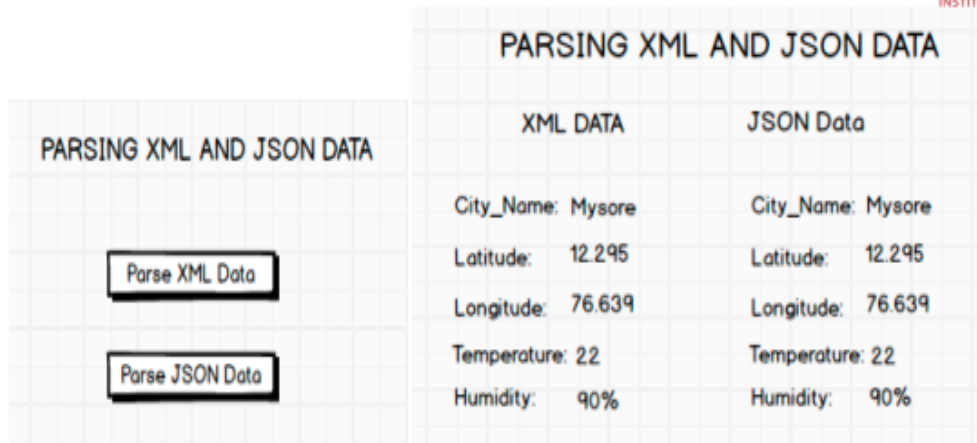


Pgm 6

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 pgm

```
<?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_xml"
    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/button_json"
    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="11dp"
    android:textAlignment="center"
    android:textColor="#EF3A78" />
</RelativeLayout>

```

city.xml

```

<?xml version="1.0"?>
<records>
    <place>

```

```
<name>Mysore</name>
<lat>12.295</lat>
<long>76.639</long>
<temperature>22</temperature>
<humidity>90%</humidity>
</place>
<place>
  <name>Bangalore</name>
  <lat>13.295</lat>
  <long>77.639</long>
  <temperature>25</temperature>
  <humidity>74%</humidity>
</place>
</records>
```

city.json

```
[
  {
    "name":"HASSAN",
    "lat":"12.295",
    "long":"76.639",
    "temperature":"22",
    "humidity":"92%"
  },
  {
    "name":"MANDYA",
    "lat":"10.11",
    "long":"66.639",
    "temperature":"24",
    "humidity":"82%"
  }
]
```

Java pgm

```
package com.example.parserapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
```

```

import android.view.View;
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;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        display=findViewById(R.id.display);
    }
    public void parsexml(View v){
        try {
            InputStream is=getAssets().open("city.xml");
            DocumentBuilderFactory 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 node = nodeList.item(i);
                if(node.getNodeType()==Node.ELEMENT_NODE){
                    Element element = (Element)node;
                    stringBuilder.append("\n Name:").append(getValue("name",element));
                    stringBuilder.append("\n Latitude:").append(getValue("lat",element));
                    stringBuilder.append("\n Longitude:").append(getValue("long",element));
                }
            }
        }
    }
}

```

```

        stringBuilder.append("\n Temperature:").append(getValue("temperature",element));
        stringBuilder.append("\n humidity").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 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);
        JSONArray jsonArray = new JSONArray(json);
        stringBuilder.append("JSON DATA");
        stringBuilder.append("\n-----");
        for(int i=0;i<jsonArray.length();i++){
            JSONObject jsonObject = jsonArray.getJSONObject(i);
            stringBuilder.append("\n Name:").append(jsonObject.getString("name"));
            stringBuilder.append("\n Latitude:").append(jsonObject.getString("lat"));
            stringBuilder.append("\n Longitude:").append(jsonObject.getString("long"));
            stringBuilder.append("\n Temperature:").append(jsonObject.getString("temperature"));
            stringBuilder.append("\n Humidity:").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();
}
}

```

Pgm 7

Develop a simple application with one Edit Text so that the user can write some text in it. Create a button called “Convert Text to Speech” that converts the user input text into voice.



Xml pgm

```

<?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="335dp"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="21dp"
        android:layout_marginBottom="486dp"
        android:text="Text2Speech"
        android:textSize="30sp" />
    <EditText
        android:id="@+id/editText"
        android:layout_width="wrap_content"

```

```

        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="142dp"
        android:layout_marginBottom="377dp"
        android:ems="10"
        android:hint="Enter text here"
        android:inputType="textPersonName" />
    <Button
        android:id="@+id/convert"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="196dp"
        android:layout_marginBottom="236dp"
        android:onClick="convert"
        android:background="#6CEC71"
        android:text="CONVERT" />
</RelativeLayout>

```

Java pgm

```

package com.example.texttospeechapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.speech.tts.TextToSpeech;
import android.view.View;
import android.widget.EditText;
import java.util.Locale;
public class MainActivity extends AppCompatActivity {
    EditText e1;
    TextToSpeech t1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        e1=findViewById(R.id.editText);
        t1=new TextToSpeech(getApplicationContext(), new TextToSpeech.OnInitListener()
        {
            @Override

```

```

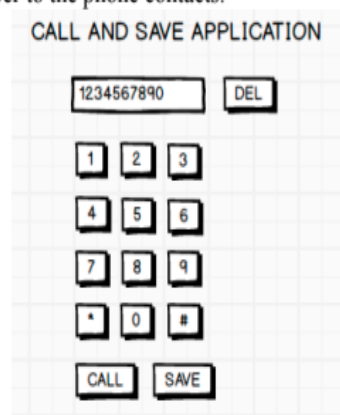
    public void onInit(int status) {
        if(status!=TextToSpeech.ERROR){
            t1.setLanguage(Locale.UK);
        }
    }
});
}
public void convert(View V){
    String tospeak=e1.getText().toString();
    t1.speak(tospeak,TextToSpeech.QUEUE_FLUSH,null);
}
}

```

Program-8:

Create an activity like a phone dialer with CALL and SAVE buttons. On pressing the CALL button, it must call the phone number and on pressing the SAVE button it must save the number to the phone contacts.

It must save the number to the phone contacts.



Xml pgm

```

<?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:id="@+id/Button11"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:backgroundTint="#4CAF50"
    tools:context=".MainActivity">
    <Button
        android:id="@+id/button8"

```



```
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="169dp"
android:layout_marginBottom="201dp"
android:backgroundTint="#4CAF50"
android:onClick="inputNumber"
android:text="8" />
```

<Button

```
android:id="@+id/Button10"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="286dp"
android:layout_marginBottom="115dp"
android:onClick="inputNumber"
android:backgroundTint="#4CAF50"
android:text="*" />
```

<Button

```
android:id="@+id/saveBtn"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="80dp"
android:layout_marginBottom="38dp"
android:backgroundTint="#CDDC39"
android:text="Save" />
```

<Button

```
android:id="@+id/callBtn"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="209dp"
android:layout_marginBottom="35dp"
android:backgroundTint="#F44336"
android:text="Call" />
```

```
<Button
    android:id="@+id/clearBtn12"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="159dp"
    android:layout_marginBottom="116dp"
    android:backgroundTint="#4CAF50"
    android:onClick="inputNumber"
    android:text="0" />
```

```
<Button
    android:id="@+id/Button7"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="288dp"
    android:layout_marginBottom="201dp"
    android:onClick="inputNumber"
    android:backgroundTint="#4CAF50"
    android:text="7" />
```

```
<Button
    android:id="@+id/Button9"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="38dp"
    android:layout_marginBottom="201dp"
    android:onClick="inputNumber"
    android:backgroundTint="#4CAF50"
    android:text="9" />
```

```
<EditText
    android:id="@+id/phoneNumberEditText"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="172dp"
```

```

        android:layout_marginBottom="543dp"
        android:onClick="inputNumber"
        android:ems="10"
        android:hint="Phone Number"
        android:inputType="phone" />
<Button
    android:id="@+id/clearBtn"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="48dp"
    android:layout_marginBottom="544dp"
    android:backgroundTint="#E91E63"
    android:text="Clear" />
<Button
    android:id="@+id/Button12"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="38dp"
    android:onClick="inputNumber"
    android:layout_marginBottom="108dp"
    android:backgroundTint="#4CAF50"
    android:text="#" />
<Button
    android:id="@+id/Button1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="291dp"
    android:onClick="inputNumber"
    android:layout_marginBottom="380dp"
    android:backgroundTint="#4CAF50"
    android:text="1" />
<Button
    android:id="@+id/Button4"
    android:layout_width="wrap_content"

```

```
android:layout_height="wrap_content"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="289dp"
android:onClick="inputNumber"
android:layout_marginBottom="296dp"
android:backgroundTint="#4CAF50"
android:text="4" />
```

<Button

```
android:id="@+id/Button5"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="170dp"
android:onClick="inputNumber"
android:layout_marginBottom="295dp"
android:backgroundTint="#4CAF50"
android:text="5" />
```

<Button

```
android:id="@+id/Button6"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="35dp"
android:layout_marginBottom="290dp"
android:onClick="inputNumber"
android:backgroundTint="#4CAF50"
android:text="6" />
```

<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="172dp"
android:onClick="inputNumber"
android:layout_marginBottom="380dp"
android:backgroundTint="#4CAF50"
```

```

        android:text="2" />
<Button
    android:id="@+id/Button3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="48dp"
    android:onClick="inputNumber"
    android:layout_marginBottom="380dp"
    android:backgroundTint="#4CAF50"
    android:text="3" />
</RelativeLayout>

```

Java pgm

```

package com.example.callsaveapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.provider.ContactsContract;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import java.net.URI;
public class MainActivity extends AppCompatActivity {
    EditText phoneNumberEditText;
    Button clearBtn,saveBtn,callBtn;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        phoneNumberEditText=findViewById(R.id.phoneNumberEditText);
        clearBtn=findViewById(R.id.clearBtn);
        callBtn=findViewById(R.id.callBtn);
        saveBtn=findViewById(R.id.saveBtn);
        clearBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                phoneNumberEditText.setText("");
            }
        });
    }
}

```

```

    }
});
callBtn.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String phoneNumber=phoneNumberEditText.getText().toString();
        Intent intent= new Intent(Intent.ACTION_DIAL);
        intent.setData(Uri.parse("tel:"+phoneNumber));
        startActivity(intent);
    }
});
saveBtn.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String phoneNumber=phoneNumberEditText.getText().toString();
        Intent intent=new Intent(Intent.ACTION_INSERT);
        intent.setType(ContactsContract.Contacts.CONTENT_TYPE);
        intent.putExtra(ContactsContract.Intents.Insert.PHONE,phoneNumber);
        startActivity(intent);
    }
});
}
public void inputNumber(View v){
    Button btn=(Button)v;
    String digit=btn.getText().toString();
    String phoneNumber=phoneNumberEditText.getText().toString();
    phoneNumberEditText.setText(phoneNumber+digit);
}
}

```