6 Create two files of XML and JSON type with values for City\_Name, Latitude, Longitude, Temperature, and Humidity. 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.

**XML Part– 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">

<TextView

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="XML and JSON Parser"

android:textSize="30sp"

android:textAlignment="center"

/>

<Button

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:onClick="XMLParser"

android:text="XML PARSER"

android:textAlignment="center"

/>

<Button

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:onClick="JSONParser"

android:text="JSON PARSER"

android:textAlignment="center"

/>

<LinearLayout

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:orientation="horizontal"

android:layout\_gravity="center">

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:id="@+id/resxml"

android:textSize="15sp"

android:textAlignment="center"

android:paddingLeft="10dp"

android:paddingRight="40dp"

/>

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:id="@+id/resjson"

android:textSize="15sp"

android:textAlignment="center"

android:paddingLeft="40dp"

/>

</LinearLayout>

</LinearLayout>

**Java Code – MainActivity.java**

package com.example.json123;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.TextView;

import org.json.JSONArray;

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 MainActivity extends AppCompatActivity {

TextView resxml,resjson;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

resxml=findViewById(R.id.resxml);

resjson=findViewById(R.id.resjson);

}

public void XMLParser(View v)

{

try {

InputStream is=getAssets().open("city.xml");

DocumentBuilderFactory dbFactory=DocumentBuilderFactory.newInstance();

DocumentBuilder dBuilder=dbFactory.newDocumentBuilder();

Document doc=dBuilder.parse(is);

Element element=doc.getDocumentElement();

element.normalize();

NodeList nList= doc.getElementsByTagName("place");

resxml.setText("XML DATA");

for(int i=0;i<nList.getLength();i++)

{

Node node=nList.item(i);

if(node.getNodeType()==Node.ELEMENT\_NODE)

{

Element element2=(Element)node;

resxml.setText(resxml.getText()+"\n City

Name:"+getValue("cityname",element2)+"\n");

resxml.setText(resxml.getText()+"\n Lat:"+getValue("lat",element2)+"\n");

resxml.setText(resxml.getText()+"\n Long:"+getValue("long",element2)+"\n");

resxml.setText(resxml.getText()+"\n

Temperature:"+getValue("temp",element2)+"\n");

resxml.setText(resxml.getText()+"\n

Humidity:"+getValue("humidity",element2)+"\n");

resxml.setText(resxml.getText()+"\n -------------------------");

}

}

}

catch (IOException | ParserConfigurationException | SAXException e) {

e.printStackTrace();

}

}

private static String getValue(String tag, Element element)

{

NodeList nodeList=element.getElementsByTagName(tag).item(0).getChildNodes();

Node node=nodeList.item(0);

return node.getNodeValue();

}

public void JSONParser(View v)

{

String json;

try {

InputStream is=getAssets().open("city1.json");

int size=is.available();

byte[] buffer=new byte[size];

is.read(buffer);

is.close();

json=new String(buffer, "UTF-8");

JSONArray jsonArray=new JSONArray(json);

resjson.setText("JSON DATA");

for(int i=0; i<jsonArray.length();i++)

{

JSONObject obj=jsonArray.getJSONObject(i);

resjson.setText(resjson.getText()+"\n City Name:"+obj.getString("name")+"\n");

resjson.setText(resjson.getText()+"\n Lat:"+obj.getString("lat")+"\n");

resjson.setText(resjson.getText()+"\n Long:"+obj.getString("long")+"\n");

resjson.setText(resjson.getText()+"\n Temperature:"+obj.getString("temp")+"\n");

resjson.setText(resjson.getText()+"\n Humidity:"+obj.getString("humidity")+"\n");

resjson.setText(resjson.getText()+"\n --------------------");

}

}

catch (IOException | JSONException e) {

e.printStackTrace();

}

}

}