

1. Create an application to design a Visiting Card. The Visiting card should have a company logo at the top right corner. The company name should be displayed in Capital letters, aligned to the center. Information like the name of the employee, job title, phone number, address, email, fax and the website address are to be displayed.

activity_mail.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="wrap_content"
        android:layout_height="wrap_content"
        android:text="Nagarjuna College of Engineering and Technology"
        android:textColor="#DC2417"
        android:textSize="30sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.259" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Student Name"
        android:textColor="#354CBD"
        android:textSize="24sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.468"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.374" />
```

```
<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="4th Sem"
    android:textColor="#2D6813"
    android:textSize="24sp"
    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="0.447" />
```

```
<TextView
    android:id="@+id/textView3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="9911223344"
    android:textColor="#FF5722"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.515" />
```

```
<TextView
    android:id="@+id/textView4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="xyz@gmail.com"
    android:textColor="#C00DDF"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.583" />
```

```
<ImageView
    android:id="@+id/imageView"
```

```
android:layout_width="117dp"
android:layout_height="124dp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.931"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.026"
app:srcCompat="@drawable/ncet" />
```

</androidx.constraintlayout.widget.ConstraintLayout>

MainActivity.java

```
package com.example.application_1;
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



2.Using Android, Create a login Activity. It asks “username” and “password” from user. If username and password are valid, it displays Welcome message using new activity

activity.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">

    <EditText
        android:id="@+id/etName"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:autofillHints=""
        android:ems="10"
        android:hint="USER NAME"
```

```

        android:inputType="textPersonName"
        app:layout_constraintTop_toBottomOf="@id/etName"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.326" />
<EditText
    android:id="@+id/etPassword"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:autofillHints=""
    android:ems="10"
    android:hint="PASSWORD"
    android:inputType="numberPassword"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/etName"
    app:layout_constraintVertical_bias="0.064" />

<Button
    android:onClick="Login"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="SIGN IN"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/etPassword"
    app:layout_constraintVertical_bias="0.098" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

MainActivity.java

```

package com.example.loginform;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    EditText uname,password;

```

```

protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    uname= (EditText) findViewById(R.id.etName) ;
    password=(EditText) findViewById(R.id.etPassword);

}
public void Login(View view) {

if(uname.getText().toString().equals("Admin")&&password.getText().toString().equals("1234"))
    {
        startActivity(new Intent(MainActivity.this,Second.class));

    }
    else
    {
        Toast.makeText(this, "Failure", Toast.LENGTH_SHORT).show();
    }

}
}

```

Second.java

```

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

public class Second extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.show);
    }
}

```

show.xml

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent">

<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="WELCOME"
    tools:layout_editor_absoluteX="146dp"
    tools:layout_editor_absoluteY="196dp"

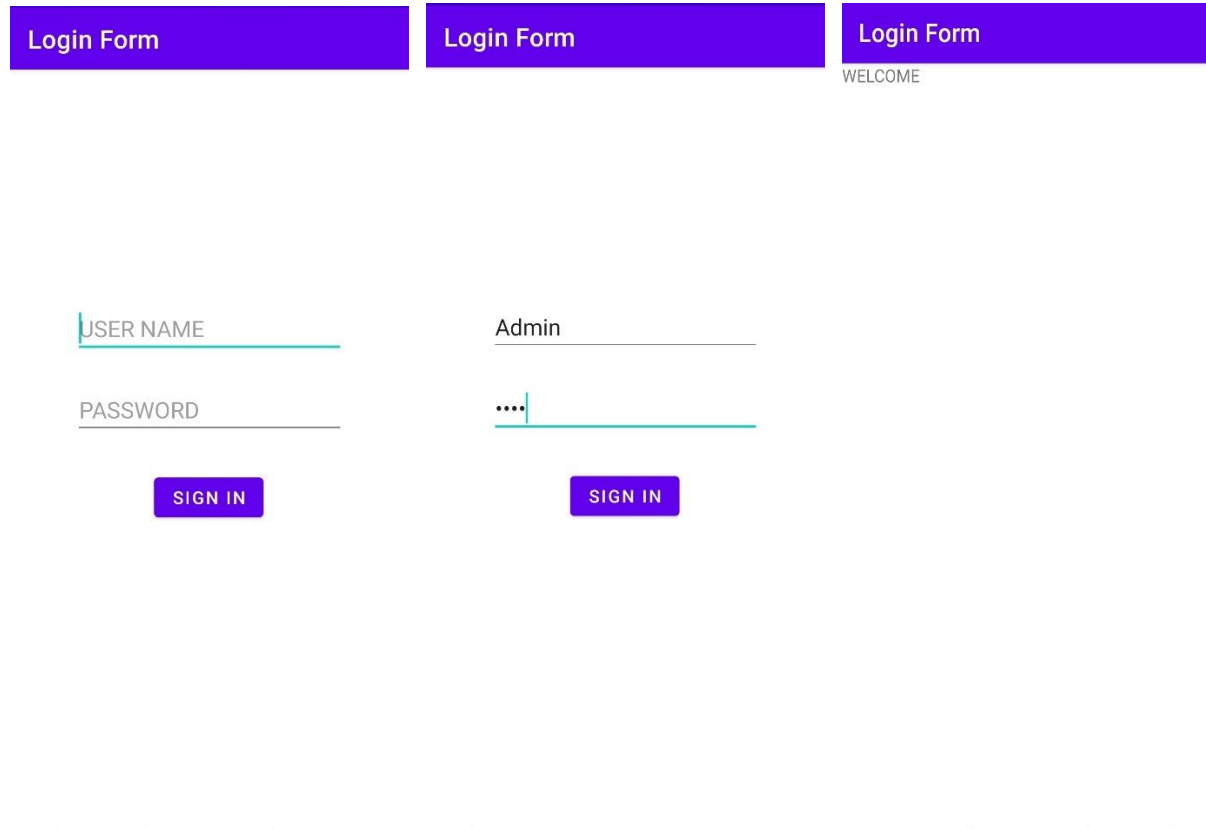
```

```
tools:ignore="MissingConstraints" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Note*

Create activity.xml and mainactivity.java file then go to Project java folder → Right click → new → Activity → Empty activity → give file name as second.java and show.xml

OUTPUT



3. Create Implicit Intents

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:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Implicit intent!"
    android:textSize="30sp"
    app:layout_constraintBottom_toBottomOf="parent"
```

```
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.134" />
```

```
<Button
    android:id="@+id/b1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="open web"
    android:onClick="dosomething"
    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="0.286" />
```

```
<Button
    android:id="@+id/b2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="open call"
    android:onClick="dosomething"
    android:textSize="20sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.515"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.407" />
```

```
<Button
    android:id="@+id/b3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="dosomething"
    android:text="open map"
    android:textSize="20sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.5"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

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

MainActivity.java

```
package com.example.implicitintent;
```

```
import androidx.appcompat.app.AppCompatActivity;
```



```

import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;

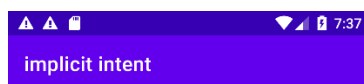
public class MainActivity extends AppCompatActivity {

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

    public void dosomething(View view) {
        switch(view.getId()) {
            case R.id.b1:
                Intent i1=new Intent(Intent.ACTION_VIEW, Uri.parse("http://www.google.com"));
                startActivity(i1);
                break;
            case R.id.b2:
                Intent i2=new Intent(Intent.ACTION_VIEW, Uri.parse("tel:9900800900"));
                startActivity(i2);
                break;
            case R.id.b3:
                Intent i3=new Intent(Intent.ACTION_VIEW, Uri.parse("geo:20.5937,78.9629"));
                startActivity(i3);
                break;
        }
    }
}

```

OUTPUT

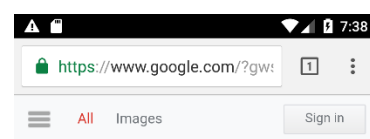


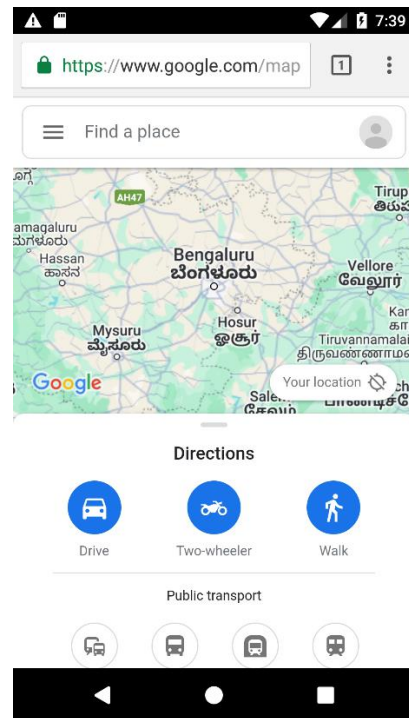
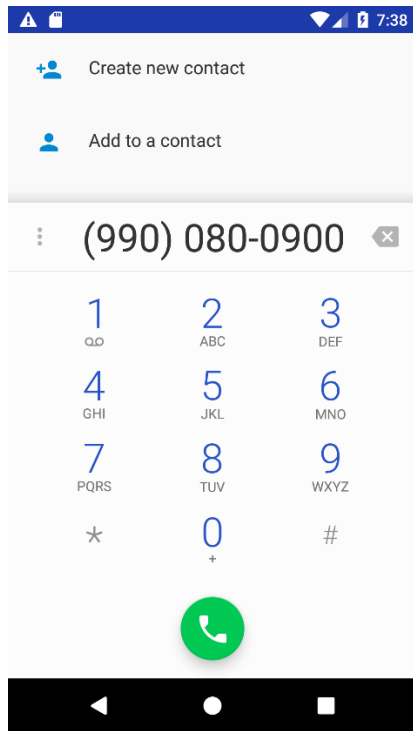
Implicit intent!

OPEN WEB

OPEN CALL

OPEN MAP





4. “Happy Birth Day” App using Text View and Image View

```
<?xmlversion="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="268dp"
    android:layout_height="84dp"
    android:text="HappyBirthDay"
    android:textSize="20sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.372"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.141"
    android:gravity="center"/>
```

```
<ImageView
    android:id="@+id/imageView2"
    android:layout_width="136dp"
    android:layout_height="337dp"
    app:srcCompat="@drawable/image"/>
```

```

app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.454"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.467"
    tools:ignore="MissingConstraints"/>
</androidx.constraintlayout.widget.ConstraintLayout>

```

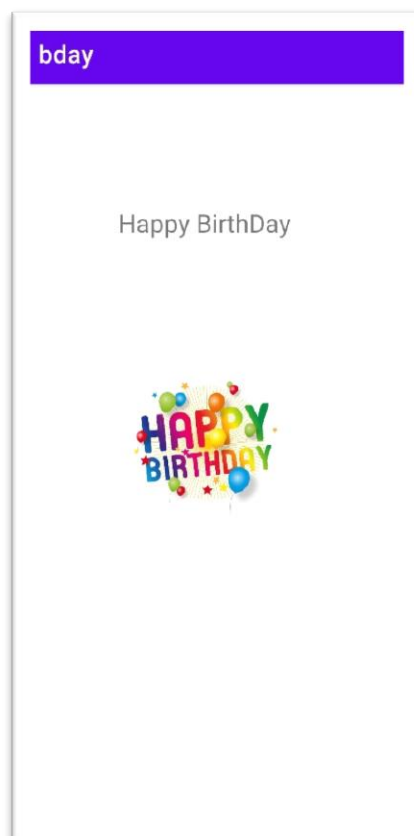
MainActivity.java

```

package com.example.bday;
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



5.Set and Retrieve shared preferences

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="wrap_content"
    android:layout_height="wrap_content"
    android:text="Shared prference"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.056" />

<EditText
    android:id="@+id/edit1"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="enter your name"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="1.0"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.195" />

<EditText
    android:id="@+id/edit2"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="enter your age"
    android:inputType="number"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

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

MainActivity.java

```

package com.example.sharedpreference;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Context;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {
    EditText name,age;

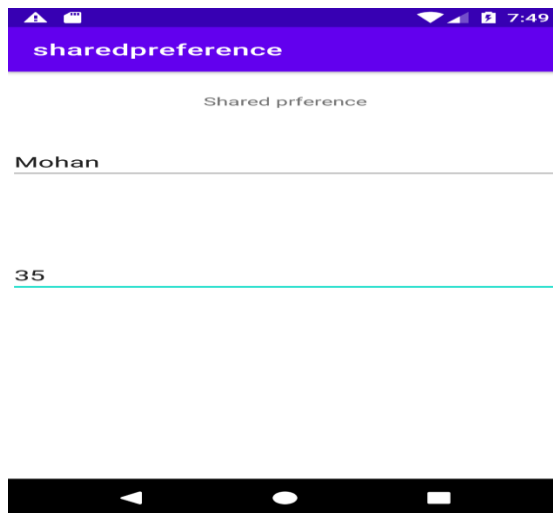
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        name=(EditText) findViewById(R.id.edit1);
        age=(EditText) findViewById(R.id.edit2);
    }

    @Override
    protected void onResume() {
        super.onResume();
        SharedPreferences sh1=getSharedPreferences("myownshared",
Context.MODE_PRIVATE);
        String s1 =sh1.getString("user","");
        int a1=sh1.getInt("age",0);
        name.setText(s1);
        age.setText(String.valueOf(a1));
    }

    @Override
    protected void onPause() {
        super.onPause();
        SharedPreferences sh=getSharedPreferences("myownshared",MODE_PRIVATE);
        SharedPreferences.Editor myedit=sh.edit();
        myedit.putString("user",name.getText().toString());
        myedit.putInt("age",Integer.parseInt(age.getText().toString()));
        myedit.commit();
    }
}

```

OUTPUT



PART-B

1. Develop an android app which displays a form to get following information from user. 1) Username 2) Password 3) Email Address 4) Phone Number 5) Country Form should be followed by a Button with label “Submit”. When user clicks the button, a message should be displayed to user describing the information entered. Utilize suitable UI controls (i.e. widgets). [When user enters country in Auto Complete Text View, list of states should be displayed in Spinner automatically]

avtivitymain.xml

```
<?xmlversion="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">

<EditText
    android:id="@+id/username"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="100dp"
    android:layout_marginTop="47dp"
    android:layout_marginEnd="101dp"
    android:ems="10"
    android:hint="Username"
    android:inputType="textPersonName"
    android:minHeight="48dp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"/>
```

```
<EditText
    android:id="@+id/password"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="100dp"
    android:layout_marginTop="20dp"
    android:layout_marginEnd="101dp"
    android:ems="10"
    android:hint="Password"
    android:inputType="textPassword"
    android:minHeight="48dp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="1.0"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/username"/>
```

```
<EditText
    android:id="@+id/email"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="100dp"
    android:layout_marginTop="17dp"
    android:layout_marginEnd="101dp"
    android:ems="10"
    android:hint="Email"
    android:inputType="textEmailAddress"
    android:minHeight="48dp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/password"/>
```

```
<EditText
    android:id="@+id/phone"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="100dp"
    android:layout_marginTop="18dp"
    android:layout_marginEnd="101dp"
    android:ems="10"
    android:hint="PhoneNumber"
    android:inputType="phone"
    android:minHeight="48dp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/email"/>
```

```
<Button
    android:id="@+id/submit"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="158dp"
    android:layout_marginTop="44dp"
    android:layout_marginEnd="159dp"
    android:onClick="submitData"
```

```

        android:text="Submit"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.666"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/country_spinner"/

```

```

<Spinner
    android:id="@+id/country_spinner"
    android:layout_width="215dp"
    android:layout_height="48dp"
    android:layout_marginStart="1dp"
    android:layout_marginTop="28dp"
    android:layout_marginEnd="1dp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/phone"
    tools:ignore="SpeakableTextPresentCheck"/>

```

```

</androidx.constraintlayout.widget.ConstraintLayout>

```

Mainactivity.java

```

package com.example.formvalidation;
import static android.content.ContentValues.TAG;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView.OnItemClickListener;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Spinner;
import android.widget.Toast;
import java.util.ArrayList;
import java.util.List;

public class MainActivity extends AppCompatActivity implements
    AdapterView.OnItemClickListener {

    EditText username, password, phone, email;
    Button submit;
    Spinner spinner;
    String allData = "", spinner_text;

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

        //find spinner
        spinner = (Spinner) findViewById(R.id.country_spinner);
        //Fetch the array of string and create adapter

```



```

        ArrayAdapter<CharSequence>adapter=ArrayAdapter.createFromResource(this,
R.array.locations, android.R.layout.simple_spinner_item);

        //set drop-down spinner
        adapter.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);

        //set adapter
        spinner.setAdapter(adapter);
        spinner.setOnItemClickListener(this);

    }
    public void submitData(View view)
    {
        username = (EditText) findViewById(R.id.username);
        password = (EditText) findViewById(R.id.password);
        email = (EditText) findViewById(R.id.email);
        phone = (EditText) findViewById(R.id.phone);

        submit = (Button) findViewById(R.id.submit);

        allData+="Name:"+username.getText().toString()+"\n"+"Email:"+email.getText().toString()
        +"\n"+"Password:"+password.getText().toString()+"\n"+"Phone:"+phone.getText().toString()
        + "\n" + "Country: " + spinner_text+ "\n";

        Toast.makeText(this, ""+allData, Toast.LENGTH_SHORT).show();
        allData = "";
    }

    @Override
    public void onItemClick(AdapterView<?> adapterView,View view, int i, long l)
    {
        spinner_text = adapterView.getItemAtPosition(i).toString();
    }

    @Override
    public void onNothingSelected(AdapterView<?> adapterView) {

    }
}

```

Strings.xml

```

<resources>
    <string name="app_name">spinner</string>
    <string-array name="locations">
        <item>India</item>
        <item>Canada</item>
        <item>Japan</item>
        <item>Germany</item>
        <item>Switzerland</item>
        <item>Australia</item>
        <item>United State</item>
        <item>New Zealand</item>
    
```

```
<item>United Kingdom</item>
<item>Sweden</item>
</string-array>
</resources>
```

Project→res folder→values folder→strings.xml. type the code for selecting city names

OUTPUT

The image displays two side-by-side screenshots of a mobile application interface for a form titled "formValidation".

Left Screenshot (Initial State):

- Username:** Empty text input field.
- Password:** Empty text input field.
- Email:** Empty text input field.
- Phone Number:** Empty text input field.
- Country:** A dropdown menu currently showing "India".
- Action:** A purple button labeled "SUBMIT".

Right Screenshot (Filled State):

- Username:** Filled with "XYZ".
- Password:** Filled with "....".
- Email:** Filled with "abc@gmail.com".
- Phone Number:** Filled with "648164835".
- Country:** A dropdown menu currently showing "Japan".
- Action:** A purple button labeled "SUBMIT".

2.The Simple Calculator app has two edit texts and four buttons. When you enter two numbers and click a button, the app performs the calculation for that button and displays the result.

```
<?xmlversion="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"
    android:orientation="horizontal"
    tools:context=".MainActivity">

    <LinearLayout
        android:id="@+id/linearLayout"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent">

        <EditText
            android:id="@+id/firstNo"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginLeft="30dp"
```

```
android:layout_marginTop="100dp"
android:gravity="center"
android:inputType="number"
android:backgroundTint="#FFBF00"
android:ems="7"
android:hint="EnterFirstNo"
android:minHeight="48dp"/>
```

```
<EditText
    android:id="@+id/secondtNo"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginLeft="20dp"
    android:layout_marginTop="100dp"
    android:backgroundTint="#FFBF00"
    android:ems="7"
    android:inputType="number"
    android:gravity="center"
    android:hint="EnterSecondNo"
    android:minHeight="48dp"/>
```

```
</LinearLayout>
```

```
<TextView
    android:id="@+id/output"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="36dp"
    android:gravity="center"
    android:textSize="20sp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/linearLayout"/>
```

```
<LinearLayout
    android:id="@+id/linearLayout1"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="30dp"
    android:orientation="horizontal"
    app:layout_constraintTop_toBottomOf="@+id/output">
```

```
<Button
    android:onClick="add"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="+"
    android:textColor="@color/black"
    android:backgroundTint="#FFBF00"
    android:gravity="center"
    android:textSize="25dp"
    android:layout_marginLeft="10dp"
```

```

        android:layout_marginTop="10dp"/>

        <Button
            android:onClick="sub"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:textColor="@color/black"
            android:text="-"
            android:backgroundTint="#FFBF00"
            android:gravity="center"
            android:textSize="25dp"
            android:layout_marginLeft="10dp"
            android:layout_marginTop="10dp"/>

        <Button
            android:onClick="mul"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:textColor="@color/black"
            android:text="*"
            android:gravity="center"
            android:textSize="25dp"
            android:backgroundTint="#FFBF00"
            android:layout_marginLeft="10dp"
            android:layout_marginTop="10dp"/>

        <Button
            android:onClick="div"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="/"
            android:gravity="center"
            android:backgroundTint="#FFBF00"
            android:textColor="@color/black"
            android:layout_marginLeft="10dp"
            android:textSize="25dp"
            android:layout_marginTop="10dp"/>

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

```

Mainactivity.java

```

package com.example.simplecalculator;
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
{
    int number1, number2;

```

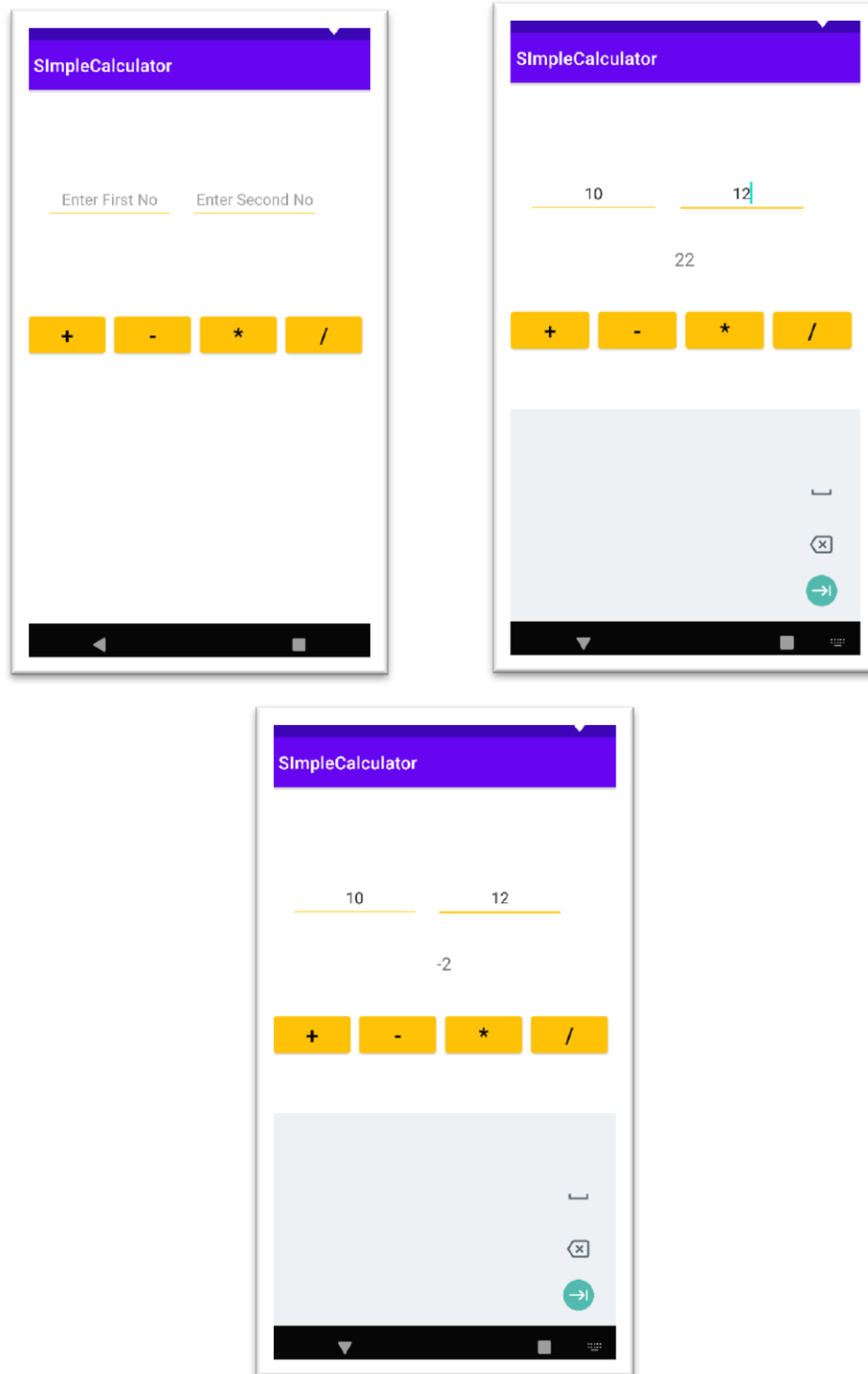
```

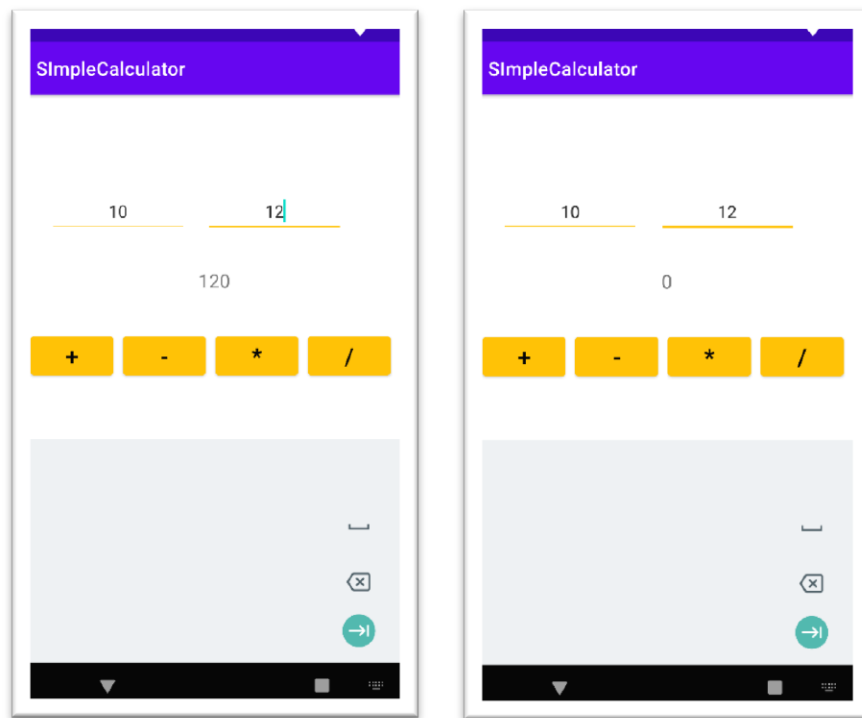
TextView output;
EditText no1,no2;
@Override
protected void onCreate(Bundle savedInstanceState)
{
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    no1 = (EditText) findViewById(R.id.firstNo);
    no2 = (EditText) findViewById(R.id.seconedtNo);
    output =(TextView) findViewById(R.id.output);
}

public void add(View view)
{
    number1 = Integer.parseInt(no1.getText().toString());
    number2 = Integer.parseInt(no2.getText().toString());
    output.setText(String.valueOf(number1+number2));
}
public void sub(View view)
{
    number1 = Integer.parseInt(no1.getText().toString());
    number2 = Integer.parseInt(no2.getText().toString());
    output.setText(String.valueOf(number1-number2));
}
public void mul(View view)
{
    number1 = Integer.parseInt(no1.getText().toString());
    number2 = Integer.parseInt(no2.getText().toString());
    output.setText(String.valueOf(number1*number2));
}
public void div(View view)
{
    number1 = Integer.parseInt(no1.getText().toString());
    number2 = Integer.parseInt(no2.getText().toString());
    output.setText(String.valueOf(number1/number2));
}
}

```

OUTPUT





3. Develop an android app for Text to Speech.

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">

    <EditText
        android:id="@+id/text"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_marginTop="100dp"
        android:ems="10"
        android:hint="Enter your Text"
        android:minHeight="48dp"
        tools:ignore="MissingConstraints" />

    <Button
        android:onClick="voice"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_marginTop="20dp"
        android:text="Click Here"
```



```

        android:backgroundTint="#FFBE1A"
        app:layout_constraintTop_toBottomOf="@id/text"
        tools:ignore="MissingConstraints" />
    </androidx.constraintlayout.widget.ConstraintLayout>

```

Mainactivity.java

```

package com.example.tts;
import androidx.appcompat.app.AppCompatActivity;

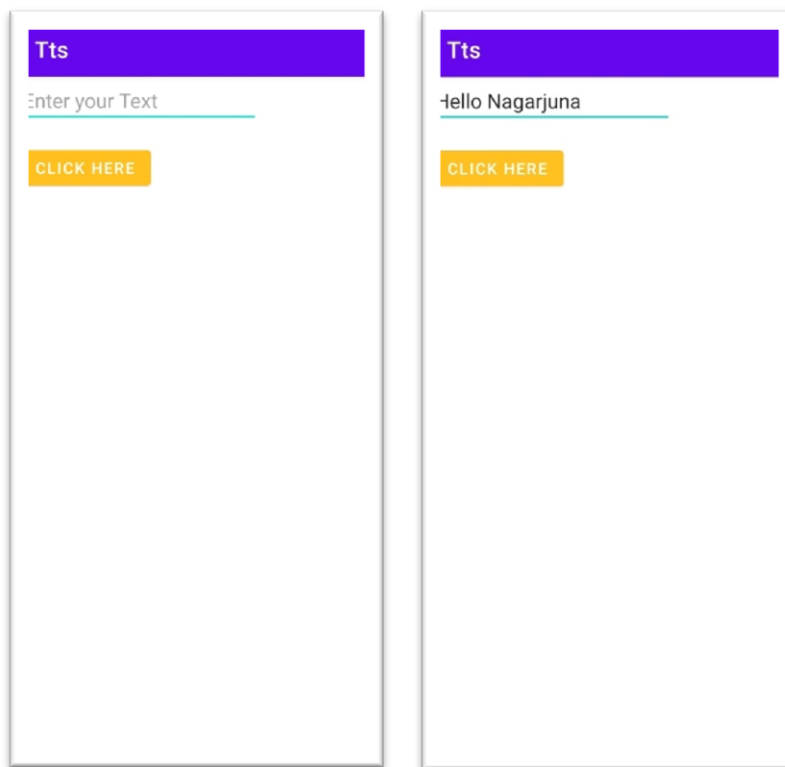
import android.os.Bundle;
import android.speech.tts.TextToSpeech;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity
{

    EditText textData;
    TextToSpeech tts;
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    public void voice(View view)
    {
        textData = (EditText) findViewById(R.id.text);
        tts = new TextToSpeech(getApplicationContext(), new
TextToSpeech.OnInitListener()
        {
            @Override
            public void onInit(int i)
            {
                if (i == TextToSpeech.SUCCESS)
                {
                    tts.speak(textData.getText().toString(), TextToSpeech.QUEUE_ADD, null,
null);
                }
            }
        });
    }
}

```

OUTPUT



4. Create the MP3 player like application with service 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">

<TextView
    android:id="@+id/tv"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
```

```

        android:layout_gravity="center"
        android:layout_marginTop="20px"
        android:fontFamily="sans-serif-light"
        android:text="NGI MUSIC PLAYER"
        android:textSize="20dp"
        android:textStyle="bold"
        tools:ignore="MissingConstraints" />

<Button
    android:id="@+id/btn1"
    android:onClick="play"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Play"
    android:backgroundTint="#53BC09"
    android:layout_marginTop="20dp"
    android:layout_marginLeft="50dp"
    app:layout_constraintTop_toBottomOf="@+id/tv"
    tools:ignore="MissingConstraints" />
<Button
    android:id="@+id/btn2"
    android:onClick="pause"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Pause"
    app:layout_constraintTop_toBottomOf="@+id/btn1"
    android:backgroundTint="#FF8400"
    android:layout_marginTop="20dp"
    android:layout_marginLeft="20dp"
    tools:ignore="MissingConstraints" />
<Button
    android:onClick="stop"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Stop"
    app:layout_constraintTop_toBottomOf="@+id/btn2"
    android:backgroundTint="#ED1313"
    android:layout_marginTop="20dp"
    android:layout_marginLeft="50dp"
    tools:ignore="MissingConstraints" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Main activity.java

```

package com.example.musicplayer;
import androidx.appcompat.app.AppCompatActivity;
import android.media.MediaPlayer;
import android.os.Bundle;
import android.view.View;
public class MainActivity extends AppCompatActivity {
    MediaPlayer player;

```

```

@Override

```

```
protected void onCreate(Bundle savedInstanceState) {  
    super.onCreate(savedInstanceState);  
    setContentView(R.layout.activity_main);  
    player = MediaPlayer.create(this, R.raw.m);  
}  
}  
  
public void play(View view){  
    player.start();  
}  
public void pause(View view){  
    player.pause();  
}  
public void stop(View view){  
    player.stop();  
}
```

Note* create new folder in res and give it name raw and paste the downloaded music file and name it as music

OUTPUT

