CO2

MAIN ACTIVITY 1

```java
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();
```

```java
            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

```java
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
<?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>
```

```xml
    <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" />
```
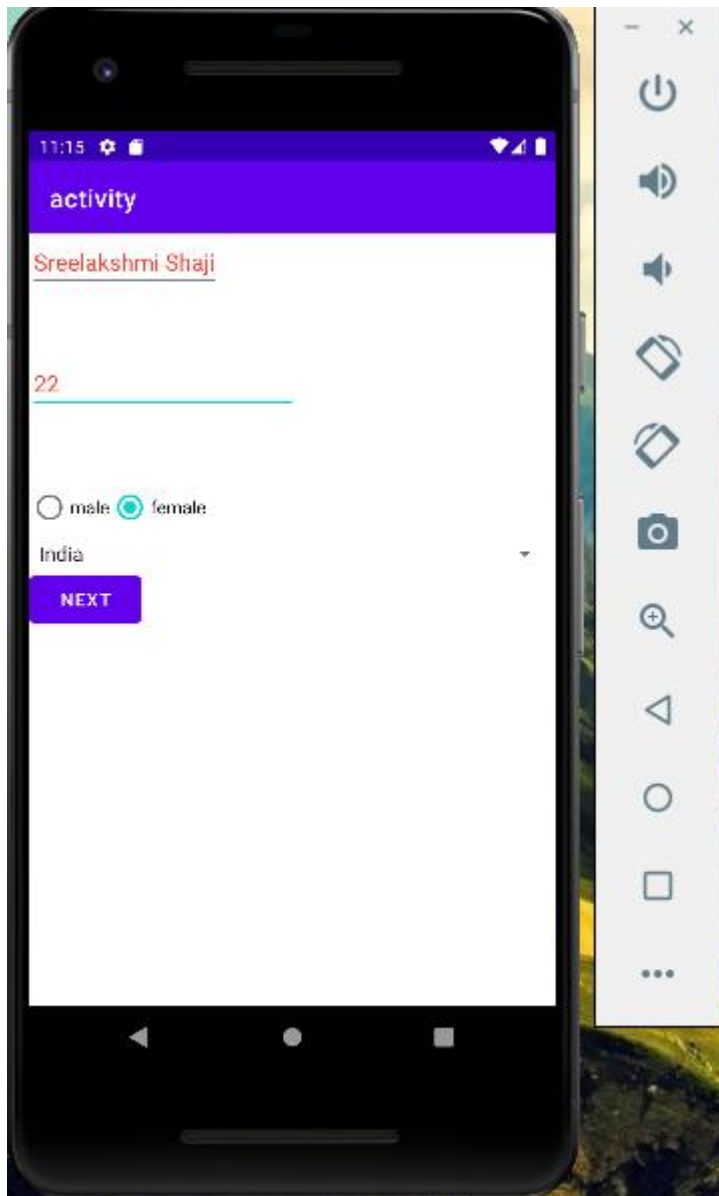
```xml
</LinearLayout>
```

XML2

```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: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

CO2-2. Design a simple Calculator using GridLayout and Cascaded LinearLayout

Main Activity

```java
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 {
```

```java
        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("");
```

```java
        }
        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
<?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"
```

```xml
        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" />
```

```xml
<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"
```

```xml
            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>
```
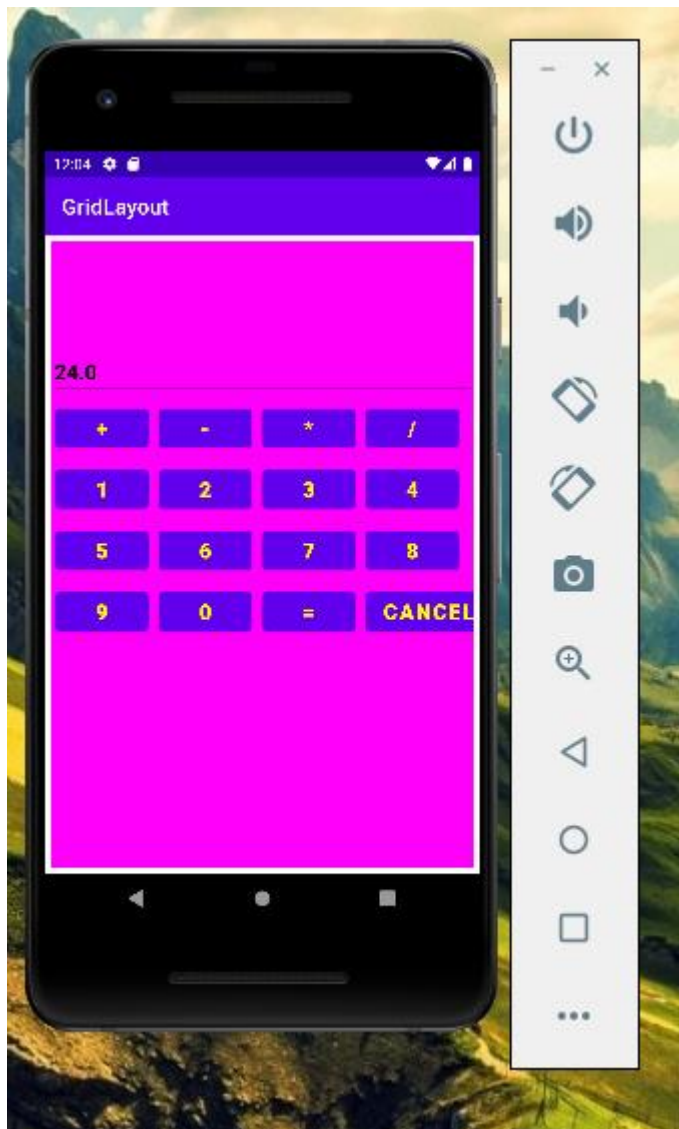
OUTPUT

CO2-3. Develop an application that toggles image using FrameLayout

XML

```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"
```

```xml
    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

```java
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