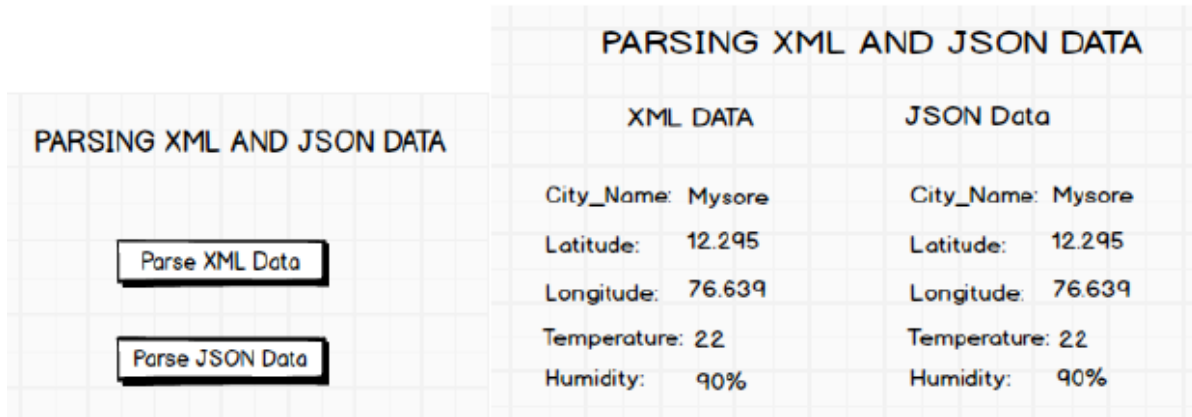


Program 6:

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.



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:layout_width="383dp"
        android:layout_height="40dp"
        android:text="Parse XML and JSON DATA"
        android:textAlignment="center"
        android:textColor="#9C27B0"
        android:textSize="34sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.428"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.091" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="PARSE XML DATA"
        android:textSize="20sp"
        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="0.213" />

<Button
    android:id="@+id/button2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="PARSE JSON DATA"
    android:textSize="20sp"
    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="0.412" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

Activity_json_xml.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=".XML_JSON">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="PARSING XML and JSON DATA"
        android:textSize="24sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.431"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.08" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="32dp"
        android:text="XML DATA"
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toStartOf="@+id/textView3"
        app:layout_constraintHorizontal_bias="0.008"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView"
        app:layout_constraintVertical_bias="0.087" />

    <TextView
        android:id="@+id/textView3"

```

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginEnd="60dp"
        android:text="JSON DATA"
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView"
        app:layout_constraintVertical_bias="0.087" />

<TextView
    android:id="@+id/textView4"
    android:layout_width="209dp"
    android:layout_height="192dp"
    android:text="XML Content"
    android:textSize="16sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintStart_toStartOf="@+id/textView2"
    app:layout_constraintTop_toBottomOf="@+id/textView2"
    app:layout_constraintVertical_bias="0.2" />

<TextView
    android:id="@+id/textView5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="JSON Content"
    android:textSize="16sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="@+id/textView3"
    app:layout_constraintHorizontal_bias="1.0"
    app:layout_constraintStart_toStartOf="@+id/textView3"
    app:layout_constraintTop_toBottomOf="@+id/textView3"
    app:layout_constraintVertical_bias="0.201" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

Mainactivity.java

```

package com.example.lab6;
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 implements
View.OnClickListener {
    Button btn1,btn2;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btn1 = (Button) findViewById(R.id.button);
        btn1.setOnClickListener(this);

        btn2= (Button) findViewById(R.id.button2);
        btn2.setOnClickListener(this);
    }
}

```

```

@Override
public void onClick(View view) {
    if (view.equals(btn1))
    {
        Intent i1 = new Intent(this, XML_JSON.class);
        i1.putExtra("datatype", "xml");
        startActivity(i1);

    }
    else if (view.equals(btn2)) {
        Intent i1 = new Intent(this, XML_JSON.class);
        i1.putExtra("datatype", "json");
        startActivity(i1);
    }
}
}

```

XML_JSON.java

```

package com.example.lab6;

import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
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 XML_JSON extends AppCompatActivity {
    TextView xmltxt, jsontxt;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_xml_json);
        xmltxt=(TextView) findViewById(R.id.textView4);
        jsontxt=(TextView) findViewById(R.id.textView5);

        Intent intent = getIntent();
        String datatype= intent.getStringExtra("datatype");

        if (datatype.equals("xml")) {
            xmltxt.setText("XML Parsed ");
            parsexml();
        }
        else if (datatype.equals("json")) {
            jsontxt.setText("JSON Parsed");
            parsejson();
        }
    }
}

```

```

private void parsejson() {
    try {
        InputStream istream = getAssets().open("weather.json");
        byte[] data = new byte[istream.available()];
        istream.read(data);
        String jsonstr=new String(data);
        JSONObject jobj=new JSONObject(jsonstr);
        JSONObject weather = jobj.getJSONObject("weather");

jsontxt.setText("city_name:"+weather.getString("city_name")+"\n");
jsontxt.append("latitude: "+weather.getString("latitude")+"\n");
jsontxt.append("longitude: "+weather.getString("longitude")+"\n");
jsontxt.append("temperature: "+weather.getString("temperature")+"\n");
jsontxt.append("humidity: "+weather.getString("humidity"));

        } catch (IOException | JSONException e) {
            e.printStackTrace();
        }
    }

private void parsexml() {
    try {
        InputStream istream = getAssets().open("weather.xml");
        DocumentBuilderFactory dbf= DocumentBuilderFactory.newInstance();
        DocumentBuilder db = dbf.newDocumentBuilder();
        Document doc = db.parse(istream);
        doc.normalize();
        NodeList nlist = doc.getElementsByTagName("weather");
        for(int i=0; i<nlist.getLength();i++) {
            Node node=nlist.item(i);
            if (node.getNodeType() == Node.ELEMENT_NODE) {
                Element ele = (Element) node;
xmltxt.setText("city_name: "+
ele.getElementsByTagName("city_name").item(0).getTextContent()+"\n");
xmltxt.append("latitude: "+
ele.getElementsByTagName("latitude").item(0).getTextContent()+"\n");
xmltxt.append("longitude: "+
ele.getElementsByTagName("longitude").item(0).getTextContent()+"\n");
xmltxt.append("temperature: "+
ele.getElementsByTagName("temperature").item(0).getTextContent()+"\n");
xmltxt.append("humidity: "+
ele.getElementsByTagName("humidity").item(0).getTextContent());
            }
        }

        } catch (IOException | ParserConfigurationException | SAXException e)
{
            e.printStackTrace();
        }
    }
}

```

```
//Weather.xml
<?xml version="1.0"?>
<records>
  <weather>
    <city_name>Bengaluru</city_name>
    <latitude>12.295</latitude>
    <longitude>76.987</longitude>
    <temperature>25</temperature>
    <humidity>50</humidity>
  </weather>
</records>
```

```
//weather.json
{
  "weather": {
    "city_name": "Bengaluru",
    "latitude": "12.295",
    "longitude": "76.987",
    "temperature": 25,
    "humidity": 50
  }
}
```

OUTPUT:



