiband = findViewById(R.id.tvMultiBand);

tvMultiband.setBackgroundColor(Color.parseColor("#ffaa00"));
                                    break;
                                case 4:
                                    tvMultiplier = findViewById(R.id.textView3);

tvMultiplier.setText(String.valueOf(multiplierArray[4]));
                                    tvMultiband = findViewById(R.id.tvMultiBand);

tvMultiband.setBackgroundColor(Color.parseColor("#ffea00"));
                                    break;
                                case 5:
                                    tvMultiplier = findViewById(R.id.textView3);

tvMultiplier.setText(String.valueOf(multiplierArray[5]));
                                    tvMultiband = findViewById(R.id.tvMultiBand);

tvMultiband.setBackgroundColor(Color.parseColor("#00ff11"));
                                    break;
                                case 6:
                                    tvMultiplier = findViewById(R.id.textView3);

tvMultiplier.setText(String.valueOf(multiplierArray[6]));
                                    tvMultiband = findViewById(R.id.tvMultiBand);
```

```java
tvMultiband.setBackgroundColor(Color.parseColor("#0051ff"));
                            break;
                        case 7:
                            tvMultiplier = findViewById(R.id.textView3);

tvMultiplier.setText(String.valueOf(multiplierArray[7]));
                            tvMultiband = findViewById(R.id.tvMultiBand);

tvMultiband.setBackgroundColor(Color.parseColor("#782fde"));
                            break;
                        case 8:
                            tvMultiplier = findViewById(R.id.textView3);

tvMultiplier.setText(String.valueOf(multiplierArray[8]));
                            tvMultiband = findViewById(R.id.tvMultiBand);

tvMultiband.setBackgroundColor(Color.parseColor("#a3a3a3"));
                            break;
                        case 9:
                            tvMultiplier = findViewById(R.id.textView3);

tvMultiplier.setText(String.valueOf(multiplierArray[9]));
                            tvMultiband = findViewById(R.id.tvMultiBand);

tvMultiband.setBackgroundColor(Color.parseColor("#fffcfc"));
                            break;
                        case 10:
                            tvMultiplier = findViewById(R.id.textView3);

tvMultiplier.setText(String.valueOf(multiplierArray[10]));
                            tvMultiband = findViewById(R.id.tvMultiBand);

tvMultiband.setBackgroundColor(Color.parseColor("#dbc202"));
                            break;
                        case 11:
                            tvMultiplier = findViewById(R.id.textView3);

tvMultiplier.setText(String.valueOf(multiplierArray[11])) ;
                            tvMultiband = findViewById(R.id.tvMultiBand);

tvMultiband.setBackgroundColor(Color.parseColor("#dbdbdb"));
                            break;
                        default:
                            // code block
                    }

                }

                @Override
                public void onNothingSelected(AdapterView<?> arg0) {
                }

            }
        );

        //-----------------------------------------spinner4 code-----------------
------------------------
        //setting up the spinner and telling it to listen for user
        spinner4 = (Spinner)findViewById(R.id.spinner4);
```

```java
        ArrayAdapter<String> adapter4 = new ArrayAdapter<String>(this,
android.R.layout.simple_spinner_item, toleranceColourArray);
        spinner4.setAdapter(adapter4);
        spinner4.setOnItemSelectedListener(
            new AdapterView.OnItemSelectedListener() {
                @Override
                // when the listener hears soemting it will run the switch
                public void onItemSelected(AdapterView<?> arg0, View arg1,int
arg2, long arg3) {
                    int position = spinner4.getSelectedItemPosition();
                    tvTolerBand = findViewById(R.id.tvtolerBand);
                    tvTolerBand.setVisibility(View.VISIBLE);;
                    // depending the the position of the array I have
specified
                    // it will change Text and Colour of the the given
elements
                    switch(position) {
                        case 0:
                            tvTolerance = findViewById(R.id.textView4);

tvTolerance.setText(String.valueOf(toleranceArray[0]));
                            tvTolerBand = findViewById(R.id.tvtolerBand);

tvTolerBand.setBackgroundColor(Color.parseColor("#4B3A26"));
                            break;
                        case 1:
                            tvTolerance = findViewById(R.id.textView4);

tvTolerance.setText(String.valueOf(toleranceArray[1]));
                            tvTolerBand = findViewById(R.id.tvtolerBand);

tvTolerBand.setBackgroundColor(Color.parseColor("#ff0000"));
                            break;
                        case 2:
                            tvTolerance = findViewById(R.id.textView4);

tvTolerance.setText(String.valueOf(toleranceArray[2]));
                            tvTolerBand = findViewById(R.id.tvtolerBand);

tvTolerBand.setBackgroundColor(Color.parseColor("#00ff11"));
                            break;
                        case 3:
                            tvTolerance = findViewById(R.id.textView4);

tvTolerance.setText(String.valueOf(toleranceArray[3]));
                            tvTolerBand = findViewById(R.id.tvtolerBand);

tvTolerBand.setBackgroundColor(Color.parseColor("#0051ff"));
                            break;
                        case 4:
                            tvTolerance = findViewById(R.id.textView4);

tvTolerance.setText(String.valueOf(toleranceArray[4]));
                            tvTolerBand = findViewById(R.id.tvtolerBand);

tvTolerBand.setBackgroundColor(Color.parseColor("#782fde"));
                            break;
                        case 5:
                            tvTolerance = findViewById(R.id.textView4);
```

```java
tvTolerance.setText(String.valueOf(toleranceArray[5]));
                                tvTolerBand = findViewById(R.id.tvtolerBand);

tvTolerBand.setBackgroundColor(Color.parseColor("#a3a3a3"));
                                break;
                        case 6:
                            tvTolerance = findViewById(R.id.textView4);

tvTolerance.setText(String.valueOf(toleranceArray[6]));
                                tvTolerBand = findViewById(R.id.tvtolerBand);

tvTolerBand.setBackgroundColor(Color.parseColor("#dbc202"));
                                break;
                        case 7:
                            tvTolerance = findViewById(R.id.textView4);

tvTolerance.setText(String.valueOf(toleranceArray[7]));
                                tvTolerBand = findViewById(R.id.tvtolerBand);

tvTolerBand.setBackgroundColor(Color.parseColor("#dbdbdb"));
                                break;
                        case 8:
                            tvTolerance = findViewById(R.id.textView4);

tvTolerance.setText(String.valueOf(toleranceArray[8]));
                                tvTolerBand = findViewById(R.id.tvtolerBand);
                                tvTolerBand.setVisibility(View.INVISIBLE);;
                                break;
                        default:
                            // code block
                    }
                }

                @Override
                public void onNothingSelected(AdapterView<?> arg0) {
                }

            }
        );
    }


    //when the calculate button is pressed
    public void doCalc(View view) {
        // get the values the user inputted
        double calc1 = Double.valueOf(tvResult1.getText().toString());
        double calc2 = Double.valueOf(tvResult2.getText().toString());
        double calc3 = Double.valueOf(tvResult3.getText().toString());
        String calc4 = tvResult4.getText().toString();

        //calculation to find answer
        double FinalOutput = (((calc1 * 10) + calc2) * calc3);
        //display to the user
        tvFinalResult.setText(FinalOutput +" Ω  " + calc4);

    }

    //when the reset button is pressed
```

```java
    public void doReset(View view) {
        // set elements to empty
        tvRate1.setText("0");
        tvRate2.setText("0");
        tvMultiplier.setText("0");
        tvTolerance.setText("±0%");
        tvFinalResult.setText("Please Enter Values");
        tvBand1.setBackgroundColor(Color.parseColor("#000000"));
        tvBand2.setBackgroundColor(Color.parseColor("#000000"));
        tvMultiband.setBackgroundColor(Color.parseColor("#000000"));
        tvTolerBand.setBackgroundColor(Color.parseColor("#000000"));
    }
}
```

Conclusion

• State if you completed the lab or how far you managed to get

I completed the lab in full.

• State the part of the lab you spent the most time on or what issue was the hardest to overcome

The area of the lab I spent the most time on was setting up all my arrays correctly so that they had the correct colors in them. Also, the other arrays making sure they had the correct values in each. This took patience as they all had to be correctly filled as if they were not the calculator could return the wrong value and display misinformation.

The hardest part of the lab was getting the spinners working correctly, they were a bit tricker than some of the previous stuff we had learned but I got it in the end.

• Specify a goal for yourself for next time

Next time around I would like to deal with more complexity. From this lab I noticed a jump in complexity from the previous labs. This was a welcome difficulty spike, and I would be interested in trying something more difficult as to allow my skills within the Java language and Android Studio to improve.