

## PROGRAM 1: VISITCARD

### Activity\_main.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=".MainActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentRight="true"
        android:layout_alignParentBottom="true"
        android:layout_marginStart="17dp"
        android:layout_marginLeft="17dp"
        android:layout_marginTop="17dp"
        android:layout_marginEnd="168dp"
        android:layout_marginRight="168dp"
        android:layout_marginBottom="498dp"
        android:text="SSIT"
        android:textSize="38dp" />

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="290dp"
        android:layout_height="174dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentRight="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="-26dp"
        android:layout_marginRight="-26dp"
        android:layout_marginBottom="517dp"
        app:srcCompat="@drawable/ssit" />

    <View
        android:id="@+id/view"
        android:layout_width="wrap_content"
        android:layout_height="4dp"
        android:layout_alignParentBottom="true"
        android:layout_marginBottom="483dp"
        android:background="#4444" />
```

```
<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentRight="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="131dp"
    android:layout_marginRight="131dp"
    android:layout_marginBottom="420dp"
    android:text="Subhash C S"
    android:textSize="30dp"
    android:textStyle="bold" />
```

```
<TextView
    android:id="@+id/textView3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentRight="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="80dp"
    android:layout_marginRight="80dp"
    android:layout_marginBottom="379dp"
    android:text="Assistant Professor-ISE"
    android:textSize="25dp" />
```

```
<TextView
    android:id="@+id/textView4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentRight="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="129dp"
    android:layout_marginRight="129dp"
    android:layout_marginBottom="342dp"
    android:text="Ph No: 9988776655"
    android:textSize="20dp" />
```

```
<TextView
    android:id="@+id/textView5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentRight="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="89dp"
```

```

        android:layout_marginRight="89dp"
        android:layout_marginBottom="300dp"
        android:text="SSIT,TUMAKURU,572105"
        android:textSize="20dp" />

<TextView
    android:id="@+id/textView6"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentRight="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="75dp"
    android:layout_marginRight="75dp"
    android:layout_marginBottom="262dp"
    android:text="Email: subhashcs@ssit.edu.in"
    android:textSize="20dp" />
</RelativeLayout>

```

## MainActivity.java

```

package com.example.visit;

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);
    }
}

```

## OUTPUT:



## PROGRAM 2 : SIMPLE CALCULATOR

### Activity\_main.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=".MainActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="117dp"
        android:layout_marginBottom="532dp"
        android:text="Simple Calculator"
        android:textSize="24sp" />

    <EditText
        android:id="@+id/editText1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="95dp"
        android:layout_marginBottom="457dp"
        android:ems="10"
        android:hint="Enter the Number1"
        android:inputType="textPersonName"
        android:text="" />

    <EditText
        android:id="@+id/editText2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="95dp"
        android:layout_marginBottom="392dp"
        android:ems="10"
        android:hint="Enter the Number2"
        android:inputType="textPersonName"
        android:text="" />
```

```
<TextView
    android:id="@+id/textView1"
    android:layout_width="129dp"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="123dp"
    android:layout_marginBottom="319dp"
    android:text="0"
    android:textSize="34sp" />
```

```
<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="245dp"
    android:layout_marginBottom="243dp"
    android:onClick="add"
    android:text="ADD" />
```

```
<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="56dp"
    android:layout_marginBottom="243dp"
    android:onClick="sub"
    android:text="SUB" />
```

```
<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="240dp"
    android:layout_marginBottom="170dp"
    android:onClick="mul"
    android:text="MUL" />
```

```
<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="53dp"
        android:layout_marginBottom="165dp"
        android:onClick="div"
        android:text="DIV" />
</RelativeLayout>

```

## MainActivity.java

```

package com.example.calculator;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
    EditText e1,e2;
    TextView tv1;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        e1=(EditText)findViewById(R.id.editText1);
        e2=(EditText)findViewById(R.id.editText2);
        tv1=(TextView)findViewById(R.id.textView1);
    }
    public void add(View view){
        int a1 = Integer.parseInt(e1.getText().toString());
        int a2 = Integer.parseInt(e2.getText().toString());
        int result= a1+a2;
        tv1.setText(""+result);
    }
    public void sub(View view){
        int a1 = Integer.parseInt(e1.getText().toString());
        int a2 = Integer.parseInt(e2.getText().toString());
        int result= a1-a2;
        tv1.setText(""+result);
    }
    public void mul(View view){
        int a1 = Integer.parseInt(e1.getText().toString());
        int a2 = Integer.parseInt(e2.getText().toString());
        int result= a1*a2;
    }
}

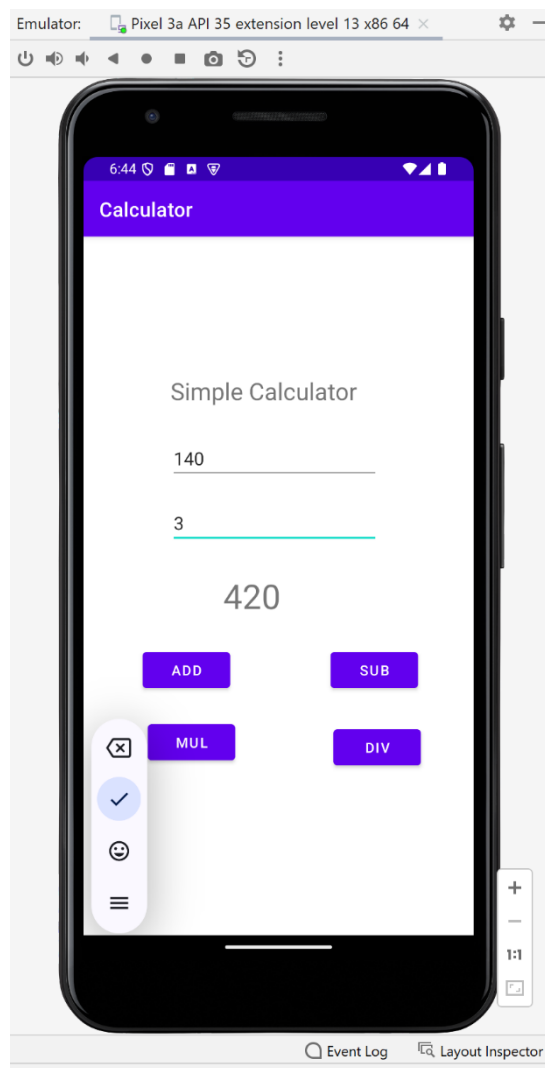
```

```

        tv1.setText(""+result);
    }
    public void div(View view){
        int a1 = Integer.parseInt(e1.getText().toString());
        int a2 = Integer.parseInt(e2.getText().toString());
        float result= a1/a2;
        tv1.setText(""+result);
    }
}

```

## OUTPUT:



## PROGRAM 3 : COUNTER APPLICATION

### Activity\_main.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=".MainActivity">
    <TextView
        android:layout_width="378dp"
        android:layout_height="68dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="18dp"
        android:layout_marginBottom="602dp"
        android:text="Counter Application"
        android:textSize="38dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
    <TextView
        android:id="@+id/textView"
        android:layout_width="121dp"
        android:layout_height="32dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="145dp"
        android:layout_marginBottom="478dp"
        android:text="Counter Value" />
    <Button
```



```

        android:id="@+id/btn_start"

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="297dp"
        android:layout_marginBottom="295dp"
        android:text="Start" />
<Button
    android:id="@+id/btn_stop"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="74dp"
    android:layout_marginBottom="292dp"
    android:text="Stop" />
</RelativeLayout>

```

## MainActivity.java

```

package com.example.counter;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.os.Handler;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity {
    Button btnstart, btnstop;
    TextView txtcounter;
    int i=1;
    Handler customHandler=new Handler();
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btnstart=findViewById(R.id.btn_start);
        btnstop=findViewById(R.id.btn_stop);
    }
}

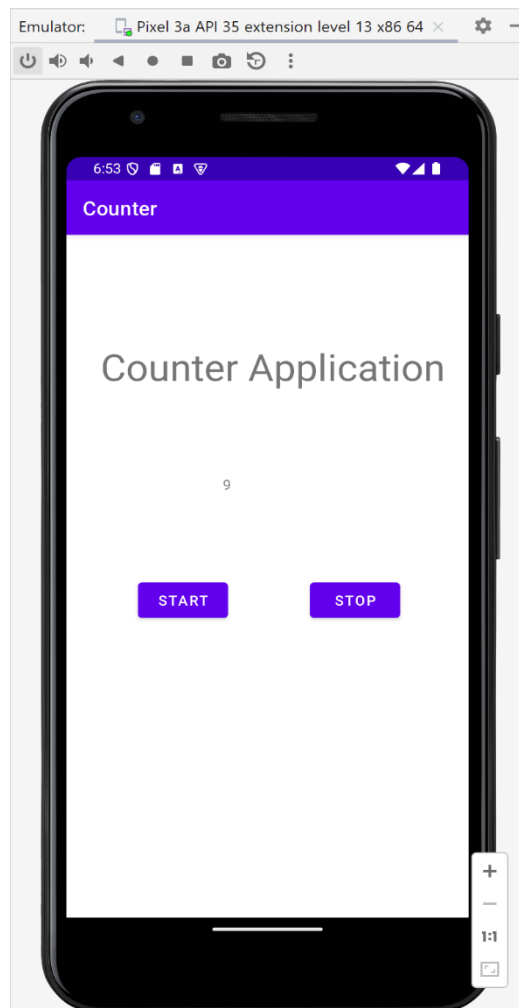
```

```

txtcounter=findViewById(R.id.textView);
btnstart.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        customHandler.postDelayed(updateTimerThread,0);
    }
});
btnstop.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        customHandler.removeCallbacks(updateTimerThread);
    }
});
}
private final Runnable updateTimerThread=new Runnable() {
    @Override
    public void run() {
        txtcounter.setText(""+i);
        customHandler.postDelayed(this,1000);
        i++;
    }
};
}

```

## OUTPUT:



## PROGRAM 4 : TEXT-TO-SPEECH

### Activity\_main.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=".MainActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentRight="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="53dp"
        android:layout_marginRight="53dp"
        android:layout_marginBottom="537dp"
        android:text="Text2SpeechApp"
        android:textSize="40dp" />

    <EditText
        android:id="@+id/editText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentRight="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="101dp"
        android:layout_marginRight="101dp"
        android:layout_marginBottom="383dp"
        android:ems="10"
        android:hint="Enter the text to be converted"
        android:inputType="textPersonName"
        android:text="" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentRight="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="154dp"
```

```
        android:layout_marginRight="154dp"
        android:layout_marginBottom="256dp"
        android:onClick="convert"
        android:text="Convert" />
</RelativeLayout>
```

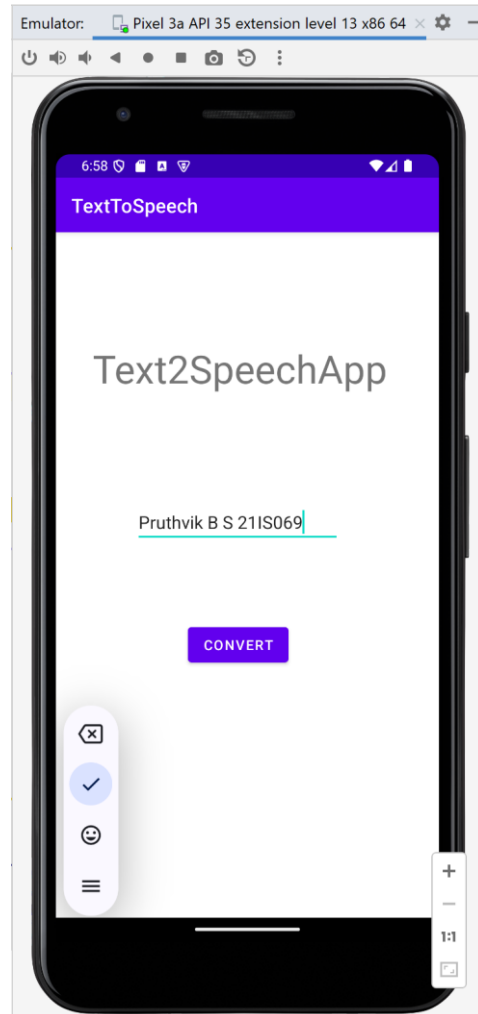
## MainActivity.java

```
package com.example.texttospeech;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.speech.tts.TextToSpeech;
import android.view.View;
import android.widget.EditText;
import android.widget.Toast;
import java.util.Locale;

public class MainActivity extends AppCompatActivity {
    TextToSpeech t1;
    EditText e1;
    @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 view){
        String tospeak = e1.getText().toString();
        t1.speak(tospeak,TextToSpeech.QUEUE_FLUSH,null);
    }
}
```

**OUTPUT:**



## Prgm : 05 Wallpaper Changing App

### MainActivity.java

```
package com.example.wallpaper;

import androidx.appcompat.app.AppCompatActivity;
import android.app.WallpaperManager;
import android.graphics.Bitmap;
import android.graphics.drawable.BitmapDrawable;
import android.graphics.drawable.Drawable;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import java.io.IOException;
import java.util.Timer;
import java.util.TimerTask;

public class MainActivity extends AppCompatActivity {
    Button changewallpaper;
    Timer mytimer;
    Drawable drawable;
    WallpaperManager wpm;
    int prev = 1;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        mytimer = new Timer();
        wpm = WallpaperManager.getInstance(this);

        changewallpaper = findViewById(R.id.button);
        changewallpaper.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                setWallpaper();
            }
        });
    }

    private void setWallpaper() {
        mytimer.schedule(new TimerTask() {
            @Override
            public void run() {
                if (prev == 1) {
                    drawable = getResources().getDrawable(R.drawable.one);
```

```

        prev = 2;
    } else if (prev == 2) {
        drawable = getResources().getDrawable(R.drawable.two);
        prev = 3;
    } else if (prev == 3) {
        drawable = getResources().getDrawable(R.drawable.three);
        prev = 4;
    } else if (prev == 4) {
        drawable = getResources().getDrawable(R.drawable.four);
        prev = 5;
    } else if (prev == 5) {
        drawable = getResources().getDrawable(R.drawable.five);
        prev = 1;
    }

    Bitmap wallpaper = ((BitmapDrawable) drawable).getBitmap();
    try {
        wpm.setBitmap(wallpaper);
    } catch (IOException e) {
        e.printStackTrace();
    }
}
}, 0, 30000);
}
}

```

## activity\_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp"
    android:background="@android:color/white">

    <TextView
        android:layout_width="395dp"
        android:layout_height="54mm"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="3dp"
        android:layout_marginBottom="178dp"
        android:text="Wallpaper Changing Application"
        android:textSize="38dp" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"

```

```
android:text="Change Wallpaper"  
android:layout_centerInParent="true"  
android:padding="16dp"  
android:background="@android:color/holo_blue_light"  
android:textColor="@android:color/white"  
android:textStyle="bold" />
```

</RelativeLayout>

OUTPUT: Wallpaper changes for every 30000ms





## Program 06 : phone dialler

### MainActivity.java

```
package com.example.phonekey;

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 androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {
    EditText phoneNumberEditText;
    Button clearBtn, callBtn, saveBtn;

    @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);

        // Clear button functionality
        clearBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                phoneNumberEditText.setText("");
            }
        });

        // Call button functionality
        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);
            }
        });
    }
}
```

```

// Save button functionality
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);
    }
});
}

// Method to append input number when number buttons are clicked
public void inputNumber(View v) {
    Button btn = (Button) v;
    String digit = btn.getText().toString();
    String phoneNumber = phoneNumberEditText.getText().toString();
    phoneNumberEditText.setText(phoneNumber + digit);
}
}

```

## activitymain.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="16dp"
    android:gravity="center">

    <EditText
        android:id="@+id/phoneNumberEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter phone number"
        android:inputType="phone"
        android:gravity="center"
        android:textSize="18sp"
        android:padding="10dp"
        android:layout_marginBottom="16dp"/>

    <!-- Clear, Call, and Save buttons -->
<GridLayout

```

```
android:layout_width="match_parent"
android:layout_height="222dp"
android:layout_marginBottom="16dp"
android:columnCount="3"
android:rowCount="4">
```

```
<!-- Buttons for number input -->
```

```
<Button
    style="@style/ButtonNumber"
    android:onClick="inputNumber"
    android:text="1" />
```

```
<Button
    style="@style/ButtonNumber"
    android:onClick="inputNumber"
    android:text="2" />
```

```
<Button
    style="@style/ButtonNumber"
    android:onClick="inputNumber"
    android:text="3" />
```

```
<Button
    style="@style/ButtonNumber"
    android:onClick="inputNumber"
    android:text="4" />
```

```
<Button
    style="@style/ButtonNumber"
    android:onClick="inputNumber"
    android:text="5" />
```

```
<Button
    style="@style/ButtonNumber"
    android:onClick="inputNumber"
    android:text="6" />
```

```
<Button
    style="@style/ButtonNumber"
    android:onClick="inputNumber"
    android:text="7" />
```

```
<Button
    style="@style/ButtonNumber"
```

```
    android:onClick="inputNumber"
    android:text="8" />
```

```
<Button
    style="@style/ButtonNumber"
    android:onClick="inputNumber"
    android:text="9" />
```

```
<View
    android:layout_width="0dp"
    android:layout_height="0dp"
    android:layout_columnSpan="1" />
```

```
<Button
    style="@style/ButtonNumber"
    android:onClick="inputNumber"
    android:text="0" />
```

```
<View
    android:layout_width="0dp"
    android:layout_height="0dp"
    android:layout_columnSpan="1" />
```

```
</GridLayout>
```

```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:gravity="center">
```

```
<Button
    android:id="@+id/clearBtn"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:text="Clear"
    android:textSize="16sp" />
```

```
<Button
    android:id="@+id/callBtn"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_weight="1"
```

```
        android:text="Call"
        android:textSize="16sp" />
```

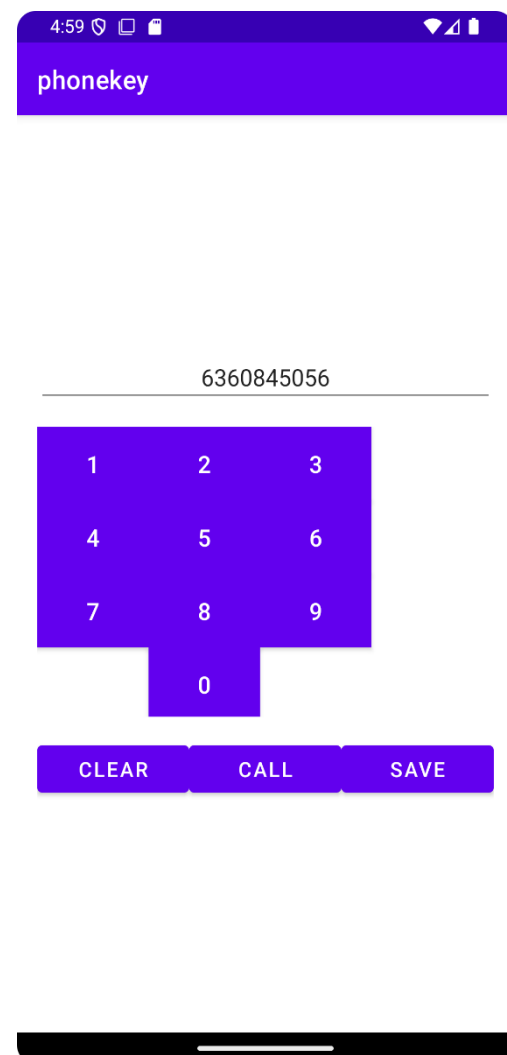
```
<Button
    android:id="@+id/saveBtn"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:text="Save"
    android:textSize="16sp" />
</LinearLayout>

</LinearLayout>
```

## In res/values/style.xml add this.

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <!-- Define the ButtonNumber style -->
    <style name="ButtonNumber">
        <item name="android:layout_width">wrap_content</item>
        <item name="android:layout_height">wrap_content</item>
        <item name="android:textColor">#FFFFFF</item>
        <item name="android:background">#FF9800</item>
        <item name="android:padding">10dp</item>
        <item name="android:textSize">18sp</item>
    </style>
</resources>
```

## Output:



**Prg 07:** 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.

#### MainActivity.java

```
package com.example.jsonxmlparsing;

import android.os.Bundle;
import android.util.Log;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
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 java.io.IOException;
import java.io.InputStream;
import java.nio.charset.StandardCharsets;
import javax.xml.parsers.DocumentBuilder;
import javax.xml.parsers.DocumentBuilderFactory;

public class MainActivity extends AppCompatActivity {

    Button parseXmlBtn, parseJsonBtn;
    TextView displayTextView;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        parseJsonBtn = findViewById(R.id.parseJsonBtn);
        parseXmlBtn = findViewById(R.id.parseXmlBtn);
        displayTextView = findViewById(R.id.displayTextView);

        // Parsing XML
        parseXmlBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(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("\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-----");
            }
        }
        displayTextView.setText(stringBuilder.toString());

    } catch (Exception e) {
        e.printStackTrace();
        Toast.makeText(MainActivity.this, "Error Parsing XML", Toast.LENGTH_SHORT).show();
    }
}
});

```

*// Parsing JSON*

```

parseJsonBtn.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(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("\nName: ").append(jsonObject.getString("name"));
            stringBuilder.append("\nLatitude: ").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-----");
        }
        displayTextView.setText(stringBuilder.toString());
        is.close();

    } catch (IOException | JSONException e) {
        e.printStackTrace();
        Toast.makeText(MainActivity.this, "Error Parsing JSON Data",
            Toast.LENGTH_SHORT).show();
    }
}

// Helper method to extract XML element value
private String getValue(String tag, Element element) {
    return element.getElementsByTagName(tag).item(0).getTextContent();
}
}

```

activitymain.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"
    android:padding="16dp">

    <TextView
        android:id="@+id/titleTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="PARSING XML AND JSON DATA"
        android:textSize="18sp"
        android:textStyle="bold"
        android:textColor="#000"
        android:layout_marginBottom="20dp"

```



```
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintEnd_toEndOf="parent" />
```

```
<Button
    android:id="@+id/parseXmlBtn"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Parse XML Data"
    android:layout_marginBottom="20dp"
    android:backgroundTint="@android:color/holo_blue_light"
    app:layout_constraintTop_toBottomOf="@id/titleTextView"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent" />
```

```
<Button
    android:id="@+id/parseJsonBtn"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Parse JSON Data"
    android:backgroundTint="@android:color/holo_green_light"
    app:layout_constraintTop_toBottomOf="@id/parseXmlBtn"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent" />
```

```
<TextView
    android:id="@+id/displayTextView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text=""
    android:layout_marginTop="20dp"
    app:layout_constraintTop_toBottomOf="@id/parseJsonBtn"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    android:textColor="#000"
    android:textSize="16sp" />
```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

## City.xml

```
<?xml version="1.0" encoding="utf-8"?>
<places>
    <place>
        <name>Mysore</name>
        <lat>12.295</lat>
        <long>76.639</long>
        <temperature>22</temperature>
```

```
<humidity>90%</humidity>
</place>
</places>
```

## City.json

```
[
{
  "name": "Mysore",
  "lat": "12.295",
  "long": "76.639",
  "temperature": "22",
  "humidity": "90%"
}
]
```

## OUTPUT:

