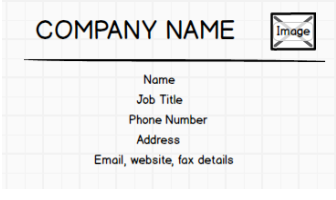
Lab Program 1: Create an application to design aVisiting Card. The Visiting card should havea companylogoatthe top right corner. The company name should be displayed in Capital letters, aligned to the center. Information like the name of the employee, job title, phone number, address, email, fax and the website address isto be displayed. Insert a horizontal line between the job title and the phone number.

**

*Program Name:activity\_main.xml*

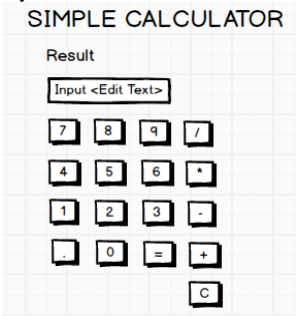
*<?*xml version="1.0" encoding="utf-8"*?>*<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 tools:context=".MainActivity"><![CDATA[  
 " />  
  
 ]]>  
  
 <RelativeLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="125dp">  
  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="294dp"  
 android:layout\_height="35dp"  
 android:layout\_alignParentStart="true"  
 android:layout\_alignParentTop="true"  
 android:layout\_alignParentBottom="true"  
 android:layout\_marginStart="10dp"  
 android:layout\_marginTop="67dp"  
 android:layout\_marginBottom="23dp"  
 android:text="SAPTHAGIRI COLLEGE "  
 android:textAlignment="center"  
 android:textColor="#FF5722"  
 android:textSize="24sp"  
 android:textStyle="bold" />  
  
 <ImageView  
 android:id="@+id/imageView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_alignParentStart="true"  
 android:layout\_alignParentEnd="true"  
 android:layout\_marginStart="250dp"  
 android:layout\_marginEnd="-39dp"  
 app:srcCompat="@drawable/sap" />  
 </RelativeLayout>  
  
 <View  
 android:id="@+id/view"  
 android:layout\_width="match\_parent"  
 android:layout\_height="2dp"  
 android:background="@color/black"/>  
  
 <TextView  
 android:id="@+id/textView2"  
 android:layout\_width="match\_parent"  
 android:layout\_height="51dp"  
 android:text="SUDARSANAN D"  
 android:textAlignment="center"  
 android:textColor="#E91E63"  
 android:textSize="24sp"  
 android:textStyle="bold|italic" />  
  
 <TextView  
 android:id="@+id/textView3"  
 android:layout\_width="match\_parent"  
 android:layout\_height="57dp"  
 android:text="Asst. Professor"  
 android:textAlignment="center"  
 android:textColor="#FF9800"  
 android:textSize="24sp"  
 android:textStyle="bold" />  
  
 <View  
 android:id="@+id/view2"  
 android:layout\_width="match\_parent"  
 android:layout\_height="2dp"  
 android:background="@color/black"/>  
  
 <TextView  
 android:id="@+id/textView4"  
 android:layout\_width="match\_parent"  
 android:layout\_height="64dp"  
 android:text="9535937675"  
 android:textAlignment="center"  
 android:textColor="#F44336"  
 android:textSize="24sp"  
 android:textStyle="bold|italic" />  
  
 <TextView  
 android:id="@+id/textView5"  
 android:layout\_width="match\_parent"  
 android:layout\_height="125dp"  
 android:text="Information Science and Engineering"  
 android:textAlignment="center"  
 android:textColor="#03A9F4"  
 android:textSize="34sp" />  
  
 <TextView  
 android:id="@+id/textView6"  
 android:layout\_width="match\_parent"  
 android:layout\_height="61dp"  
 android:text="sudarsanand@sapthagiri.edu.in ,www.sapthagiri.edu.in,123456788"  
 android:textAlignment="center"  
 android:textColor="#4CAF50"  
 android:textSize="20sp"  
 android:textStyle="bold|italic" />  
</LinearLayout>

Program Name: MainActivity.java

package com.example.visitioncard;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
  
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 }  
}



**PROGRAM 2: Develop an Android application usingcontrols like Button, TextView, EditText for designing a calculatorhaving basic functionality like Addition, Subtraction, Multiplication, and Division**.



*Program File Name: activity\_main.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">  
  
  
 <Button  
 android:id="@+id/btn\_div"  
 android:layout\_width="78dp"  
 android:layout\_height="53dp"  
 android:background="#9C27B0"  
 android:text="/"  
 android:textColor="#FFFFFF"  
 android:textSize="16sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.924"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.834" />  
  
 <Button  
 android:id="@+id/btn\_minus"  
 android:layout\_width="78dp"  
 android:layout\_height="53dp"  
 android:background="#9C27B0"  
 android:text="-"  
 android:textColor="#FFFFFF"  
 android:textSize="16sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.351"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.834" />  
  
 <Button  
 android:id="@+id/btn\_plus"  
 android:layout\_width="78dp"  
 android:layout\_height="53dp"  
 android:background="#9C27B0"  
 android:text="+"  
 android:textColor="#FFFFFF"  
 android:textSize="16sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.081"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.834" />  
  
 <Button  
 android:id="@+id/btn\_clear"  
 android:layout\_width="78dp"  
 android:layout\_height="53dp"  
 android:background="#9C27B0"  
 android:text="C"  
 android:textColor="#FFFFFF"  
 android:textSize="16sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.924"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.927" />  
  
 <Button  
 android:id="@+id/btn\_mul"  
 android:layout\_width="78dp"  
 android:layout\_height="53dp"  
 android:background="#9C27B0"  
 android:text="\*"  
 android:textColor="#FFFFFF"  
 android:textSize="16sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.636"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.834" />  
  
 <Button  
 android:id="@+id/btn\_0"  
 android:layout\_width="78dp"  
 android:layout\_height="53dp"  
 android:background="#9C27B0"  
 android:text="0"  
 android:textColor="#FFFFFF"  
 android:textSize="16sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.348"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.725" />  
  
 <Button  
 android:id="@+id/btn\_9"  
 android:layout\_width="78dp"  
 android:layout\_height="53dp"  
 android:background="#9C27B0"  
 android:text="9"  
 android:textColor="#FFFFFF"  
 android:textSize="16sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.081"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.725" />  
  
 <Button  
 android:id="@+id/btn\_equals"  
 android:layout\_width="78dp"  
 android:layout\_height="53dp"  
 android:background="#9C27B0"  
 android:text="="  
 android:textColor="#FFFFFF"  
 android:textSize="16sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.924"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.725" />  
  
 <Button  
 android:id="@+id/btn\_dot"  
 android:layout\_width="78dp"  
 android:layout\_height="53dp"  
 android:background="#9C27B0"  
 android:text="."  
 android:textColor="#FFFFFF"  
 android:textSize="16sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.636"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.725" />  
  
 <Button  
 android:id="@+id/btn\_7"  
 android:layout\_width="78dp"  
 android:layout\_height="53dp"  
 android:background="#9C27B0"  
 android:text="7"  
 android:textColor="#FFFFFF"  
 android:textSize="16sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.636"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.617" />  
  
 <Button  
 android:id="@+id/btn\_6"  
 android:layout\_width="78dp"  
 android:layout\_height="53dp"  
 android:background="#9C27B0"  
 android:text="6"  
 android:textColor="#FFFFFF"  
 android:textSize="16sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.351"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.617" />  
  
 <Button  
 android:id="@+id/btn\_8"  
 android:layout\_width="78dp"  
 android:layout\_height="53dp"  
 android:background="#9C27B0"  
 android:text="8"  
 android:textColor="#FFFFFF"  
 android:textSize="16sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.924"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.617" />  
  
 <Button  
 android:id="@+id/btn\_5"  
 android:layout\_width="78dp"  
 android:layout\_height="53dp"  
 android:background="#9C27B0"  
 android:text="5"  
 android:textColor="#FFFFFF"  
 android:textSize="16sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.081"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.617" />  
  
 <Button  
 android:id="@+id/btn\_4"  
 android:layout\_width="78dp"  
 android:layout\_height="53dp"  
 android:background="#9C27B0"  
 android:text="4"  
 android:textColor="#FFFFFF"  
 android:textSize="16sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.884"  
 app:layout\_constraintStart\_toStartOf="@+id/btn\_2"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <Button  
 android:id="@+id/btn\_3"  
 android:layout\_width="78dp"  
 android:layout\_height="53dp"  
 android:background="#9C27B0"  
 android:text="3"  
 android:textColor="#FFFFFF"  
 android:textSize="16sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.442"  
 app:layout\_constraintStart\_toStartOf="@+id/btn\_2"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <Button  
 android:id="@+id/btn\_2"  
 android:layout\_width="78dp"  
 android:layout\_height="53dp"  
 android:layout\_marginStart="116dp"  
 android:background="#9C27B0"  
 android:text="2"  
 android:textColor="#FFFFFF"  
 android:textSize="16sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="273dp"  
 android:layout\_height="45dp"  
 android:text="SIMPLE CALCULATOR"  
 android:textAlignment="center"  
 android:textColor="#F44336"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.12" />  
  
 <TextView  
 android:id="@+id/textView2"  
 android:layout\_width="97dp"  
 android:layout\_height="39dp"  
 android:text="Result"  
 android:textAlignment="center"  
 android:textColor="#9C27B0"  
 android:textSize="20sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.473"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.238" />  
  
 <EditText  
 android:id="@+id/edit\_txt"  
 android:layout\_width="224dp"  
 android:layout\_height="49dp"  
 android:ems="10"  
 android:inputType="textPersonName"  
 android:textAlignment="center"  
 android:textColor="#F44336"  
 android:textSize="20sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.497"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.364"  
 tools:ignore="SpeakableTextPresentCheck" />  
  
 <Button  
 android:id="@+id/btn\_1"  
 android:layout\_width="78dp"  
 android:layout\_height="53dp"  
 android:background="#9C27B0"  
 android:text="1"  
 android:textColor="#FFFFFF"  
 android:textSize="16sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.081"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
</androidx.constraintlayout.widget.ConstraintLayout>

Program file Name: MainActivity.java

package com.example.simplecalculator;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.Toast;  
  
import java.util.regex.Pattern;  
  
public class MainActivity extends AppCompatActivity implements View.OnClickListener {  
 Button btnone,btntwo,btnthree,btnfour,btnfive,btnsix,btnseven,btneight,btnnine,btnzero;  
 Button btnAdd,btnSub,btnMul,btnDiv;  
 Button btnclear,btnequal,btndot;  
 EditText txtResult;  
  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 btnone =(Button) findViewById(R.id.*btn\_1*);  
 btnone.setOnClickListener(this);  
  
 btntwo =(Button) findViewById(R.id.*btn\_2*);  
 btntwo.setOnClickListener(this);  
  
 btnthree =(Button) findViewById(R.id.*btn\_3*);  
 btnthree.setOnClickListener(this);  
  
 btnfour =(Button) findViewById(R.id.*btn\_4*);  
 btnfour.setOnClickListener(this);  
  
 btnfive =(Button) findViewById(R.id.*btn\_5*);  
 btnfive.setOnClickListener(this);  
  
 btnsix =(Button) findViewById(R.id.*btn\_6*);  
 btnsix.setOnClickListener(this);  
  
 btnseven =(Button) findViewById(R.id.*btn\_7*);  
 btnseven.setOnClickListener(this);  
  
 btneight =(Button) findViewById(R.id.*btn\_8*);  
 btneight.setOnClickListener(this);  
  
 btnnine =(Button) findViewById(R.id.*btn\_9*);  
 btnnine.setOnClickListener(this);  
  
 btnzero =(Button) findViewById(R.id.*btn\_0*);  
 btnzero.setOnClickListener(this);  
  
 btnAdd =(Button) findViewById(R.id.*btn\_plus*);  
 btnAdd.setOnClickListener(this);  
  
 btnSub =(Button) findViewById(R.id.*btn\_minus*);  
 btnSub.setOnClickListener(this);  
  
 btnMul =(Button) findViewById(R.id.*btn\_mul*);  
 btnMul.setOnClickListener(this);  
  
 btnDiv =(Button) findViewById(R.id.*btn\_div*);  
 btnDiv.setOnClickListener(this);  
  
 btndot =(Button) findViewById(R.id.*btn\_dot*);  
 btndot.setOnClickListener(this);  
  
 btnclear =(Button) findViewById(R.id.*btn\_clear*);  
 btnclear.setOnClickListener(this);  
  
 btnequal =(Button) findViewById(R.id.*btn\_equals*);  
 btnequal.setOnClickListener(this);  
  
 txtResult = (EditText) findViewById(R.id.*edit\_txt*);  
 txtResult.setText("");  
 }  
  
 @Override  
 public void onClick(View view) {  
 if(view.equals(btnone))  
 txtResult.append("1");  
 if(view.equals(btntwo))  
 txtResult.append("2");  
 if(view.equals(btnthree))  
 txtResult.append("3");  
 if(view.equals(btnfour))  
 txtResult.append("4");  
 if(view.equals(btnfive))  
 txtResult.append("5");  
 if(view.equals(btnsix))  
 txtResult.append("6");  
 if(view.equals(btnseven))  
 txtResult.append("7");  
 if(view.equals(btneight))  
 txtResult.append("8");  
 if(view.equals(btnnine))  
 txtResult.append("9");  
 if(view.equals(btnzero))  
 txtResult.append("0");  
 if(view.equals(btndot))  
 txtResult.append(".");  
 if(view.equals(btnAdd))  
 txtResult.append("+");  
 if(view.equals(btnSub))  
 txtResult.append("-");  
 if(view.equals(btnMul))  
 txtResult.append("\*");  
 if(view.equals(btnDiv))  
 txtResult.append("/");  
 if(view.equals(btnclear))  
 txtResult.setText("");  
 if(view.equals(btnequal))  
 try {  
 String data = txtResult.getText().toString();  
 if(data.contains("/"))  
 {  
 divide(data);  
 }  
 else if(data.contains("\*"))  
 {  
 multiplication(data);  
 } else if(data.contains("+"))  
 {  
 addition(data);  
 } else if(data.contains("-"))  
 {  
 subtration(data);  
 }  
  
 } catch (Exception e)  
 {  
 displayInvalidMessage("Invalid Operation");  
 }  
 }  
  
 private void displayInvalidMessage(String mes) {  
 Toast.*makeText*(getBaseContext(),mes,Toast.*LENGTH\_LONG*).show();  
 }  
  
 private void subtration(String data) {  
 String[] operands = data.split("-");  
 if (operands.length == 2) {  
 Double operand1 = Double.*parseDouble*(operands[0]);  
 Double operand2 = Double.*parseDouble*(operands[1]);  
 Double result = operand1 - operand2;  
 txtResult.setText(String.*valueOf*(result));  
 } else  
 {  
 displayInvalidMessage("invalid input");  
 }  
 }  
  
 private void addition(String data) {  
 String[] operands = data.split(Pattern.*quote*("+"));  
 if (operands.length == 2) {  
 Double operand1 = Double.*parseDouble*(operands[0]);  
 Double operand2 = Double.*parseDouble*(operands[1]);  
 Double result = operand1 + operand2;  
 txtResult.setText(String.*valueOf*(result));  
 } else  
 {  
 displayInvalidMessage("invalid input");  
 }  
 }  
  
 private void divide(String data) {  
 String[] operands = data.split("/");  
 if (operands.length == 2) {  
 Double operand1 = Double.*parseDouble*(operands[0]);  
 Double operand2 = Double.*parseDouble*(operands[1]);  
 Double result = operand1 / operand2;  
 txtResult.setText(String.*valueOf*(result));  
 } else  
 {  
 displayInvalidMessage("invalid input");  
 }  
 }  
  
 private void multiplication(String data) {  
 String[] operands = data.split(Pattern.*quote*("\*"));  
 if (operands.length == 2) {  
 Double operand1 = Double.*parseDouble*(operands[0]);  
 Double operand2 = Double.*parseDouble*(operands[1]);  
 Double result = operand1 \* operand2;  
 txtResult.setText(String.*valueOf*(result));  
 } else  
 {  
 displayInvalidMessage("invalid input");  
 }  
 }  
}

OUTPUT:

|  |  |  |
| --- | --- | --- |
|  |  |  |

PROGRAM 3 :Create a SIGN Up activity with Username and Password. Validation of password should happen based on the following rules:

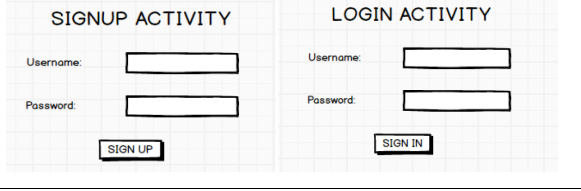
• Password should contain uppercase and lowercase letters.

• Password should contain letters and numbers.

• Password should contain special characters.

• Minimum length of the password (the default value is 8).

On successful SIGN UP proceed to the next Login activity. Here the user should SIGN IN using the Username and Password created during signup activity. If the Username and Password are matched then navigate to the next activity which displays a message saying “Successful Login” or else display a toast message saying “Login Failed”. The user is given only two attempts and after that display a toast message saying “Failed Login Attempts” and disable the SIGN IN button. Use Bundle to transfer information from one activity to another.



*FILE NAME:activity\_main.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:textAlignment="center"  
 tools:context=".MainActivity">  
  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="278dp"  
 android:layout\_height="50dp"  
 android:text="SIGNUP ACTIVITY"  
 android:textAlignment="center"  
 android:textColor="#9C27B0"  
 android:textSize="28sp"  
 android:textStyle="bold"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.497"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.173" />  
  
 <TextView  
 android:id="@+id/textView2"  
 android:layout\_width="175dp"  
 android:layout\_height="44dp"  
 android:text="USER NAME"  
 android:textAlignment="center"  
 android:textColor="#F44336"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.1"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.396" />  
  
 <TextView  
 android:id="@+id/textView3"  
 android:layout\_width="133dp"  
 android:layout\_height="50dp"  
 android:text="PASSWORD"  
 android:textAlignment="center"  
 android:textColor="#F44336"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.147"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.499" />  
  
 <EditText  
 android:id="@+id/Signup\_username"  
 android:layout\_width="205dp"  
 android:layout\_height="49dp"  
 android:ems="10"  
 android:inputType="textPersonName"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.932"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.397" />  
  
 <EditText  
 android:id="@+id/Signup\_password"  
 android:layout\_width="207dp"  
 android:layout\_height="58dp"  
 android:ems="10"  
 android:inputType="textPersonName"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.947"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <Button  
 android:id="@+id/btn\_signin"  
 android:layout\_width="208dp"  
 android:layout\_height="51dp"  
 android:background="#E91E63"  
 android:text="SIGN UP"  
 android:textAlignment="center"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.498"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.672" />  
</androidx.constraintlayout.widget.ConstraintLayout>

**FILE NAME: MainActivity.java**

package com.example.signupandlogin;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.Toast;  
  
import java.util.regex.Matcher;  
import java.util.regex.Pattern;  
  
public class MainActivity extends AppCompatActivity implements View.OnClickListener {  
 EditText Signup\_Username, Signup\_Password;  
 Button btnSignup;  
 String regularExpression = "^(?=.\*[A-Z])(?=.\*[a-z])(?=.\*\\d)(?=.\*[@$!])[A-Za-z\\d@$!]{8,}$";  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 Signup\_Username = (EditText) findViewById(R.id.*Signup\_username*);  
 Signup\_Password = (EditText) findViewById(R.id.*Signup\_password*);  
 btnSignup = (Button) findViewById(R.id.*btn\_signin*);  
 btnSignup.setOnClickListener(this);  
 }  
  
 @Override  
 public void onClick(View view) {  
 String username = Signup\_Username.getText().toString();  
 String password = Signup\_Password.getText().toString();  
 if (validatePassword(password)) {  
 Toast.*makeText*(getBaseContext(), "Valid password", Toast.*LENGTH\_LONG*).show();  
 Bundle bundle = new Bundle();  
 bundle.putString("user", username);  
 bundle.putString("pwd", password);  
 Intent it = new Intent(this, Login.class);  
 it.putExtra("data", bundle);  
 startActivity(it);  
 } else {  
 Toast.*makeText*(getBaseContext(), "Invalid password", Toast.*LENGTH\_LONG*).show();  
 }  
 }  
  
 private boolean validatePassword(String password) {  
 Pattern pattern = Pattern.*compile*(regularExpression);  
 Matcher matcher = pattern.matcher(password);  
 return matcher.matches();  
  
 }  
}

**file Name: Activity\_login.xml**

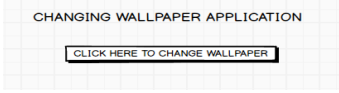
*<?*xml version="1.0" encoding="utf-8"*?>*<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:textAlignment="center"  
 tools:context=".MainActivity">  
  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="278dp"  
 android:layout\_height="50dp"  
 android:text="LOGIN ACTIVITY"  
 android:textAlignment="center"  
 android:textColor="#9C27B0"  
 android:textSize="28sp"  
 android:textStyle="bold"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.497"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.173" />  
  
 <TextView  
 android:id="@+id/textView2"  
 android:layout\_width="175dp"  
 android:layout\_height="44dp"  
 android:text="USER NAME"  
 android:textAlignment="center"  
 android:textColor="#F44336"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.1"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.396" />  
  
 <TextView  
 android:id="@+id/textView3"  
 android:layout\_width="133dp"  
 android:layout\_height="50dp"  
 android:text="PASSWORD"  
 android:textAlignment="center"  
 android:textColor="#F44336"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.147"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.499" />  
  
 <EditText  
 android:id="@+id/Signup\_username"  
 android:layout\_width="205dp"  
 android:layout\_height="49dp"  
 android:ems="10"  
 android:inputType="textPersonName"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.932"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.397" />  
  
 <EditText  
 android:id="@+id/Signup\_password"  
 android:layout\_width="198dp"  
 android:layout\_height="53dp"  
 android:ems="10"  
 android:inputType="textPersonName"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.924"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.534" />  
  
 <Button  
 android:id="@+id/btn\_signin"  
 android:layout\_width="208dp"  
 android:layout\_height="51dp"  
 android:background="#E91E63"  
 android:text="SIGN IN"  
 android:textAlignment="center"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.498"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.672" />  
</androidx.constraintlayout.widget.ConstraintLayout>

FILE NAME: login.java

package com.example.signupandlogin;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.Toast;  
  
public class Login extends AppCompatActivity implements View.OnClickListener {  
EditText LoginUsername,LoginPassword;  
Button btnLogin;  
String user,pass;  
int count=0;  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_login*);  
 LoginUsername=(EditText)findViewById(R.id.*Signup\_username*);  
 LoginPassword=(EditText)findViewById(R.id.*Signup\_password*);  
 btnLogin=(Button)findViewById(R.id.*btn\_signin*);  
 btnLogin.setOnClickListener(this);  
 Bundle bundle=getIntent().getBundleExtra("data");  
 user=bundle.getString("user");  
 pass=bundle.getString("pwd");  
 }  
  
 @Override  
 public void onClick(View view) {  
 String user1=LoginUsername.getText().toString();  
 String pass1=LoginPassword.getText().toString();  
 if(user.equals(user1)&&pass.equals(pass1))  
 {  
 Toast.*makeText*(this,"login Successful",Toast.*LENGTH\_LONG*).show();  
 }  
 else  
 {  
 count++;  
 if(count==3)  
 {  
 btnLogin.setEnabled(false);  
 Toast.*makeText*(this,"Failed login Attempts",Toast.*LENGTH\_LONG*).show();  
  
 }  
 else  
 {  
 Toast.*makeText*(this,"Login Failed"+count,Toast.*LENGTH\_LONG*).show();  
 }  
 }  
 }  
}

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**PROGRAM 4:** Develop an application to set an image as wallpaper. On click of a button, the wallpaper image should start to change randomly every 30 seconds.



FILE NAME:activity\_main.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/textView"  
 android:layout\_width="387dp"  
 android:layout\_height="70dp"  
 android:text="CHANGING WALLPAPER APPLICATION"  
 android:textAlignment="center"  
 android:textColor="#F44336"  
 android:textSize="24sp"  
 android:textStyle="bold"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.666"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.177" />  
  
 <Button  
 android:id="@+id/btn\_wall"  
 android:layout\_width="266dp"  
 android:layout\_height="102dp"  
 android:background="#FF9800"  
 android:text="CLICK HERE TO WALL PAPER CHANGE"  
 android:textAlignment="center"  
 android:textSize="24sp"  
 android:textStyle="bold"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.498"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.523" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

FILE NAME: MainActity.java

package com.example.wallpaper;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.app.WallpaperManager;  
import android.graphics.BitmapFactory;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
  
import java.io.IOException;  
import java.util.Random;  
import java.util.Timer;  
import java.util.TimerTask;  
  
public class MainActivity extends AppCompatActivity implements View.OnClickListener {  
 Button btn;  
 boolean running;  
 int[] ia=new int[]{R.drawable.*imag1*,R.drawable.*imag2*,R.drawable.*imag3*,R.drawable.*imag4*,R.drawable.*imag5*};  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 btn = (Button) findViewById(R.id.*btn\_wall*);  
 btn.setOnClickListener(this);  
 }  
  
 @Override  
 public void onClick(View view) {  
 if (!running) {  
 new Timer().schedule(new Mytimer(), 0, 3000);  
 running=true;  
 }  
 }  
  
 private class Mytimer extends TimerTask {  
 @Override  
 public void run() {  
 try {  
 WallpaperManager wallpaperManager = WallpaperManager.*getInstance*(getBaseContext());  
 Random random = new Random();  
 wallpaperManager.setBitmap(BitmapFactory.*decodeResource*(getResources(), ia[random.nextInt(5)]));  
  
 } catch (IOException e) { }  
 }  
 }  
}

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**PROGRAM 5:** Write a program to create an activity with two buttons START and STOP. On pressing of the START button, the activity must start the counter by displaying the numbers from One and the counter must keep on counting until the STOP button is pressed. Display the counter value in a TextViewcontrol



File Name: Acitivity\_main.xml

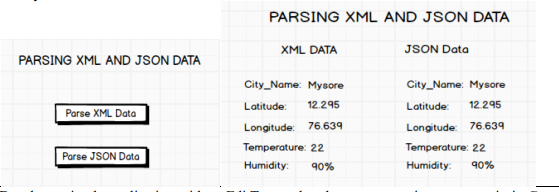
*<?*xml version="1.0" encoding="utf-8"*?>*<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:textAlignment="center"  
 tools:context=".MainActivity">  
  
 <Button  
 android:id="@+id/btn\_stop"  
 android:layout\_width="94dp"  
 android:layout\_height="42dp"  
 android:text="STOP"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.507"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.566" />  
  
 <TextView  
 android:id="@+id/textView2"  
 android:layout\_width="290dp"  
 android:layout\_height="37dp"  
 android:text="COUNTER APPLICATION"  
 android:textAlignment="center"  
 android:textColor="#E91E63"  
 android:textSize="24sp"  
 android:textStyle="bold"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.495"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.142" />  
  
 <TextView  
 android:id="@+id/txt\_value"  
 android:layout\_width="186dp"  
 android:layout\_height="46dp"  
 android:text="counter vallue"  
 android:textAlignment="center"  
 android:textColor="#FF5722"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.498"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.323" />  
  
 <Button  
 android:id="@+id/btn\_start"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="START"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.498"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.453" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

**File Name:MainActivity.java**

package com.example.counter;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.os.Handler;  
import android.os.Looper;  
import android.os.Message;  
import android.view.View;  
import android.widget.Button;  
import android.widget.TextView;  
  
public class MainActivity extends AppCompatActivity implements View.OnClickListener {  
 Button buttonStart, buttonStop;  
 TextView counterValue;  
 public int Counter=0;  
 public boolean running=false;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 buttonStart=(Button)findViewById(R.id.*btn\_start*);  
 buttonStart.setOnClickListener(this);  
 buttonStop=(Button)findViewById(R.id.*btn\_stop*);  
 buttonStop.setOnClickListener(this);  
 counterValue=(TextView)findViewById(R.id.*txt\_value*);  
 }  
  
 @Override  
 public void onClick(View v) {  
 if(v.equals(buttonStart))  
 {  
 counterStart();  
 } else if(v.equals(buttonStop))  
 {  
 counterStop();  
 }  
 }  
  
 private void counterStop() {  
 this.running=false;  
 buttonStart.setEnabled(true);  
 buttonStop.setEnabled(false);  
 }  
  
 private void counterStart() {  
 Counter=0;  
 running=true;  
 System.*out*.println("Start ->"+Thread.*currentThread*().getName());  
 new myCounter().start();  
 buttonStart.setEnabled(false);  
 buttonStop.setEnabled(true);  
 }  
  
 Handler handler = new Handler(Looper.*getMainLooper*())  
 {  
 public void handleMessage(Message mes)  
 {  
 counterValue.setText(String.*valueOf*(mes.what));  
 }  
 };  
 class myCounter extends Thread {  
 public void run() {  
 System.*out*.println("myCounter->"+Thread.*currentThread*().getName());  
 while(running){  
 Counter++;  
 handler.sendEmptyMessage(Counter);  
 try{  
 Thread.*sleep*(1000);  
 } catch(Exception e) { }  
 }  
 }  
 }  
}

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**Program 6:** Create two files of XML and JSON type with values for City\_Name, Latitude, Longitude, Temperature,andHumidity. Develop an application to create an activity with two buttons to parse the XML and JSON files which when clicked should display the data in their respective layouts side by side



Filename:activity\_main.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">  
  
 <Button  
 android:id="@+id/btn\_json"  
 android:layout\_width="195dp"  
 android:layout\_height="66dp"  
 android:background="#FF9800"  
 android:text="PARSEJSON"  
 android:textAlignment="center"  
 android:textColor="#100F0F"  
 android:textSize="24sp"  
 android:textStyle="bold"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.742" />  
  
 <Button  
 android:id="@+id/Btn\_xml"  
 android:layout\_width="195dp"  
 android:layout\_height="66dp"  
 android:background="#FF9800"  
 android:text="PARSEXML"  
 android:textAlignment="center"  
 android:textColor="#100F0F"  
 android:textSize="24sp"  
 android:textStyle="bold"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.451" />  
  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="314dp"  
 android:layout\_height="72dp"  
 android:text="PARSE YOUR DATA"  
 android:textAlignment="center"  
 android:textColor="#FF5722"  
 android:textSize="34sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.464"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.176" />  
</androidx.constraintlayout.widget.ConstraintLayout>

Filename:acitivity\_view.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=".ViewActivity">  
  
 <TextView  
 android:id="@+id/xmlplaceholder"  
 android:layout\_width="341dp"  
 android:layout\_height="466dp"  
 android:text="TextView"  
 android:textColor="#E91E63"  
 android:textSize="16sp"  
 android:textStyle="bold"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.124"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/textView4"  
 app:layout\_constraintVertical\_bias="0.365" />  
  
 <TextView  
 android:id="@+id/jsonplaceholder"  
 android:layout\_width="168dp"  
 android:layout\_height="144dp"  
 android:text="TextView"  
 android:textColor="#3F51B5"  
 android:textSize="16sp"  
 android:textStyle="bold"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.88"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.364" />  
  
 <TextView  
 android:id="@+id/textView4"  
 android:layout\_width="177dp"  
 android:layout\_height="48dp"  
 android:text="XML DATA"  
 android:textAlignment="center"  
 android:textColor="#E91E63"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.068"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.212" />  
  
 <TextView  
 android:id="@+id/textView5"  
 android:layout\_width="160dp"  
 android:layout\_height="43dp"  
 android:text="JSON DATA"  
 android:textAlignment="center"  
 android:textColor="#E91E63"  
 android:textSize="24dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.883"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.216" />  
</androidx.constraintlayout.widget.ConstraintLayout>

Filename:input.xml

*<?*xml version="1.0" *?>*<Records>  
 <City id="1">  
 <City-Name>BANGALORE</City-Name>  
 <Longitude>8</Longitude>  
 <Latitude>13</Latitude>  
 <Temparature>30</Temparature>  
 <Humidity>90%</Humidity>  
 </City>  
 <City id="2">  
 <City-Name>MANGALORE</City-Name>  
 <Longitude>8</Longitude>  
 <Latitude>13</Latitude>  
 <Temparature>30</Temparature>  
 <Humidity>90%</Humidity>  
 </City>  
</Records>

Filename:input.json

{  
 "City":{  
 "City-name": "BANGALORE",  
 "longitude": "8",  
 "Latitude": "13",  
 "Temparature": "30",  
 "Humidity": "90%"  
 }  
}

Filename: MainActivity.java

package com.example.xmlparse;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
  
public class MainActivity extends AppCompatActivity {  
 Button btnx,btnj;  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 btnx=findViewById(R.id.*Btn\_xml*);  
 btnj=findViewById(R.id.*btn\_json*);  
 btnx.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 Intent intent=new Intent(MainActivity.this,ViewActivity.class);  
 intent.putExtra("val",1);  
 startActivity(intent);  
 }  
 });  
 btnj.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 Intent intent=new Intent(MainActivity.this,ViewActivity.class);  
 intent.putExtra("val",2);  
 startActivity(intent);  
 }  
 });  
 }  
}

filename:ViewActivity.java

package com.example.xmlparse;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.util.Log;  
import android.widget.TextView;  
  
import org.json.JSONException;  
import org.json.JSONObject;  
import org.w3c.dom.Document;  
import org.w3c.dom.Element;  
import org.w3c.dom.Node;  
import org.w3c.dom.NodeList;  
import org.xml.sax.SAXException;  
  
import java.io.IOException;  
import java.io.InputStream;  
  
import javax.xml.parsers.DocumentBuilder;  
import javax.xml.parsers.DocumentBuilderFactory;  
import javax.xml.parsers.ParserConfigurationException;  
  
  
public class ViewActivity extends AppCompatActivity {  
 int flag;  
 TextView jsonplaceHolder, xmlplaceHolder;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_view*);  
 flag = getIntent().getIntExtra("val", 0);  
 jsonplaceHolder = findViewById(R.id.*jsonplaceholder*);  
 xmlplaceHolder = findViewById(R.id.*xmlplaceholder*);  
 if (flag == 1) {  
 parseX();  
 }  
 if (flag == 2) {  
 parseJ();  
 }  
 }  
  
  
 public void parseJ() {  
 String stringData;  
 try {  
 InputStream inputStream = getAssets().open("input.json");  
 int size = inputStream.available();  
 byte[] buffer = new byte[size];  
 inputStream.read(buffer);  
 stringData = new String(buffer);  
 Log.*e*("data", "parseJSON" + stringData);  
 JSONObject jsonObject = new JSONObject(stringData);  
 Log.*e*("data", "parseJSON" + jsonObject);  
 Log.*e*("data", "parseJSON" + jsonObject.getClass().getName());  
  
 JSONObject cityObject = jsonObject.getJSONObject("City");  
 String CityName = cityObject.getString("City-name");  
 String Longitude = cityObject.getString("longitude");  
 String latitude = cityObject.getString("Latitude");  
 String temparature = cityObject.getString("Temparature");  
 String humidity = cityObject.getString("Humidity");  
 Log.*e*("data", "parseJSON" + CityName);  
 jsonplaceHolder.setText(CityName + "\n");  
 jsonplaceHolder.append(Longitude + "\n");  
 jsonplaceHolder.append(latitude + "\n");  
 jsonplaceHolder.append(temparature + "\n");  
 jsonplaceHolder.append(humidity + "\n");  
  
  
 } catch (IOException | JSONException e) {  
 e.printStackTrace();  
 }  
 }  
  
 public void parseX() {  
 xmlplaceHolder.setText(" ");  
 try {  
 InputStream inputStream=getAssets().open("input.xml");  
 DocumentBuilderFactory documentBuilderFactory = DocumentBuilderFactory.*newInstance*();  
 DocumentBuilder documentBuilder = documentBuilderFactory.newDocumentBuilder();  
 Document document = documentBuilder.parse(inputStream);  
 NodeList cityList = document.getElementsByTagName("City");  
 for (int i = 0; i < cityList.getLength(); i++) {  
 Node c = cityList.item(i);  
 if (c.getNodeType() == Node.*ELEMENT\_NODE*) {  
 Element city = (Element) c;  
 *// String id = city.getAttribute("id");  
 // Log.e("data", "parseXML:" + id);* NodeList cityDetailList = city.getChildNodes();  
 for (int j = 0; j < cityDetailList.getLength(); j++) {  
 Node n = cityDetailList.item(j);  
 if (n.getNodeType() == Node.*ELEMENT\_NODE*) {  
 Element cityDetail = (Element) n;  
 String value = cityDetail.getTextContent();  
 Log.*e*("data", "parseXML:" + value);  
 xmlplaceHolder.append(value + "\n");  
 }  
 }  
 }  
 }  
 } catch (IOException e) {  
 e.printStackTrace();  
 } catch (ParserConfigurationException e) {  
 e.printStackTrace();  
 } catch (SAXException e) {  
 e.printStackTrace();  
 }  
 }  
}

output:

