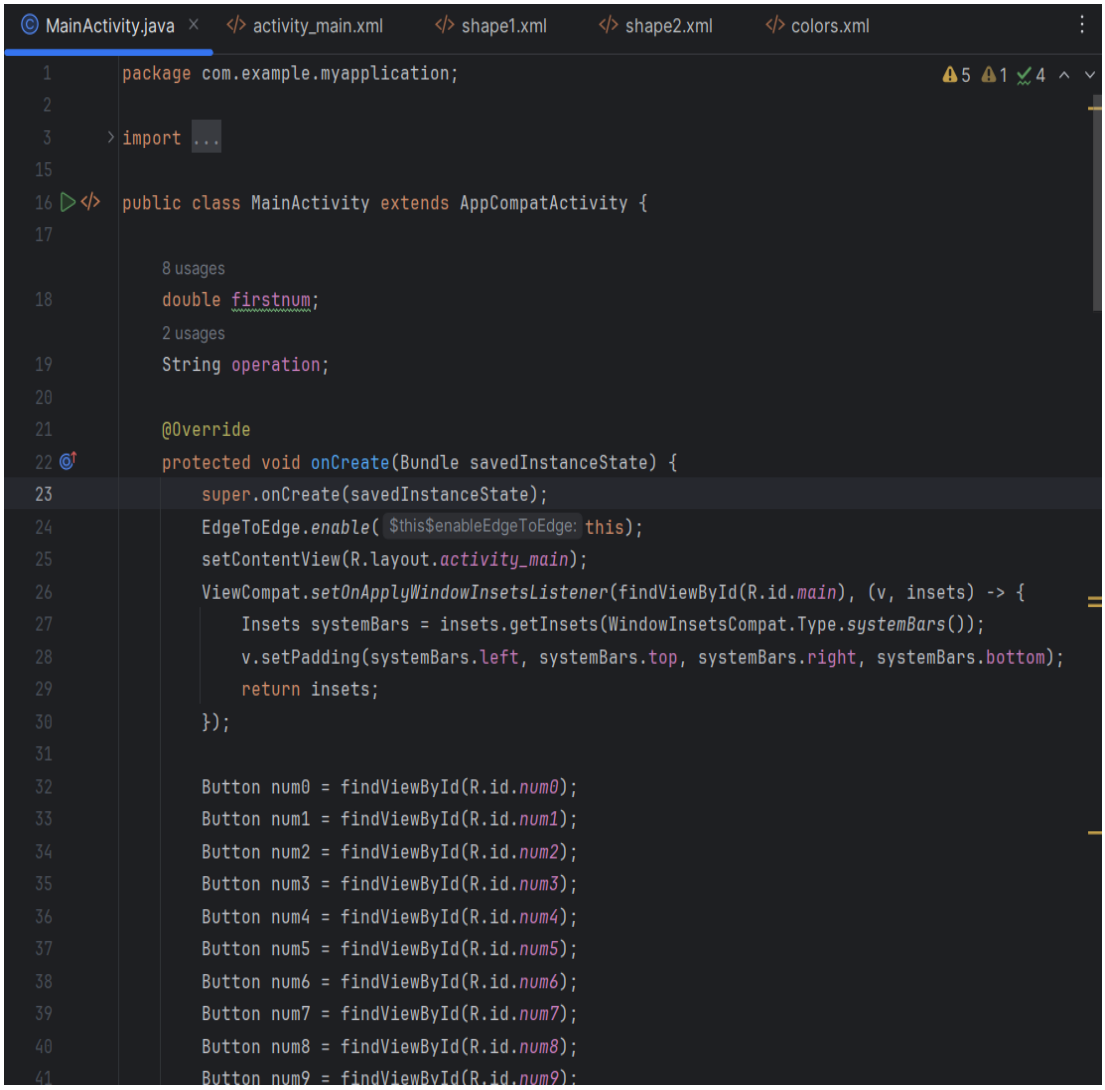
CALCULATOR APPLICATION

Muhammed Nifal V
CB.SC.P2CYS23017

Components of the Application

1.MainActivity.java

The MainActivity class is the entry point of the application. It is responsible for handling the user input and performing the currency conversions. Below is the detailed explanation ofthe code.



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MainActivity.java | activity_main.xml | shape1.xml | shape2.xml | colors.xml

```java
Button on = findViewById(R.id.on);
Button ac = findViewById(R.id.ac);
Button plus = findViewById(R.id.plus);
Button min = findViewById(R.id.min);
Button mult = findViewById(R.id.mult);
Button off = findViewById(R.id.off);
Button equals = findViewById(R.id.equals);
Button div = findViewById(R.id.div);
Button del = findViewById(R.id.del);
Button point = findViewById(R.id.point);

TextView screen = findViewById(R.id.screen);
TextView answer = findViewById(R.id.panel);

off.setOnClickListener(view -> screen.setVisibility(TextView.GONE));

on.setOnClickListener(view -> {
    screen.setVisibility(TextView.VISIBLE);
    screen.setText("");
});

ac.setOnClickListener(view -> {
    firstnum = 0;
    screen.setText("");
});

ArrayList<Button> nums = new ArrayList<>();
nums.add(num0);
nums.add(num1);
nums.add(num2);
nums.add(num3);
nums.add(num4);
```

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```
76          nums.add(num6);
77          nums.add(num7);
78          nums.add(num8);
79          nums.add(num9);
80
81          for(Button b: nums){
82              b.setOnClickListener(view -> {
83                  if (!screen.getText().toString().equals(0)){
84                      screen.setText(screen.getText() + b.getText().toString());
85                  } else {
86                      screen.setText(b.getText().toString());
87                  }
88              });
89          }
90
91          ArrayList<Button> opers = new ArrayList<>();
92          opers.add(div);
93          opers.add(min);
94          opers.add(plus);
95          opers.add(equals);
96          opers.add(mult);
97
98          for(Button b: opers){
99              b.setOnClickListener( view -> {
100                 firstnum = Double.parseDouble(screen.getText().toString());
101                 operation = b.getText().toString();
102                 screen.setText("");
103             });
104         }
105
106         del.setOnClickListener(view -> {
107             String num = screen.getText().toString();
```

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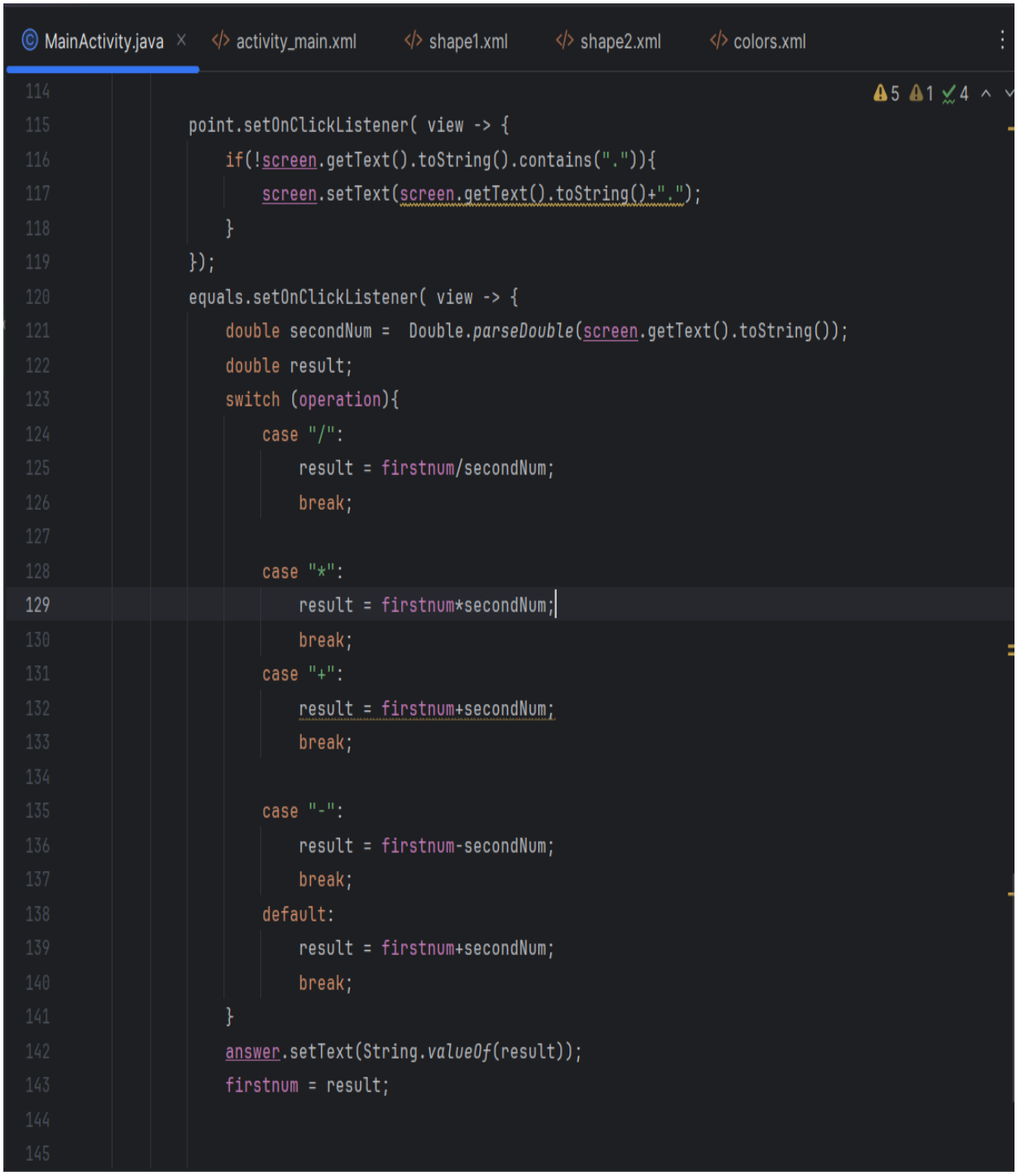

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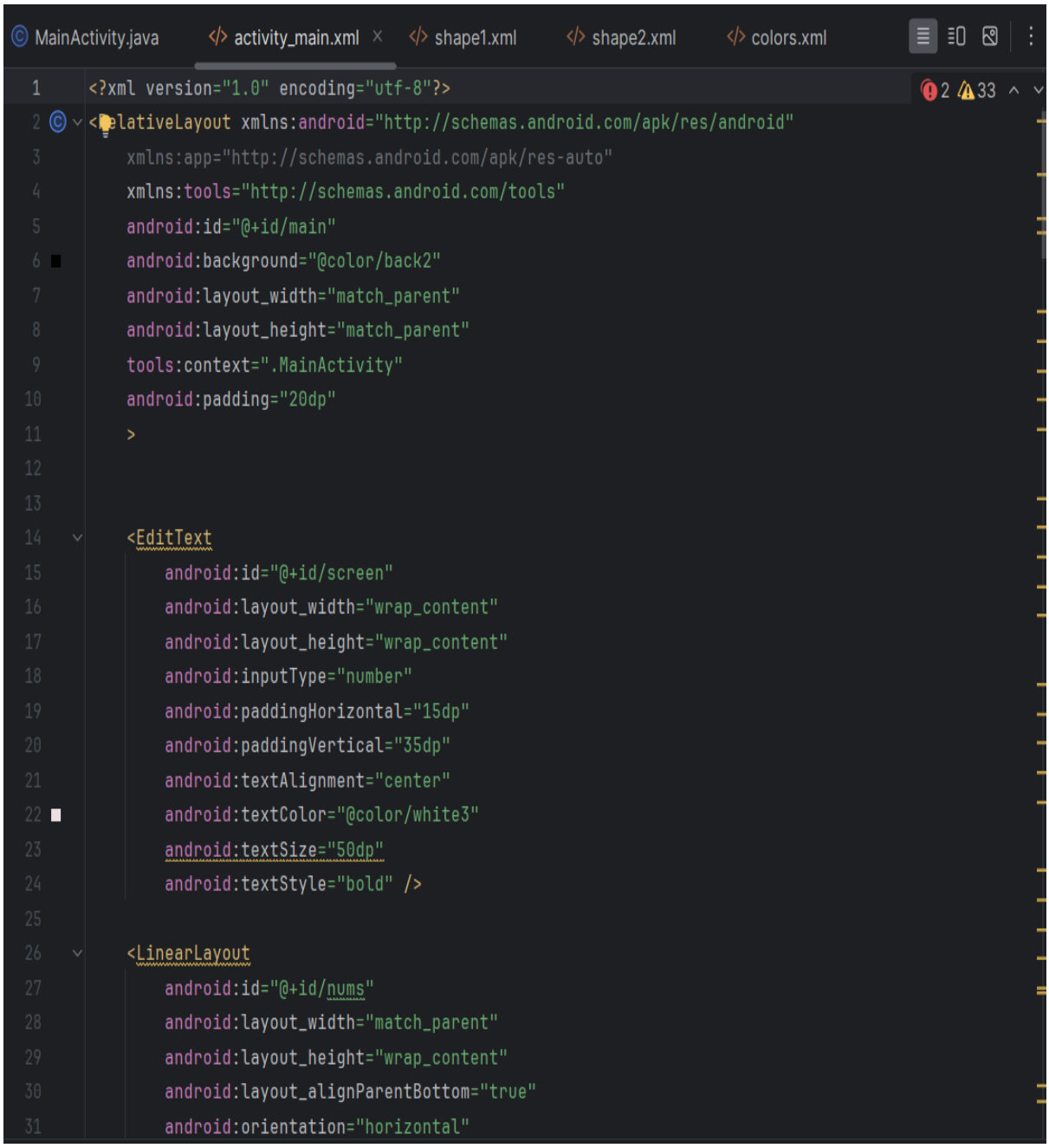
2. activity_main.xml

The activity_main.xml file defines the user interface for MainActivity.



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MainActivity.java | activity_main.xml | shape1.xml | shape2.xml | colors.xml

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```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_weight="1"
    android:orientation="vertical">
    <Button
        android:id="@+id/on"
        android:text="ON"
        android:textColor="@color/first3txt"
        style="@style/Button3"/>

    <Button
        android:id="@+id/num7"
        android:text="7"
        android:textColor="@color/white2"
        style="@style/Button2"/>

    <Button
        android:id="@+id/num4"
        android:text="4"
        android:textColor="@color/white2"
        style="@style/Button2"/>

    <Button
        android:id="@+id/num1"
        android:text="1"
        android:textColor="@color/white2"
        style="@style/Button2"/>

    <Button
```

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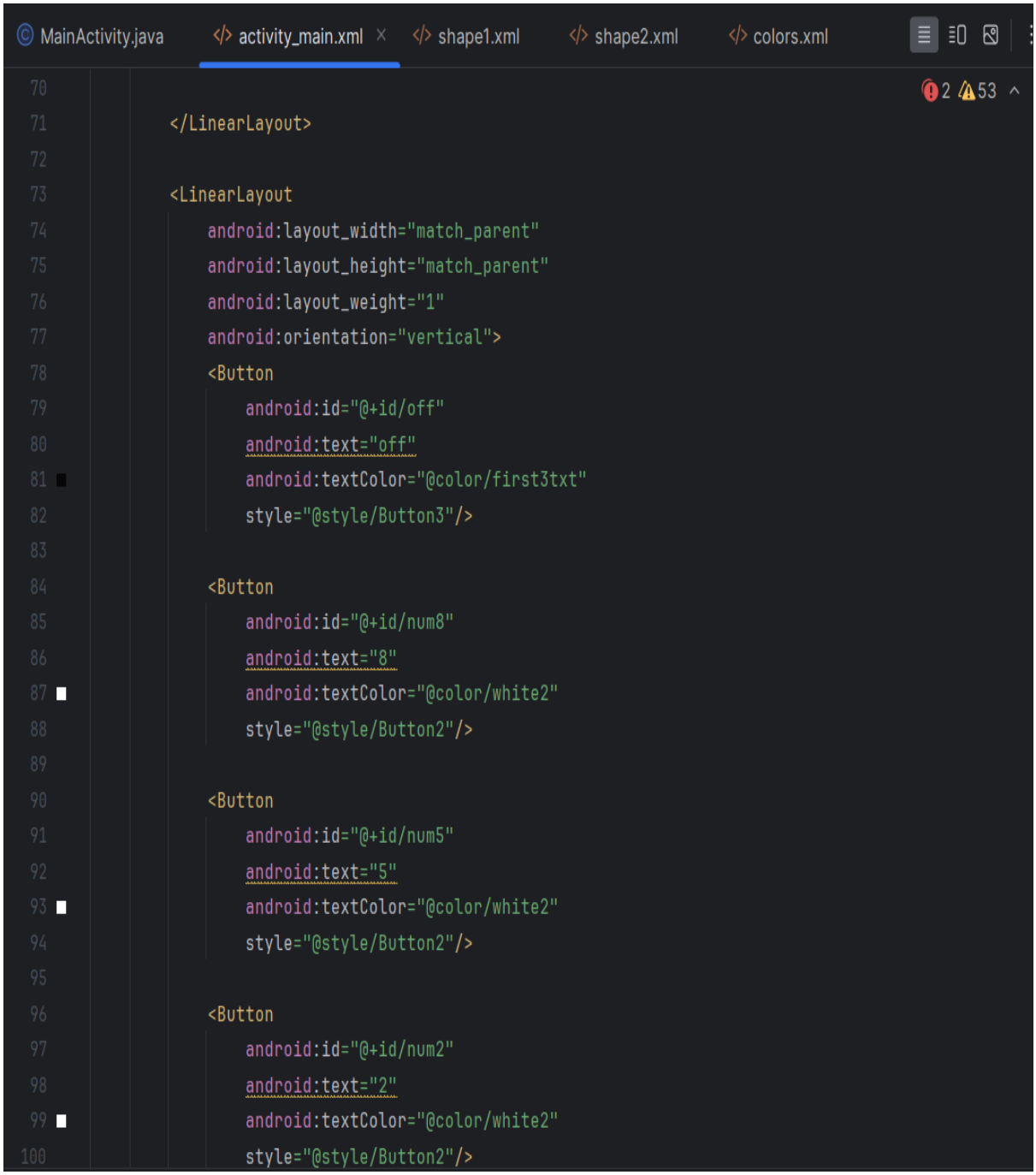

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MainActivity.java | activity_main.xml | shape1.xml | shape2.xml | colors.xml

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```
109     </LinearLayout>
110
111     <LinearLayout
112         android:layout_width="match_parent"
113         android:layout_height="match_parent"
114         android:layout_weight="1"
115         android:orientation="vertical">
116         <Button
117             android:id="@+id/ac"
118             android:text="AC"
119             android:textColor="@color/first3txt"
120             style="@style/Button3"/>
121
122         <Button
123             android:id="@+id/num9"
124             android:text="9"
125             android:textColor="@color/white2"
126             style="@style/Button2"/>
127
128         <Button
129             android:id="@+id/num6"
130             android:text="6"
131             android:textColor="@color/white2"
132             style="@style/Button2"/>
133
134         <Button
135             android:id="@+id/num3"
136             android:text="3"
137             android:textColor="@color/white2"
138             style="@style/Button2"/>
139
```

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```
147        </LinearLayout>
148
149        <LinearLayout
150            android:layout_width="match_parent"
151            android:layout_height="match_parent"
152            android:layout_weight="1"
153            android:orientation="vertical">
154            <Button
155                android:id="@+id/div"
156                android:text="/"
157                android:textColor="@color/white2"
158                style="@style/Button1"/>
159
160            <Button
161                android:id="@+id/mult"
162                android:text="*"
163                android:textColor="@color/white2"
164                style="@style/Button1"/>
165
166            <Button
167                android:id="@+id/min"
168                android:text="-"
169                android:textColor="@color/white2"
170                style="@style/Button1"/>
171
172            <Button
173                android:id="@+id/plus"
174                android:text="+"
175                android:textColor="@color/white2"
176                style="@style/Button1"/>
```

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MainActivity.java | activity_main.xml | shape1.xml | shape2.xml | colors.xml

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```
177
178             <Button
179                 android:id="@+id/equals"
180                 android:text="="
181                 android:textSize="50dp"
182                 android:textAlignment="center"
183                 android:textColor="@color/white2"
184                 style="@style/Button1"/>
185
186
187         </LinearLayout>
188     </LinearLayout>
189
190     <TextView
191         android:id="@+id/panel"
192         android:layout_width="wrap_content"
193         android:layout_height="wrap_content"
194         android:layout_alignParentStart="true"
195         android:layout_alignParentTop="true"
196         android:layout_alignParentEnd="true"
197         android:layout_marginStart="215dp"
198         android:layout_marginTop="118dp"
199         android:layout_marginEnd="20dp"
200         android:text="0"
201         android:textAlignment="textEnd"
202         android:textColor="@color/white5"
203         android:textSize="40dp" />
204
205 </RelativeLayout>
```

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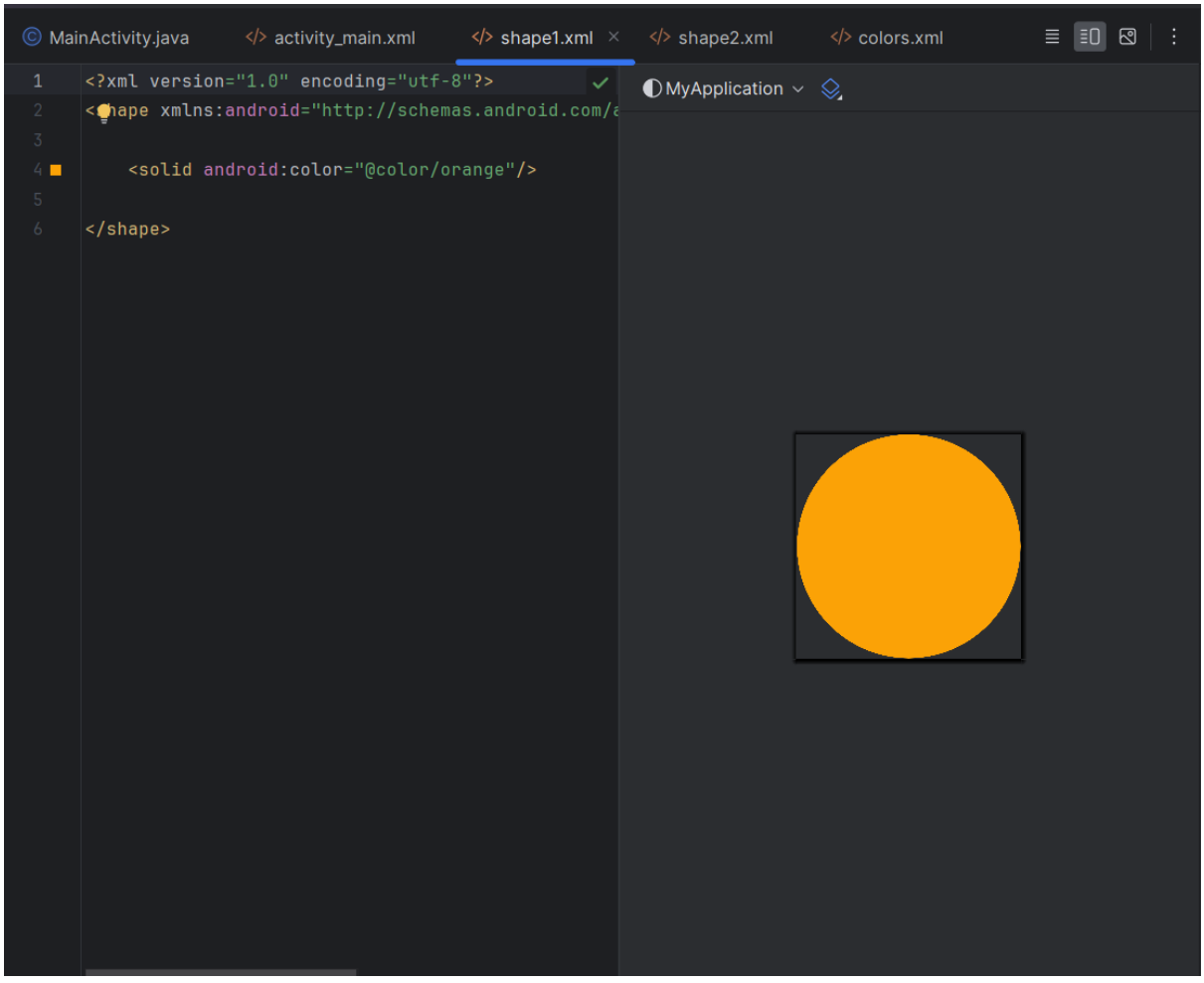
3. Shape1.xml

IT gives the essential information of shape of the button



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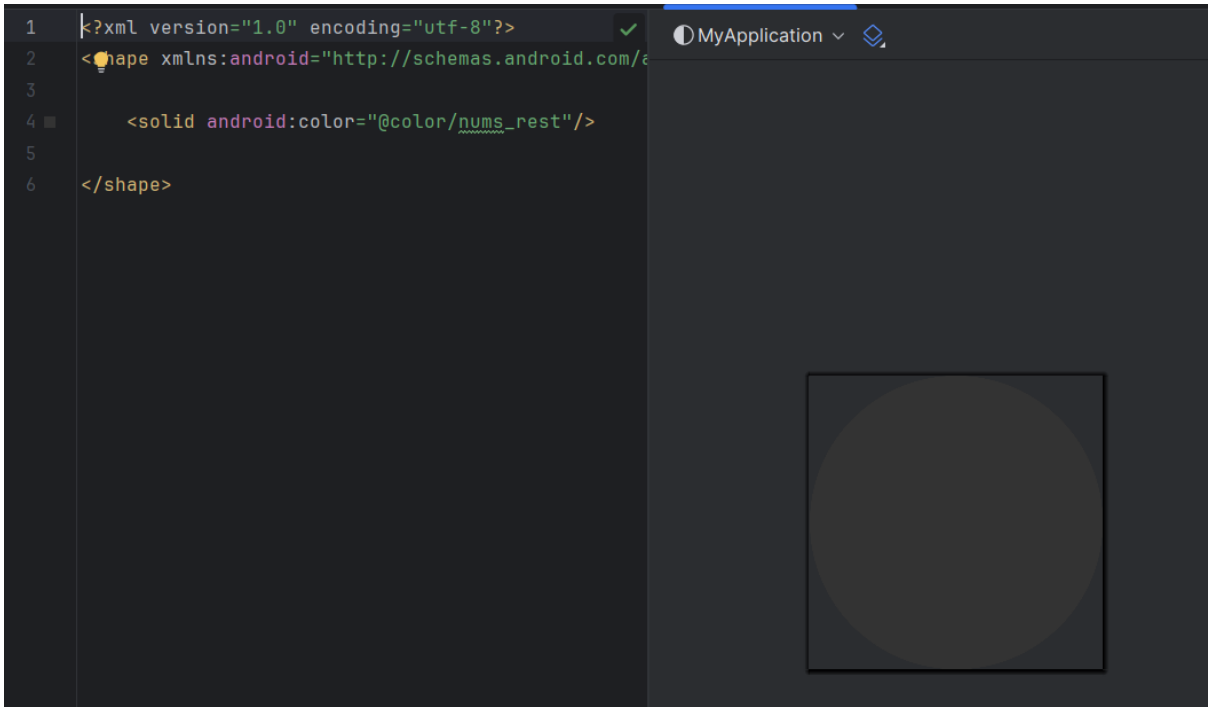
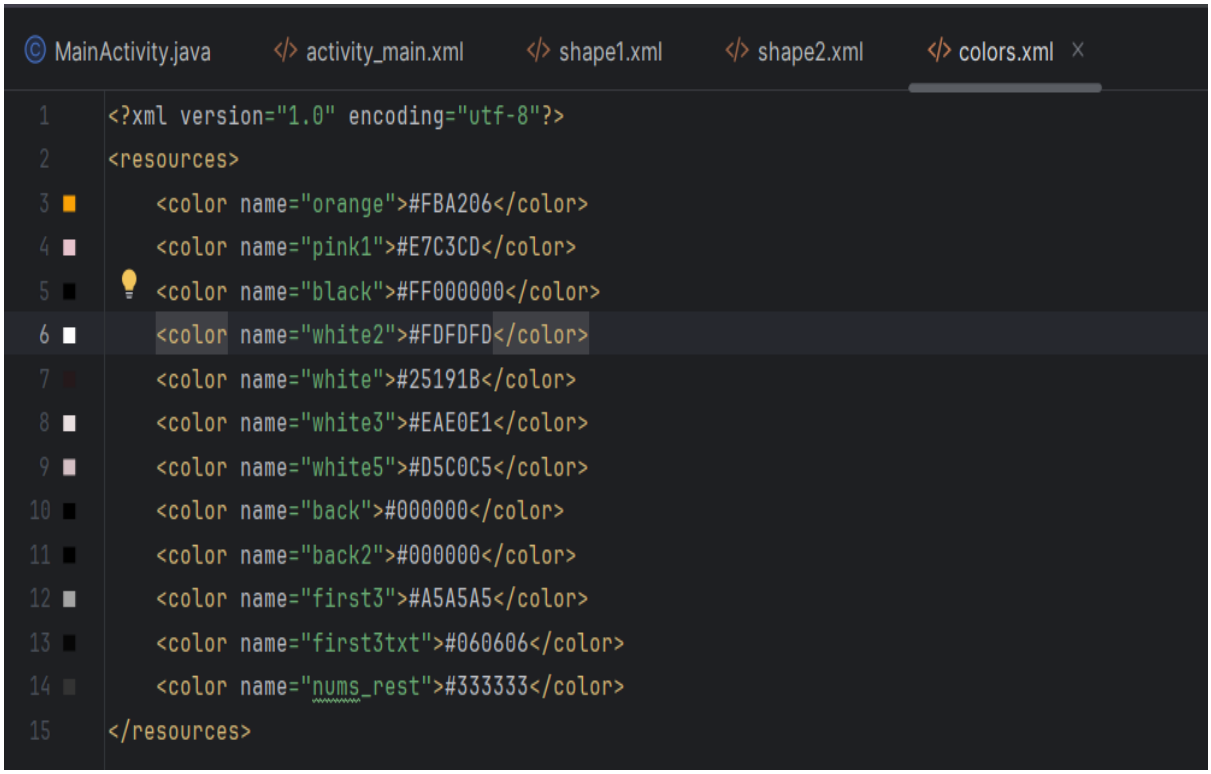


4.Colors.xml
It gives the essential information on the color code.



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5. Android's Manifest.xml

y.java | activity_main.xml | shape1.xml | shape2.xml | colors.xml | AndroidManifest.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">

    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="CALCULATOR"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.MyApplication"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />


                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```

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Output: