CO2

1. Design a registration activity and store registration details in local memory of phone using Intents and SharedPreferences

MAIN ACTIVITY 1

```
package com.example.activity;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent; import
android.content.SharedPreferences; import
android.os.Bundle; import
android.view.View; import
android.widget.Button; import
android.widget.EditText; import
android.widget.RadioButton;
import android.widget.Spinner;

public class MainActivity extends AppCompatActivity {
    EditText name,age;
    RadioButton male,female;
    Spinner list;
    Button next;
    SharedPreferences sp;


    @Override
    protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
        sp = getSharedPreferences("Register", MODE_PRIVATE);
        next = (Button) findViewById(R.id.btnext);         list =
(Spinner) findViewById(R.id.list);         male =
(RadioButton) findViewById(R.id.rdmale);         female =
(RadioButton) findViewById(R.id.rdfemale);         name =
(EditText) findViewById(R.id.etname);         age =
(EditText) findViewById(R.id.etage);


    next.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            SharedPreferences.Editor ed = sp.edit();
String sname=name.getText().toString();
ed.putString("name",sname);
            int x=Integer.parseInt(age.getText().toString());
ed.putInt("age",x );
```

```
        String scntry=list.getSelectedItem().toString();
        ed.putString("country",scntry);
boolean b=male.isChecked();
ed.putBoolean("gender",b);
        ed.commit();
        Intent in=new Intent(MainActivity.this,MainActivity2.class);
Bundle bd=new Bundle();            bd.putString("name",sname);
bd.putInt("age",x);            bd.putBoolean("gender",b);
bd.putString("country",scntry);            in.putExtra("all",bd);
startActivity(in);

    }
  });



  }}
```

MAIN ACTIVITY 2

```
package com.example.activity;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent; import
android.content.SharedPreferences; import
android.os.Bundle; import
android.widget.Button; import
android.widget.EditText; import
android.widget.TextView;

public class MainActivity2 extends AppCompatActivity {
   TextView t1;
   TextView t2;
SharedPreferences sp;

   @Override
   protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main2);
t1=(TextView)findViewById(R.id.t1);
       sp=getSharedPreferences("Register",MODE_PRIVATE);
String sname=sp.getString("name","");        int
age=sp.getInt("age",0);        boolean
b=sp.getBoolean("gender",false);        String
cntry=sp.getString("country","");
t1.setText(""+b+"\n"+sname+"\n"+age+"\n"+cntry);
       Intent in=getIntent();
       Bundle bd=in.getBundleExtra("all");
sname=bd.getString("name","");
age=bd.getInt("age",0);
cntry=bd.getString("country","");
```

```
b=bd.getBoolean("gender",true);
t2.setText(""+b+"\n"+sname+"\n"+age+"\n+cntry");    }
}
```

XML1

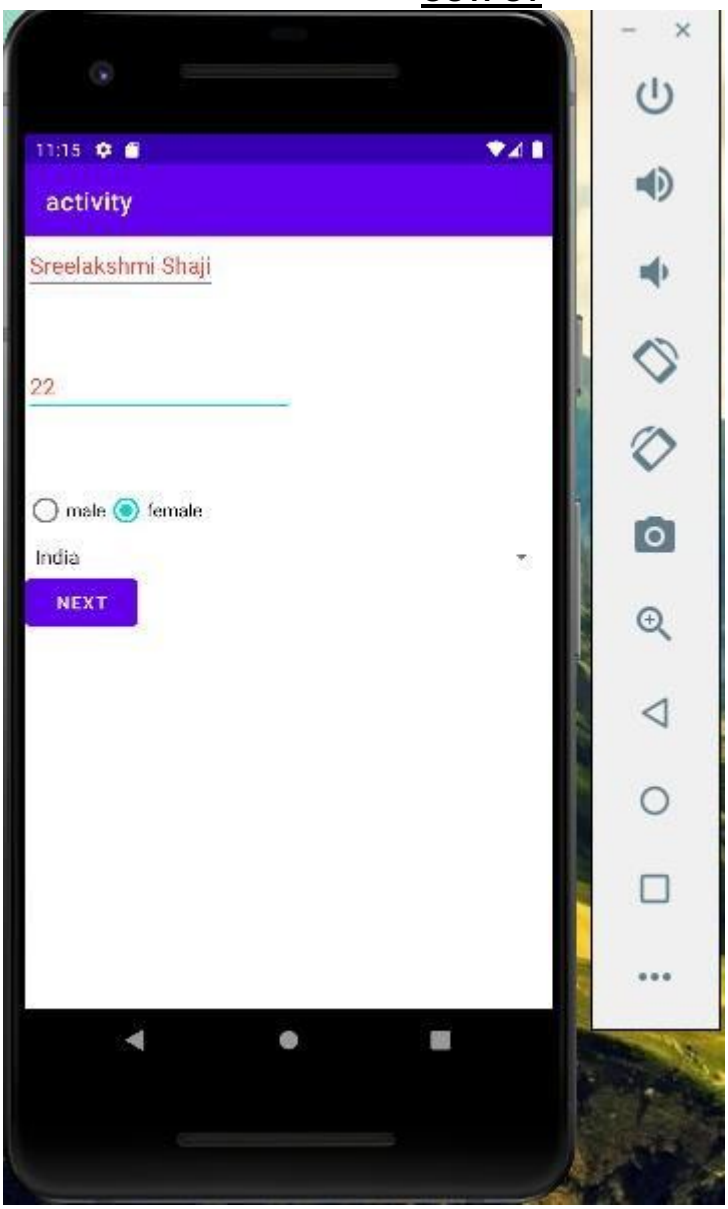
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"    android:orientation="vertical"
tools:context=".MainActivity">



   <EditText
       android:id="@+id/etname"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:textSize="18sp"
android:textColor="#F44336"
android:inputType="textPersonName"
android:hint="Enter Your Name "
android:text="" />


   <EditText
       android:id="@+id/etage"
android:layout_width="wrap_content"
       android:layout_height="wrap_content"

       android:ems="10"
android:layout_marginTop="50dp"
android:textSize="18sp"
android:textColor="#F44336"
android:inputType="number"
android:hint="Enter Your Age"        android:text=""
/>
   <RadioGroup
       android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginTop="50dp"
       android:orientation="horizontal">

       <RadioButton
           android:id="@+id/rdmale"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="male" />

       <RadioButton
           android:id="@+id/rdfemale"
android:layout_width="wrap_content"
```

```
android:layout_height="wrap_content"
android:text="female" />
   </RadioGroup>


   <Spinner
           android:id="@+id/list"
android:layout_width="match_parent"
android:layout_height="wrap_content"
           android:entries="@array/list" />

       <Button
           android:id="@+id/btnext"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="NEXT" />




</LinearLayout>
```

XML2

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"    android:orientation="vertical"
android:layout_height="match_parent"
   tools:context=".MainActivity2">


   <TextView
       android:id="@+id/t1"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="" />

   <TextView
       android:id="@+id/t2"
       android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="" />
</LinearLayout>
```

OUTPUT



2. Design a simple Calculator using GridLayout and Cascaded LinearLayout

Main Activity

```
package com.example.gridlayout;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle; import
android.view.View; import
android.widget.Button;
import android.widget.EditText;
```

```
public class MainActivity extends AppCompatActivity implements
View.OnClickListener {
   EditText et;
float temp1,temp2;
   String op="";
   Button plus,minus,mult,div,b1,b2,b3,b4,b5,b6,b7,b8,b9,b0,beq,bcan;


   @Override
   protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
et=(EditText)findViewById(R.id.etresult);
plus=(Button)findViewById(R.id.btplus);
minus=(Button)findViewById(R.id.btminus);
mult=(Button)findViewById(R.id.btmult);
div=(Button)findViewById(R.id.btdiv);
b1=(Button)findViewById(R.id.bt1);
b2=(Button)findViewById(R.id.bt2);
b3=(Button)findViewById(R.id.bt3);
b4=(Button)findViewById(R.id.bt4);
b5=(Button)findViewById(R.id.bt5);
b6=(Button)findViewById(R.id.bt6);
b7=(Button)findViewById(R.id.bt7);
b8=(Button)findViewById(R.id.bt8);
b9=(Button)findViewById(R.id.bt9);
b0=(Button)findViewById(R.id.bt0);
beq=(Button)findViewById(R.id.bteq);
       bcan=(Button)findViewById(R.id.btcan);


       plus.setOnClickListener(this);
minus.setOnClickListener(this);
mult.setOnClickListener(this);
div.setOnClickListener(this);
b1.setOnClickListener(this);
b2.setOnClickListener(this);
b3.setOnClickListener(this);
b4.setOnClickListener(this);
b5.setOnClickListener(this);
b6.setOnClickListener(this);
b7.setOnClickListener(this);
b8.setOnClickListener(this);
b9.setOnClickListener(this);
b0.setOnClickListener(this);
beq.setOnClickListener(this);
       bcan.setOnClickListener(this);

   }

   @Override
```

```
   public void onClick(View v) {
Button b=(Button) v;
if(v==bcan)        {
            et.setText("");
        }
        else if (v==plus || v==minus || v==mult || v==div)
        {
            temp1=Float.parseFloat(et.getText().toString());
op=b.getText().toString();            et.setText("");
        }
        else if (v==beq) {
temp2=Float.parseFloat(et.getText().toString());
if (op.equals("+")) {
                et.setText(temp1 + temp2 + "");
} else if (op.equals("-")) {
et.setText(temp1 - temp2 + "");            }
else if (op.equals("*")) {
et.setText(temp1 * temp2 + "");            }
else if (op.equals("/")) {
et.setText(temp1 / temp2 + "");
            }
}
else
            {
                String s=et.getText().toString();
et.setText(s+b.getText().toString());
            }
        }
}
```

XML

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"    tools:context=".MainActivity"
android:orientation="vertical"    android:layout_margin="5dp"
   android:background="#FF00FB">

   <EditText
       android:id="@+id/etresult"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:ems="10"
android:inputType="number"
android:layout_marginTop="100dp"
android:textSize="20sp"
android:textStyle="bold"
android:textColor="@color/black"
android:enabled="false"        android:text=""
/>
   <GridLayout
```

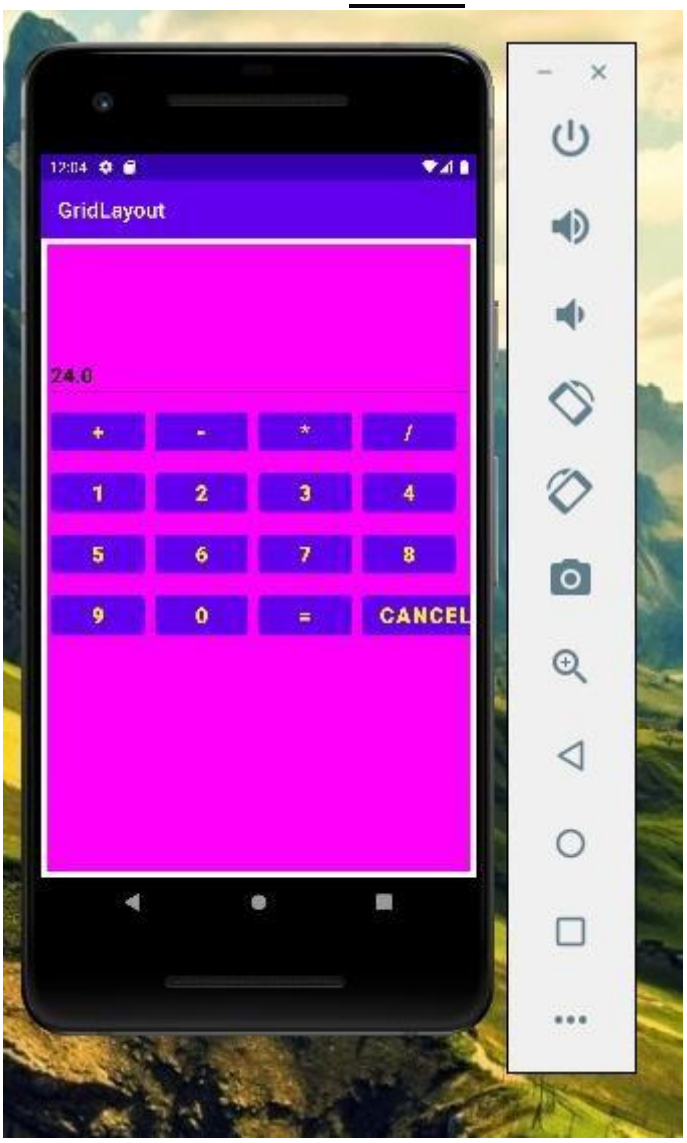
```
       android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:orientation="horizontal"
android:columnCount="4"
       android:rowCount="4">

   <Button
       android:id="@+id/btplus"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="5dp"
android:textSize="20sp"
android:textColor="#ffffff00"
android:textStyle="bold" android:text="+" />

   <Button        android:id="@+id/btminus"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="5dp"
android:textSize="20sp"
android:textColor="#ffffff00"
android:textStyle="bold"
       android:text="-" />

   <Button        android:id="@+id/btmult"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="5dp"
android:textSize="20sp"
android:textColor="#ffffff00"
android:textStyle="bold"
       android:text="*" />

   <Button        android:id="@+id/btdiv"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="5dp"
android:textSize="20sp"
android:textColor="#ffffff00"
android:textStyle="bold"
       android:text="/" />




   <Button        android:id="@+id/bt1"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="5dp"
android:textSize="20sp"
android:textColor="#ffffff00"
       android:textStyle="bold"
```

```
       android:text="1" />

   <Button        android:id="@+id/bt2"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="5dp"
android:textSize="20sp"
android:textColor="#ffffff00"
       android:textStyle="bold"

       android:text="2" />


       <Button            android:id="@+id/bt3"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="5dp"
android:textSize="20sp"
android:textColor="#ffffff00"
           android:textStyle="bold"

           android:text="3" />

       <Button            android:id="@+id/bt4"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="5dp"
android:textSize="20sp"
android:textColor="#ffffff00"
           android:textStyle="bold"

           android:text="4" />

       <Button            android:id="@+id/bt5"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="5dp"
android:textSize="20sp"
android:textColor="#ffffff00"
           android:textStyle="bold"

           android:text="5" />

       <Button            android:id="@+id/bt6"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="5dp"
android:textSize="20sp"
android:textColor="#ffffff00"
           android:textStyle="bold"

           android:text="6" />
```

```
       <Button            android:id="@+id/bt7"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="5dp"
android:textSize="20sp"
android:textColor="#ffffff00"
           android:textStyle="bold"

           android:text="7" />


       <Button
android:id="@+id/bt8"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="5dp"
android:textSize="20sp"
android:textColor="#ffffff00"
           android:textStyle="bold"

           android:text="8" />


       <Button            android:id="@+id/bt9"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="5dp"
android:textSize="20sp"
android:textColor="#ffffff00"
           android:textStyle="bold"

           android:text="9" />

       <Button            android:id="@+id/bt0"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="5dp"
android:textSize="20sp"
android:textColor="#ffffff00"
           android:textStyle="bold"

           android:text="0" />


       <Button
android:id="@+id/bteq"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="5dp"
android:textSize="20sp"
android:textColor="#ffffff00"
android:textStyle="bold"
```

```
            android:text="=" />

        <Button
android:id="@+id/btcan"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="5dp"
android:textSize="20sp"
android:textColor="#ffffff00"
android:textStyle="bold"
android:text="cancel" />

    </GridLayout>

</LinearLayout>
```

OUTPUT



3. Create a Facebook Page using Relative Layout

Activity_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"
 android:background="#3B5999"
 android:backgroundTint="#3F51B5"
 tools:context=".MainActivity">

 <TextView
 android:id="@+id/textView"
 android:layout_width="wrap_content"
 android:layout_height="wrap_content"
 android:text="Facebook"
 android:textAppearance="@style/TextAppearance.AppCompat.Display3"  a
ndroid:textColor="@color/white"
 android:layout_marginLeft="100dp"
 android:layout_marginTop="150dp"
 android:textSize="40dp"
 android:textAlignment="center"
 android:textStyle="bold"/>


 <EditText
 android:id="@+id/etusername"
 android:layout_width="wrap_content"
 android:layout_height="wrap_content"
 android:layout_marginLeft="80sp"
 android:layout_marginTop="250dp"
 android:ems="10"
 android:hint="Username"
 android:inputType="textPersonName"
 android:text="" />

 <EditText
 android:id="@+id/etpassword"
 android:layout_width="wrap_content"
 android:layout_height="wrap_content"
 android:layout_marginLeft="80dp"
 android:layout_marginTop="350dp"
 android:ems="10"
 android:hint="Password"
 android:inputType="textPassword"
 android:text="" />

 <Button
 android:id="@+id/button"
 android:layout_width="260dp"
 android:layout_height="35dp"
 android:layout_marginLeft="80dp"
 android:layout_marginTop="450dp"
 android:background="#CDDC39"
 android:backgroundTint="@color/white"
```

```
 android:text="LOGIN"
 android:textColor="#6A6C6D" />


</RelativeLayout>
```

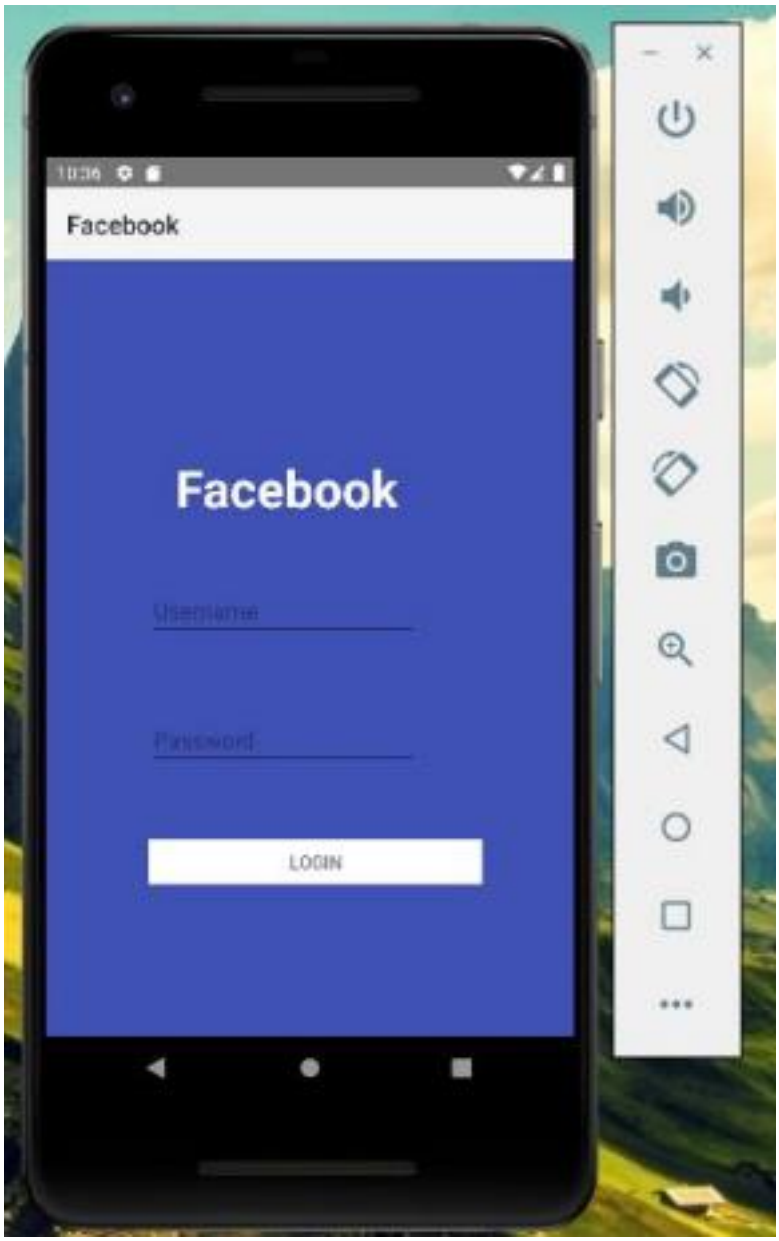
Main Activity.java

```
package com.example.fbdesign;

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);
 }
}
```

Android Manifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest
xmlns:android="http://schemas.android.com/apk/res/android"  packa
ge="com.example.fbdesign">

 <application
 android:allowBackup="true"
 android:icon="@mipmap/ic_launcher"
 android:label="Facebook"
 android:roundIcon="@mipmap/ic_launcher_round"
 android:supportsRtl="true"
 android:theme="@style/Theme.AppCompat.Light">
 <activity
 android:name=".MainActivity"
 android:exported="true">
 <intent-filter>
 <action android:name="android.intent.action.MAIN" />

 <category android:name="android.intent.category.LAUNCHER" />  </intent-
filter>
 </activity>
 </application>

</manifest>
```

OUTPUT



4. Develop an application that toggles image using FrameLayout

XML

```
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout 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"
```

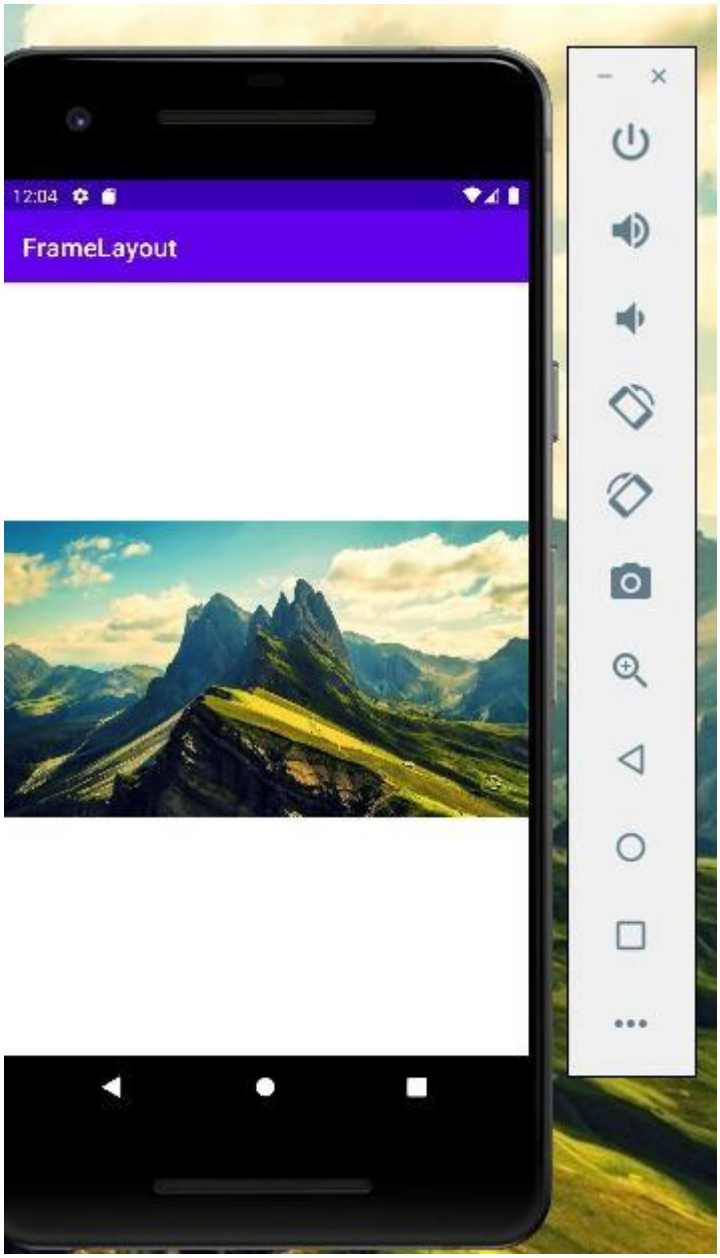
```
android:layout_height="match_parent"    android:id="@+id/frm"
tools:context=".MainActivity">

<ImageView
    android:id="@+id/img"
    android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:src="@drawable/desktop">
</ImageView> <ImageView
android:id="@+id/img2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:src="@drawable/sensor"
android:visibility="gone">
</ImageView> </FrameLayout>
```

MAIN ACTIVITY

```
package com.example.framelayout;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle; import
android.view.View; import
android.widget.FrameLayout;
import android.widget.ImageView;

public class MainActivity extends AppCompatActivity implements
View.OnClickListener {

   ImageView img,img2;



   @Override
   protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);        img =
(ImageView) findViewById(R.id.img);        img2 =
(ImageView) findViewById(R.id.img2);
img.setOnClickListener(this);
img2.setOnClickListener(this);
   }
       public void onClick(View v){
if (v==img){
img.setVisibility(View.GONE);
img2.setVisibility(View.VISIBLE);
       }
else{
           img2.setVisibility(View.GONE);
           img.setVisibility(View.VISIBLE);
```

```
        }
        }

}
```

OUTPUT



12:05
FrameLayout