PROGRAM 6:

XML CODE

*<?*xml version="1.0" encoding="utf-8"*?>*<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="257dp"  
 android:layout\_height="59dp"  
 android:layout\_alignParentEnd="true"  
 android:layout\_alignParentBottom="true"  
 android:layout\_marginEnd="74dp"  
 android:layout\_marginBottom="453dp"  
 android:text="PARSER"  
 android:textSize="36sp"  
 tools:layout\_editor\_absoluteX="194dp"  
 tools:layout\_editor\_absoluteY="126dp" />  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_alignParentEnd="true"  
 android:layout\_alignParentBottom="true"  
 android:layout\_marginEnd="260dp"  
 android:layout\_marginBottom="371dp"  
 android:backgroundTint="#F1B763"  
 android:onClick="parsexml"  
 android:text="XML"  
 android:textAlignment="center" />  
 <Button  
 android:id="@+id/button2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_alignParentEnd="true"  
 android:layout\_alignParentBottom="true"  
 android:layout\_marginEnd="118dp"  
 android:layout\_marginBottom="373dp"  
 android:backgroundTint="#CDDC39"  
 android:onClick="parsejson"  
 android:text="JSON"  
 android:textAlignment="center" />  
  
 <TextView  
 android:id="@+id/display"  
 android:layout\_width="402dp"  
 android:layout\_height="332dp"  
 android:layout\_alignParentEnd="true"  
 android:layout\_alignParentBottom="true"  
 android:layout\_marginEnd="9dp"  
 android:layout\_marginBottom="15dp"  
 android:textAlignment="center"  
 android:textColor="#EF3A78" />  
</RelativeLayout>

JAVA(MAIN ACTIVITY)

package com.example.prog6;  
  
import androidx.appcompat.app.AppCompatActivity;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.TextView;  
import android.widget.Toast;  
import org.json.JSONArray;  
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 java.io.InputStream;  
import java.nio.charset.StandardCharsets;  
import javax.xml.parsers.DocumentBuilder;  
import javax.xml.parsers.DocumentBuilderFactory;  
public class MainActivity extends AppCompatActivity {  
 TextView display;  
 Button btnjson,btnXml;  
 TextView tvJson,tvXml;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 btnjson=(Button) findViewById(R.id.*button2*);  
 btnXml=(Button) findViewById(R.id.*button*);  
 display=findViewById(R.id.*display*);  
 }  
 public void parsexml(View v){  
 try {  
 InputStream is=getAssets().open("city.xml");  
 DocumentBuilderFactory = DocumentBuilderFactory.newInstance();  
 DocumentBuilder documentBuilder=documentBuilderFactory.newDocumentBuilder();  
 Document document=documentBuilder.parse(is);  
 StringBuilder stringBuilder=new StringBuilder();  
 stringBuilder.append("XML DATA");  
 stringBuilder.append("\n-------------");  
 NodeList nodeList=document.getElementsByTagName("place");  
 for(int i=0; i<nodeList.getLength();i++){  
 Node = nodeList.item(i);  
 if(node.getNodeType()==Node.ELEMENT\_NODE){  
 Element = (Element)node;  
 stringBuilder.append("\nName:").append(getValue("name",element));  
 stringBuilder.append("\nLatitude:").append(getValue("lat",element));  
 stringBuilder.append("\nLongitude:").append(getValue("long",element));  
 stringBuilder.append("\nTemperature:").append(getValue("temperature",element));  
 stringBuilder.append("\nhumidity").append(getValue("humidity",element));  
 stringBuilder.append("\n----------");  
 }  
 }  
 display.setText(stringBuilder.toString());  
 }  
 catch (Exception e){  
 e.printStackTrace();  
 Toast.makeText(MainActivity.this,"Error in reading XML FILE",Toast.LENGTH\_LONG).show();  
 }  
 }  
 public void parsejson(View V){  
 String json;  
 StringBuilder = new StringBuilder();  
 try {  
 InputStream is = getAssets().open("city.json");  
 int size=is.available();  
 byte[] buffer=new byte[size];  
 is.read(buffer);  
 json = new String(buffer, StandardCharsets.UTF\_8);*//converting the string into utf format* JSONArray = new JSONArray(json);  
 stringBuilder.append("JSON DATA");  
 stringBuilder.append("\n--------");  
 for(int i=0;i<jsonArray.length();i++){  
 JSONObject = jsonArray.getJSONObject(i);  
 stringBuilder.append("\n Name:").append(jsonObject.getString("name"));  
 stringBuilder.append("\n Latidue:").append(jsonObject.getString("lat"));  
 stringBuilder.append("\nLongitude:").append(jsonObject.getString("long"));  
 stringBuilder.append("\nTemperature:").append(jsonObject.getString("temperature"));  
 stringBuilder.append("\nHumidity:").append(jsonObject.getString("humidity"));  
 stringBuilder.append("\n----------");  
 }  
 display.setText(stringBuilder.toString());  
 is.close();  
 }  
 catch (Exception e){  
 e.printStackTrace();  
 Toast.makeText(MainActivity.this,"Error in reading JSON file",Toast.LENGTH\_LONG).show();  
 }  
 }  
 private String getValue(String tag,Element element){  
 return element.getElementsByTagName(tag).item(0).getChildNodes().item(0).getNodeValue();  
 }  
}

ACTIVE\_VIWE\_DATA.XML

*<?*xml version="1.0" encoding="utf-8"*?>*<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".ViewDataActivity">  
  
 <TextView  
 android:id="@+id/view\_header\_id"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="PARSING XML AND JSON DATA"  
 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="0.04" />  
  
 <TextView  
 android:id="@+id/view\_xml\_label\_id"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="XML Data"  
 android:textSize="16sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toStartOf="@+id/view\_json\_label\_id"  
 app:layout\_constraintHorizontal\_bias="0.21"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/view\_header\_id"  
 app:layout\_constraintVertical\_bias="0.076" />  
  
 <TextView  
 android:id="@+id/view\_json\_label\_id"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginEnd="96dp"  
 android:text="JSON Data"  
 android:textSize="16sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/view\_header\_id"  
 app:layout\_constraintVertical\_bias="0.076" />  
  
 <TextView  
 android:id="@+id/view\_xml\_content\_id"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="xml content"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.0"  
 app:layout\_constraintStart\_toStartOf="@+id/view\_xml\_label\_id"  
 app:layout\_constraintTop\_toBottomOf="@+id/view\_xml\_label\_id"  
 app:layout\_constraintVertical\_bias="0.109" />  
  
 <TextView  
 android:id="@+id/view\_json\_content\_id"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="json content"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.0"  
 app:layout\_constraintStart\_toStartOf="@+id/view\_json\_label\_id"  
 app:layout\_constraintTop\_toBottomOf="@+id/view\_json\_label\_id"  
 app:layout\_constraintVertical\_bias="0.107" />  
</RelativeLayout>

View JAVA CODE

package com.example.prog6;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.util.JsonReader;  
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 java.io.InputStreamReader;  
  
import javax.xml.parsers.DocumentBuilder;  
import javax.xml.parsers.DocumentBuilderFactory;  
import javax.xml.parsers.ParserConfigurationException;  
  
public class ViewDataActivity extends AppCompatActivity {  
  
 TextView xmlContentTextView, jsonContentTextView;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_view\_data*);  
 xmlContentTextView = (TextView) findViewById(R.id.*view\_xml\_content\_id*);  
 jsonContentTextView = (TextView) findViewById(R.id.*view\_json\_content\_id*);  
 Intent = getIntent();  
 String dataType = intent.getStringExtra("dataType");  
 if(dataType.equals("xml")) {  
 xmlContentTextView.setText("Test xml parsed content");  
 parseXML();  
 } else if(dataType.equals("json")) {  
 jsonContentTextView.setText("Test json parsed content");  
 parseJSON();  
 }  
 }  
  
 public void parseXML() {  
 InputStream = null;  
 try {  
 inputStream = getAssets().open("weather.xml");  
 JsonReader reader = new JsonReader(new InputStreamReader(inputStream));  
 DocumentBuilderFactory dbf = DocumentBuilderFactory.*newInstance*();  
 DocumentBuilder db = dbf.newDocumentBuilder();  
 Document doc = db.parse(inputStream);  
 doc.normalize();  
 NodeList = doc.getElementsByTagName("weather");  
 for(int i=0; i<nodeList.getLength();i++) {  
 Node = nodeList.item(i);  
 if(node.getNodeType() == Node.*ELEMENT\_NODE*) {  
 Element = (Element) node;  
 xmlContentTextView.setText("City\_Name: "+element.getElementsByTagName("city\_name").item(0).getTextContent() + "\n");  
 xmlContentTextView.append("Latitude: "+element.getElementsByTagName("latitude").item(0).getTextContent() + "\n");  
 xmlContentTextView.append("Longitude: "+element.getElementsByTagName("longitude").item(0).getTextContent() + "\n");  
 xmlContentTextView.append("Temperature: "+element.getElementsByTagName("temperature").item(0).getTextContent() + "\n");  
 xmlContentTextView.append("Humidity: "+element.getElementsByTagName("humidity").item(0).getTextContent());  
 }  
 }  
 } catch (IOException e) {  
 e.printStackTrace();  
 } catch (ParserConfigurationException e) {  
 e.printStackTrace();  
 } catch (SAXException e) {  
 e.printStackTrace();  
 } finally {  
 if(inputStream != null) {  
 try {  
 inputStream.close();  
 } catch (IOException e) {  
 e.printStackTrace();  
 }  
 }  
 }  
 }  
  
 public void parseJSON() {  
 try (InputStream = getAssets().open("weather.json")) {  
 byte[] data = new byte[inputStream.available()];  
 inputStream.read(data);  
 String jsonString = new String(data);  
 JSONObject = new JSONObject(jsonString);  
 JSONObject weather = jsonObject.getJSONObject("weather");  
 jsonContentTextView.setText("City\_Name: "+weather.getString("city\_name") + "\n");  
 jsonContentTextView.append("Latitude: "+weather.getString("latitude") + "\n");  
 jsonContentTextView.append("Longitude: "+weather.getString("longitude") + "\n");  
 jsonContentTextView.append("Temperature: "+weather.getString("temperature") + "\n");  
 jsonContentTextView.append("Humidity: "+weather.getString("humidity") + "\n");  
 } catch (IOException e) {  
 e.printStackTrace();  
 } catch (JSONException e) {  
 e.printStackTrace();  
 }  
 }  
}

CREATE ASSET FOLDER

App-> New -> Folder -> asset folder

Inside that create file in the name of city.xml and city.json

Asset->New -> file

CITY.XML

*<?*xml version="1.0" encoding="UTF-8" *?>*<records>  
 <place>  
 <name>Mysore</name>  
 <lat>65.709</lat>  
 <long>655.1</long>  
 <temp>30.1</temp>  
 <hum>70%</hum>  
 </place>  
 <place>  
 <name>Mumbai</name>  
 <lat>98.709</lat>  
 <long>812.2</long>  
 <temp>31.1</temp>  
 <hum>82%</hum>  
 </place>  
</records>

CITY.JSON

[  
 {  
 "name": "Belgaum",  
 "lat": "34.345",  
 "long": "324.45",  
 "temp": "33",  
 "hum": "83%"  
 },  
 {  
 "name": "Raichur",  
 "lat": "44.345",  
 "long": "424.45",  
 "temp": "43",  
 "hum": "85%"  
 }  
]