Program 1

Aim: Program to design a Login Form with username and password using LinearLayout and toast valid credentials.

XML Code:

```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:gravity="center"

android:background="@drawable/login"

android:layout_height="match_parent"

tools:context=".Login">

<TextView android:id="@+id/txtlg"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:fontFamily="@font/archivo_blac

k"android:text="Login"

android:textSize="50dp"/>

<LinearLayout

android:layout_width="match_parent"

android:layout_height="wrap_content"

android:orientation="vertical"

android:layout_marginLeft="20dp"

android:layout_marginRight="20dp">

<com.google.android.material.textfield.TextInputLayout

android:id="@+id/edturn"



android:layout_width="match_parent"


android:layout_height="wrap_conte
```

```
nt"android:hint="Username"

style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox">

  <com.google.android.material.textfield.TextInputEditText android:layout_width="match_parent"
  android:layout_height="wrap_content"android:inputType="text"/>
  </com.google.android.material.textfield.TextInputLayout>

  <com.google.android.material.textfi

  eld.TextInputLayout

  android:id="@+id/edtpswd"

  android:layout_width="match_parent"

  android:layout_height="wrap_content"

  android:hint="Password"
  style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox">


  <com.google.android.material.textfield.TextInputEditText android:layout_width="match_parent"
  android:layout_height="wrap_content"android:inputType="text"/>
  </com.google.android.material.textfield.TextInputLayout>

  </LinearLayout>


  <Button android:id="@+id/btnlgn"
  android:layout_width="wrap_content"
  android:layout_height="wrap_content"
  android:text="Login"/>
 </LinearLayout>
```

Java Code:

```java
package com.example.vaidyakare;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.util.Log;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;


import android.widget.TextView;

import android.widget.Toast;

import com.google.android.material.textfield.TextInputLayout;

public class Login extends AppCompatActivity {

TextView t1;

TextInputLayout e1, e2;

Button b1;

@Override

protected void onCreate(Bundle savedInstanceState)



    {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_login);

t1 = findViewById(R.id.txtlgn);

e1 = findViewById(R.id.edturn);
e2= findViewById(R.id.edtpswd);

b1 =findViewById(R.id.btnlgn);


    b1.setOnClickListener(new View.OnClickListener() { @Override
public void onClick(View v) {

String username = e1.getEditText().getText().toString().trim();

String password = e2.getEditText().getText().toString().trim();

if (username.equals("")){
```

```
Toast.makeText(Login.this, "Enter your username",Toast.LENGTH_SHORT).show();

}

else if(password.equals(""))

{ Toast.makeText(Login.this, "Enter your password",Toast.LENGTH_SHORT).show();

}

else{

Intent j = new

Intent(Login.this,Dashboard.class);

if(username.equals("admin"))

{

    j.putExtra("usrn",username);startActivity(j);

}

else if(username.equals("patient"))

{

j.putExtra("usrn",username);

startActivity(j);

}

Else

{

Toast.makeText(Login.this, "Invalid user", Toast.LENGTH_SHORT).show();

}

}

}

});

}

}
```

Output:

Program: 2

<u>**Aim :**</u> Write a program that demonstrates Activity Lifecycle.

<u>**XML File**</u>

```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="Hello Teena!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

<?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="Hello Teena!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

Java File

```java
package com.example.activity;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.util.Log;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d("lifecycle","onCreate invoked");
    }
    @Override
    protected void onStart(){
        super.onStart();
        Log.d("lifecycle","onStart invoked");
    }
    @Override
    protected void onResume(){
        super.onResume();
        Log.d("lifecycle","onResume invoked");
    }
    @Override
    protected void onPause(){
        super.onPause();
        Log.d("lifecycle","onPause invoked");
    }
    @Override
    protected void onStop(){
        super.onStop();
        Log.d("lifecycle","onStop invoked");
    }
    @Override
    protected void onRestart(){
        super.onRestart();
        Log.d("lifecycle", "onRestart invoked ");
    }
    @Override
    protected void onDestroy(){
        super.onDestroy();
        Log.d("lifecycle","onDestroy invoked");
    }
}
```

Output:

```
D/lifecycle: onCreate invoked
D/lifecycle: onStart invoked
D/lifecycle: onResume invoked
D/lifecycle: onPause invoked
D/lifecycle: onStop invoked
D/lifecycle: onDestroy invoked
```

Program no: 3

Aim: Implementing basic arithmetic operations of a simple calculator

XML Code:

```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/et2"
        android:layout_width="308
        dp"
        android:layout_height="63
        dp" android:ems="10"
        android:hint="Enter second number"
        android:inputType="number"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.533"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.263" />

    <Button
        android:id="@+id/btn1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="ADD"
        app:layout_constraintBottom_toBottomOf="parent"
```

```
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.321"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.386" />
    <Button
        android:id="@+id/btn2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"

        android:text="SUB"

        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintHorizontal_bias="0.738"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.387" />

    <Button

        android:id="@+id/btn3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="MUL"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.321"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.499" />

    <Button

        android:id="@+id/btn4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
```

```xml
    android:text="DIV"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.738"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.499" />

<EditText android:id="@+id/et1"
    android:layout_width="30dp"
    android:layout_height="62dp"
    android:ems="10"
        android:hint="Enter first number"
    android:inputType="number"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.509"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.108" />

<TextView

    android:id="@+id/tv"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.543"

    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.617"
    android:textSize="30sp"/>

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

Java Code:

```java
package com.example.calculator;
import androidx.appcompat.app.AppCompatActivity;

import  android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity
    {
Button b1,b2,b3,b4;
    EditText et1,et2;
    TextView tv;

    @Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main); b1=findViewById(R.id.btn1);
    b2=findViewById(R.id.btn2); b3=findViewById(R.id.btn3);
    b4=findViewById(R.id.btn4); et1=findViewById(R.id.et1);
    et2=findViewById(R.id.et2); tv=findViewById(R.id.tv);
    b1.setOnClickListener(new View.OnClickListener() {

    @Override
    public void onClick(View v) {
    Integer n1=Integer.parseInt(et1.getText().toString());

    Integer n2=Integer.parseInt(et2.getText().toString());

    Integer n3=n1+n2;
    tv.setText("result "+n3);
```

```java
            }
        });
    b2.setOnClickListener(new View.OnClickListener() {
        @Override

        public void onClick(View v) {

        Integer n1=Integer.parseInt(et1.getText().toString());

        Integer n2=Integer.parseInt(et2.getText().toString());

        Integer n3=n1-n2;
        tv.setText("result "+n3);



        }
    });
    b3.setOnClickListener(new View.OnClickListener() {


    @Override
        public void onClick(View v) {

        Integer n1=Integer.parseInt(et1.getText().toString());

        Integer  n2=Integer.parseInt(et2.getText().toString());

        Integer n3=n1*n2;

        tv.setText("result "+n3);



        }
    });
    b4.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {

        Float n1=Float.parseFloat(et1.getText().toString());
```

```
Float n2=Float.parseFloat(et2.getText().toString());

Float n3=n1/n2;
tv.setText("result "+n3);



}
});



}
}
```

Output:

```
    android:inputType="text"

    android:hint="Last Name"

    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"

    app:layout_constraintHorizontal_bias="0.079"

    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toTopOf="parent"

    app:layout_constraintVertical_bias="0.11" />


<EditText

    android:id="@+id/email"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:ems="10"

    android:inputType="text"

    android:hint="Email-Id"

    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="0.192" />


<EditText

    android:id="@+id/password"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:ems="10"

    android:inputType="text"

    android:hint="Password"

    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"

    app:layout_constraintHorizontal_bias="0.079"
```

```
    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toTopOf="parent"

    app:layout_constraintVertical_bias="0.269" />


<Button

    android:id="@+id/proceed_button"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:text="PROCEED"

    android:backgroundTint="@color/black"

    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"

    app:layout_constraintHorizontal_bias="0.911"

    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toTopOf="parent"

    app:layout_constraintVertical_bias="0.373" />


<Button

    android:id="@+id/button2"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:text="Cancel"

    android:backgroundTint="@color/black"

    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"

    app:layout_constraintHorizontal_bias="0.05"

    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toTopOf="parent"

    app:layout_constraintVertical_bias="0.373" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Java Code:

```java
package com.example.login;


import androidx.appcompat.app.AppCompatActivity;


import android.content.Intent;
import android.os.Bundle;
import android.view.View;
importandroid.widget.Button;
import android.widget.EditText;

public class MainActivity2 extends
    AppCompatActivity {
Button procee,cancel;
    EditText first,last,emai,pass;


    boolean
    isAllFieldChecked=false;
    @Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main2);

    procee=findViewById(R.id.proceed_button);
    cancel=findViewById(R.id.button2);

    first=findViewById(R.id.firstName);
    last=findViewById(R.id.lastName);
    emai=findViewById(R.id.email);
    pass=findViewById(R.id.password);


procee.setOnClickListener(new View.OnClickListener() {
    @Override
```

```java
public void onClick(View view) {

 isAllFieldChecked = CheckAllFields();


    if(isAllFieldChecked){
    Intent i=new Intent(MainActivity2.this,MainActivity.class);
    startActivity(i);
    }


    }
    });
cancel.setOnClickListener(new View.OnClickListener() {
    @Override
public void onClick(View view) {
    MainActivity2.this.finish();
    System.exit(0);
    }
    });
    }
    private  boolean CheckAllFields(){

if(first.length()==0){
first.setError("This field is required");
return false;
    }
    if(last.length()==0){
    last.setError("This field is required");
    return false;


    }
if(emai.length()==0){
    emai.setError("This field is required");
```

```
return false;

    }
if(pass.length()==0){
    pass.setError("Password is required");
    return false;
    }
    else if(pass.length()<8){
    pass.setError("Password must be minimum 8 characters");

    return false;

    }


    return true;


    }
    }
```

Output:

Program 5

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

Activity_Main.xml

```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="387dp"
        android:layout_height="60dp"
        android:text="Enter Your Details"
        android:textSize="40dp"
        android:textStyle="bold"
        android:textColor="@color/light_green"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.666"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.087" />
<EditText
        android:id="@+id/name"
        android:layout_width="338dp"
        android:layout_height="58dp"
        android:ems="10"
        android:hint="Name"
        android:inputType="textPersonName"
```

```
android:textColorHint="@color/black"

app:layout_constraintBottom_toBottomOf="parent"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintHorizontal_bias="0.493"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toTopOf="parent"

app:layout_constraintVertical_bias="0.228" />


<EditText

    android:id="@+id/email"

    android:layout_width="340dp"

    android:layout_height="63dp"

    android:ems="10"

    android:hint="Email-ID"

    android:inputType="textPersonName"

    android:textColorHint="@color/black"

    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"

    app:layout_constraintHorizontal_bias="0.519"

    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toTopOf="parent"

    app:layout_constraintVertical_bias="0.353" />


<EditText

    android:id="@+id/phone"

    android:layout_width="339dp"

    android:layout_height="62dp"

    android:ems="10"

    android:hint="Phone Number"

    android:inputType="textPersonName"

    android:textColorHint="@color/black"

    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"

    app:layout_constraintHorizontal_bias="0.486"
```

```
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.475" />


    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Submit"
        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="0.612" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Acivity_Main2.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=".show">


    <TextView
        android:id="@+id/textView5"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Details of User using intent"
        android:textSize="22dp"
```

```
    android:textColor="@color/black"

    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"

    app:layout_constraintHorizontal_bias="0.456"

    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toTopOf="parent"

    app:layout_constraintVertical_bias="0.126" />


<TextView

    android:id="@+id/intentr"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:textColor="@color/dark"

    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"

    app:layout_constraintHorizontal_bias="0.458"

    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toTopOf="parent"

    app:layout_constraintVertical_bias="0.226" />


<TextView

    android:id="@+id/textView7"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:text="Details of User using Shared Preference"

    android:textSize="22dp"

    android:textColor="@color/black"

    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="0.564" />
```

```
    <TextView
        android:id="@+id/sharedr"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textColor="@color/dark"
        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="0.726" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

```java
package com.example.intentandshared;

import androidx.appcompat.app.ActionBar;
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;
public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ActionBar Wel=getSupportActionBar();
        Wel.setTitle("Welcome");
        Button sub=findViewById(R.id.button);
        EditText name=findViewById(R.id.name);
        EditText email=findViewById(R.id.email);
        EditText phone=findViewById(R.id.phone);
        sub.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent i= new Intent(MainActivity.this,show.class);
                String User=name.getText().toString();
                i.putExtra("Name",User);
                String Email=email.getText().toString();
                i.putExtra("Email",Email);
                String Phone=phone.getText().toString();
                i.putExtra("Phone",Phone);
```

```
        startActivity(i);


        SharedPreferences
sharedPreferences=getSharedPreferences("Myshare",MODE_PRIVATE);
        SharedPreferences.Editor MyEdit=sharedPreferences.edit();
        MyEdit.putString("nname",name.getText().toString());
        MyEdit.putString("Eemail",email.getText().toString());
        MyEdit.putString("pphone",phone.getText().toString());
        MyEdit.apply();


    }
  });


  }
}
```

MainActivity2.xml

```
package com.example.intentandshared;
import androidx.appcompat.app.ActionBar;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.widget.TextView;
public class show extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_show);
        ActionBar dis=getSupportActionBar();
        dis.setTitle("Display");


        TextView gh=findViewById(R.id.intentr);
        TextView sha=findViewById(R.id.sharedr);
        Intent i=getIntent();
        String   name=i.getStringExtra("Name");
        String   email=i.getStringExtra("Email");
        String phone=i.getStringExtra("Phone");

        gh.setText("Name :"+name+"\nEmail-ID :"+email+"\nPhone :"+phone);
        SharedPreference sharedPreferences=getSharedPreferences("Myshare",MODE_PRIVATE);
        String Name=sharedPreferences.getString( "nname","");
        String Email=sharedPreferences.getString("Eemail"," ");
        String Phone=sharedPreferences.getString("pphone"," ");
        sha.setText("Name :"+Name+"\nEmail-ID :"+Email+"\nPhone :"+Phone);


    }
}
```
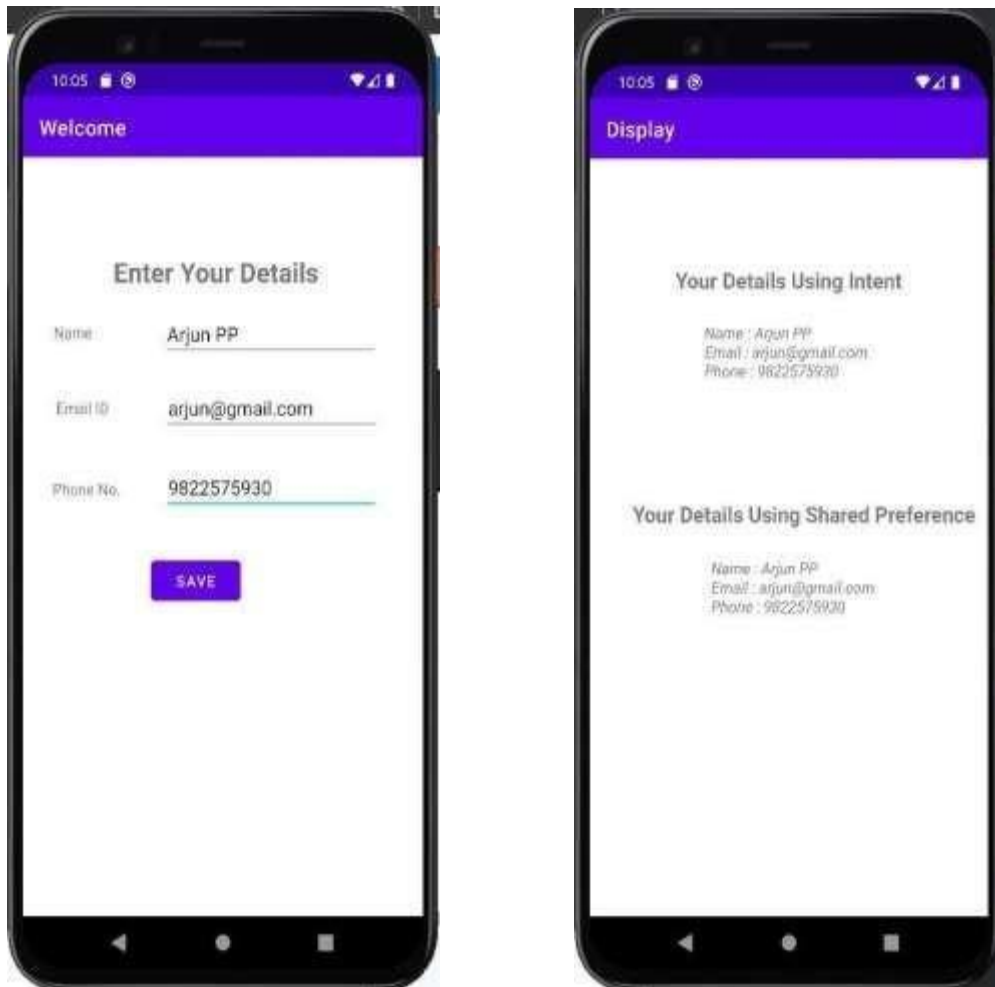
Output

Program no: 6

Aim: Design a simple Calculator using GridLayout and Cascaded LinearLayout

XML Code:

```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:background="#323030"
    android:layout_gravity="bottom"
    android:gravity="bottom"
    android:orientation="vertical"
    tools:context=".MainActivity2">

    <LinearLayout
        android:layout_width="match_paren
        t"
        android:layout_height="wrap_conte
        nt"android:orientation="vertical">

        <LinearLayout
            android:layout_width="match_paren
            t"
            android:layout_height="wrap_conte
            nt"android:layout_gravity="end"
            android:orientation="vertical">

            <TextView

                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_marginEnd="20dp"
```

```
    android:text="21+23"
    android:textAlignment="textEnd"
    android:textColor="@color/white"
    android:textSize="40dp" />


<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginEnd="20dp"
    android:text="=43"
    android:textAlignment="textEnd"
    android:textColor="@color/white"
    android:textSize="40dp" />
</LinearLayout>


<GridLayout
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:columnCount="4"
android:rowCount="4"
android:columnWidth="1dp"
android:numColumns="auto_fit"
android:verticalSpacing="1dp"
android:horizontalSpacing="1dp"
android:stretchMode="columnWidth"
android:gravity="center">


<Button

    android:id="@+id/b9"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_row="0"
    android:layout_column="0"
```

```
android:layout_margin="10dp"
android:text="9"
android:textColor="@color/white"
android:textSize="25dp" />


<Button
    android:id="@+id/b8"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:text="8"
    android:textColor="@color/white"
    android:textSize="25dp" />


<Button
    android:id="@+id/b7"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:text="7"
    android:textColor="@color/white"
    android:textSize="25dp" />


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

    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="#F86605"
    android:text="x"
    android:textColor="@color/white"
    android:textSize="18dp" />
```

```xml
<Button
    android:id="@+id/b6"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:text="6"
    android:textColor="@color/white"
    android:textSize="25dp" />


<Button
    android:id="@+id/b5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:text="5"
    android:textColor="@color/white"
    android:textSize="25dp" />


<Button
    android:id="@+id/b4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:text="4"
    android:textColor="@color/whi
te"android:textSize="25dp" />


<Button
    android:id="@+id/bdiv"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
```

```
android:background="#F86605"
android:text="/"
android:textColor="@color/white"
android:textSize="25dp" />


<Button
    android:id="@+id/b3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:text="3"
    android:textColor="@color/white"
    android:textSize="25dp" />


<Button
    android:id="@+id/b2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:text="2"
    android:textColor="@color/white"
    android:textSize="25dp" />
<Button
    android:id="@+id/b1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:text="1"
    android:textColor="@color/white"
    android:textSize="25dp" />


<Button
    android:id="@+id/bminus"
```

```
android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_margin="10dp"

android:background="#F86605"

android:text="-"

android:textColor="@color/white"

android:textSize="25dp" />


<Button

    android:id="@+id/b0"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:layout_margin="10dp"

    android:text="0"

    android:textColor="@color/white"

    android:textSize="25dp" />


<Button

    android:id="@+id/b."

    android:layout_width="wrap_content"

    android:layout_height="wrap_conte

    nt"android:layout_margin="10dp"

    android:text="."

    android:textColor="@color/white"

    android:textSize="25dp" />


<Button

    android:id="@+id/bequal"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:layout_margin="10dp"

    android:text="="

    android:textColor="@color/white"
```

```
        android:textSize="25dp" />


    <Button
        android:id="@+id/bplus"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:background="#F86605"
        android:text="+"
        android:textColor="@color/white"
        android:textSize="25dp" />



    </GridLayout>
 </LinearLayout>



</LinearLayout>
```

Java Code:

```java
package com.example.intentandshared;

import androidx.appcompat.app.ActionBar;
import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity2 extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        ActionBar cal=getSupportActionBar();
        cal.setTitle("Calculator");
    }
}
```

Output

Program no: 7

Aim: Create a Facebook page using RelativeLayout; set properties using .xmlfile

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"
    android:background="#29487D"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="341dp"
        android:layout_height="96dp"
        android:layout_alignParentStart="true"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginBottom="474dp"
        android:fontFamily="helvetica"
        android:text="facebook"
        android:textAlignment="center"
        android:textColor="@color/white"
        android:textSize="46dp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.968" />

    <Button
        android:id="@+id/b1"
        android:layout_width="300dp"
        android:layout_height="wrap_content"
        android:layout_marginLeft="50dp"
        android:layout_marginTop="355dp"
        android:text="LOG IN" />

    <EditText
        android:id="@+id/et1"
        android:layout_width="300dp"
        android:layout_height="wrap_content"
        android:ems="10"
```

```
        android:layout_marginLeft="50dp"
        android:layout_marginTop="250dp"
        android:inputType="textPersonName"
        android:hint="email or password" />

    <EditText
        android:id="@+id/et2"
        android:layout_width="300dp"
        android:layout_height="wrap_content"
        android:ems="10"
        android:layout_marginLeft="50dp"
        android:layout_marginTop="300dp"
        android:inputType="textPersonName"
        android:hint="password" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginLeft="105dp"
        android:layout_marginTop="430dp"
        android:text="Don't have an account? Sign Up."
        android:textAlignment="center"/>
    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginLeft="150dp"
        android:layout_marginTop="408dp"
        android:text="Forgot password"
        android:textAlignment="center"/>


</RelativeLayout>
```

MainActivity.java

```java
package com.example.facebook;

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.Toast;

public class MainActivity extends AppCompatActivity {
```

```java
    EditText et1, et2;
    Button b1;


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

        b1=findViewById(R.id.b1);
        et1=findViewById(R.id.et1);
        et2=findViewById(R.id.et2);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String email=et1.getText().toString();
                String pass=et2.getText().toString();
                if(email.equals("")){
                    Toast.makeText(MainActivity.this, "Enter your username",
                    Toast.LENGTH_LONG).show();
                }
                else if(pass.equals("")){
                    Toast.makeText(MainActivity.this, "Enter your password",
                    Toast.LENGTH_LONG).show();
                }
                    else if (email.equals("vt9796") && pass.equals("vt9796")) {
                    Intent i=new Intent(MainActivity.this, MainActivity2.class);
                    i.putExtra("name", email);
                    startActivity(i);
                }       else {
                    String toastMessage = "Username and Password doesn't match.";
                    Toast.makeText(getApplicationContext(), toastMessage,
Toast.LENGTH_LONG).show();
                }
            }


        });

    }
}
```

Activity_main2.xml

```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"
```

```xml
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#29487D"
    tools:context=".MainActivity2">

    <TextView
        android:id="@+id/tv"
        android:layout_width="284dp"
        android:layout_height="53dp"
        android:text="tv"
        android:textStyle="bold"
        android:textSize="60dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity2.java

```java
package com.example.facebook;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.widget.TextView;

public class MainActivity2 extends AppCompatActivity {
    TextView tv = findViewById(R.id.tv);

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);

        Intent j=getIntent();
        String email=j.getStringExtra("name");
        tv.setText("Welcome:"+email);
    }
}
```
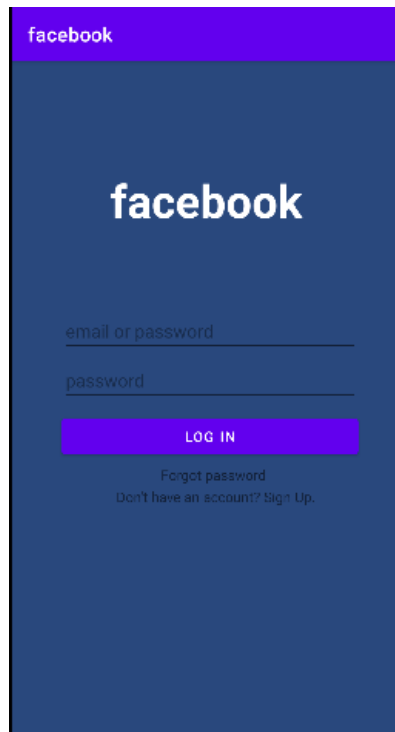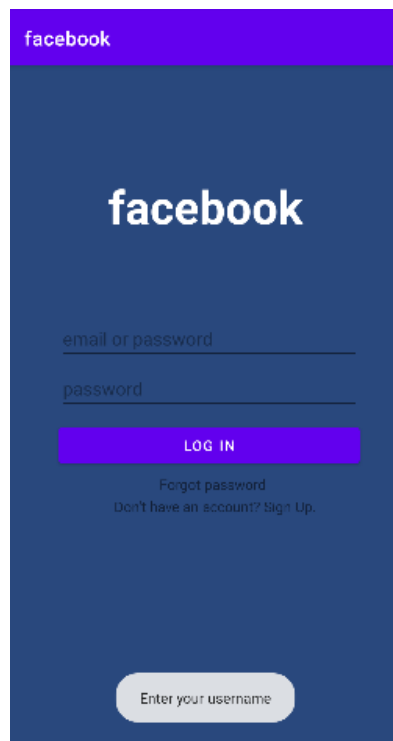
Output
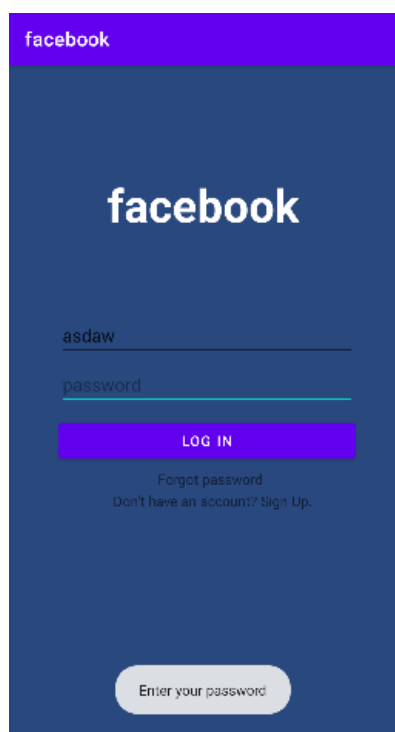
Program no: 8

Aim: Develop an application that toggles image using FrameLayout

Activity_main.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"
    tools:context=".MainActivity">



    <ImageView

     android:id="@+id/image1"
     android:layout_width="350dp"
     android:layout_height="350dp"
     android:src="@drawable/minny"

        />
    <ImageView
        android:id="@+id/image2"

     android:layout_width="350dp"

     android:layout_height="350dp"

     android:src="@drawable/mickey"

        />


</FrameLayout>
```

MainActivity.java

package com.example.framelayout;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {

  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    ImageView i1=findViewById(R.id.image1);
    ImageView i2=findViewById(R.id.image2);
    i2.setOnClickListener(new View.OnClickListener() {
      @Override
    public void onClick(View v)
      {i1.bringToFront();
      }
    });
    i1.setOnClickListener(new View.OnClickListener() {
      @Override

```
        public void onClick(View v)
            {i2.bringToFront();
            }
        });
    }
}
```

Output
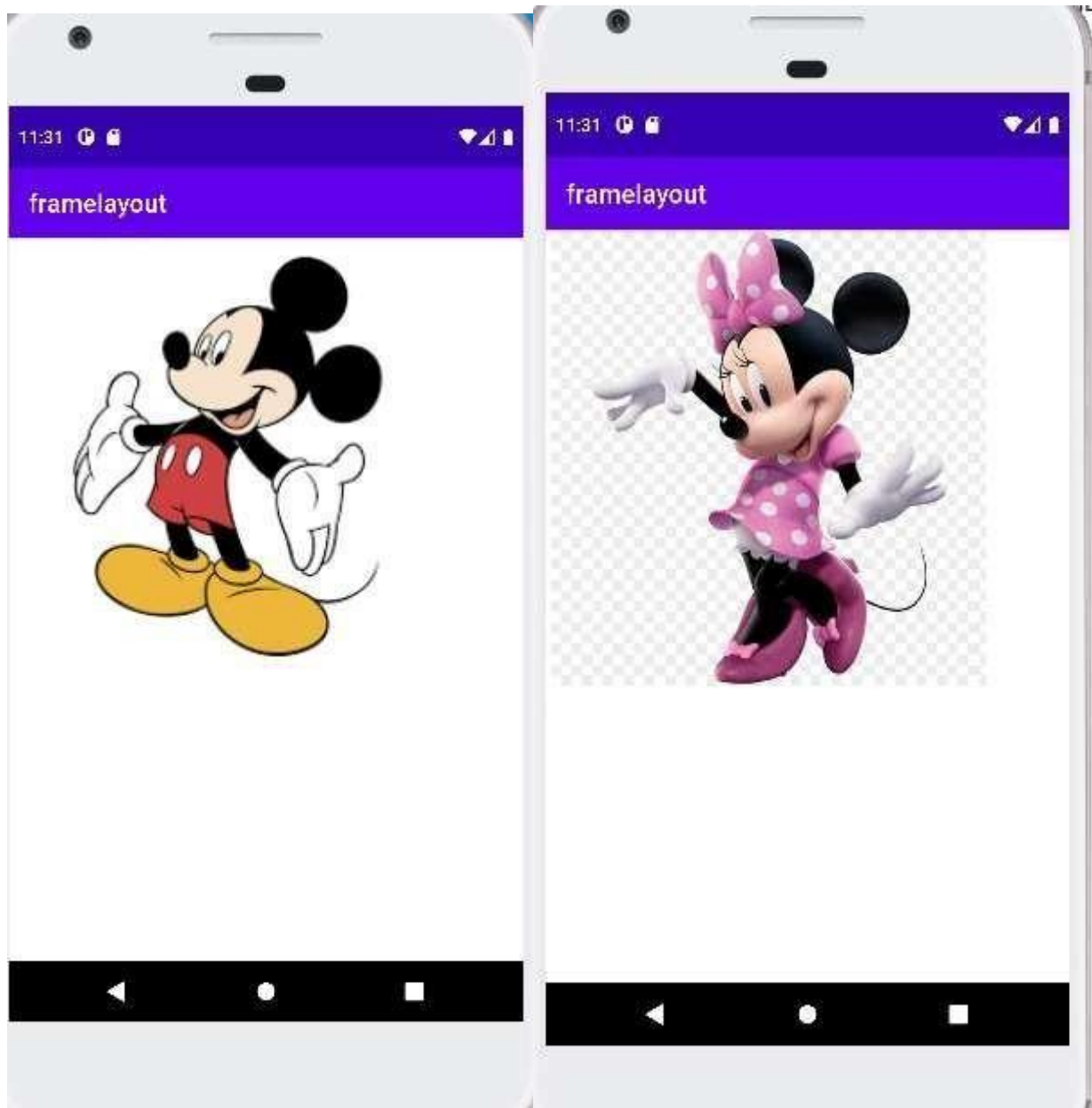
Program 9

Aim : Implement Adapters and perform exception handling

Activity_Main.xml


```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">

    <ListView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        />

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


MainActivity.java

```java
package com.example.exception_handling;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.widget.Toast;

import java.util.ArrayList;
import java.util.List;

public class MainActivity extends AppCompatActivity {
    List<String> list= new ArrayList();
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        list.add("ITEM 1");
        list.add("ITEM 2");
        list.add("ITEM 3");
        list.add("ITEM 4");
```
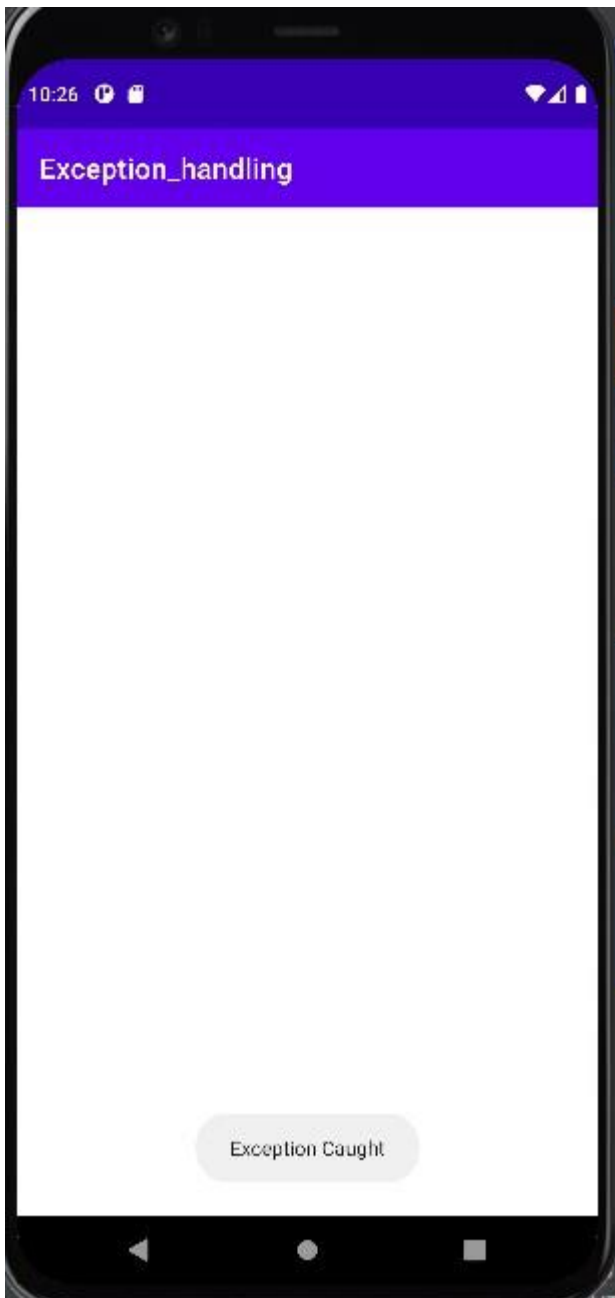
```
    for(int i=0;i<6;i++){
      try{
         list.get(i);
      }
      catch (Exception e){
         Toast.makeText(this, "Exception Caught", Toast.LENGTH_LONG).show();
      }
    }
  }
}
```

Output

Program no: 10

Aim: Implement Intent to navigate between multiple activities

XML Code:

```
<?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">


    <Button

        android:id="@+id/b"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="Click Me"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent" />


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

Java Code:

```java
package com.example.implicitintent;

import androidx.appcompat.app.ActionBar;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import  android.net.Uri;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

public class MainActivity extends AppCompatActivity {

  @Override

  protected void onCreate(Bundle savedInstanceState) {

    super.onCreate(savedInstanceState);

    setContentView(R.layout.activity_main);

    ActionBar a=getSupportActionBar();

    a.setTitle("Implicit Intent");

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

    b.setOnClickListener(new View.OnClickListener() {

      @Override

      public void onClick(View v) {

        Intent i=new Intent(Intent.ACTION_VIEW, Uri.parse("https://www.google.com/"));

        startActivity(i);

      }

    });

  }
}
```
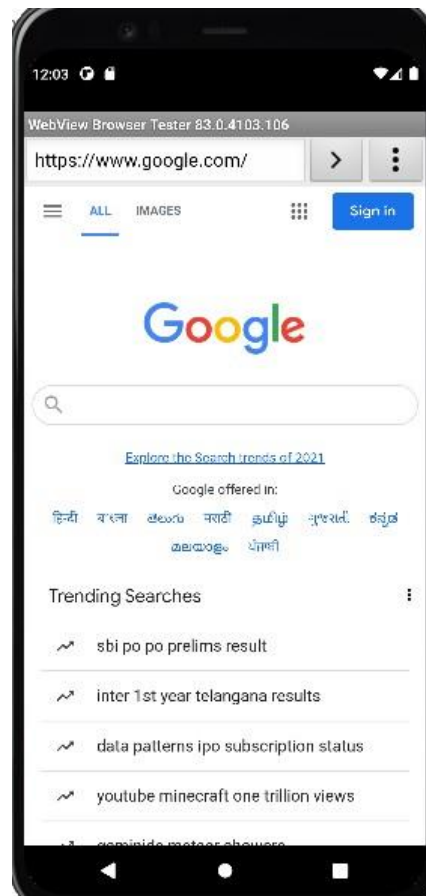
Output

Program no: 11

Aim: Develop application that works with explicit intents

<u>**Activity_main.xml**</u>

```
<?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">


    <Button
        android:id="@+id/b1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Click Me!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />


    <EditText
        android:id="@+id/et1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="Name"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.497"
```

```
    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toTopOf="parent"

    app:layout_constraintVertical_bias="0.042" />


<EditText

    android:id="@+id/et2"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:ems="10"

    android:inputType="textPersonName"

    android:text="email"

    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"

    app:layout_constraintHorizontal_bias="0.497"

    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toTopOf="parent"

    app:layout_constraintVertical_bias="0.141" />


<EditText

    android:id="@+id/et3"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:ems="10"

    android:inputType="textPersonName"

    android:text="phone number"

    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"

    app:layout_constraintHorizontal_bias="0.497"

    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toTopOf="parent"

    app:layout_constraintVertical_bias="0.228" />


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

MainActivity.java

```java
package com.example.explicitintent;

import androidx.appcompat.app.ActionBar;
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;

public class MainActivity extends AppCompatActivity {



  Button b;

  EditText n,e,p;

  @Override

  protected void onCreate(Bundle savedInstanceState) {

    super.onCreate(savedInstanceState);

    setContentView(R.layout.activity_main);

    ActionBar a=getSupportActionBar();

    a.setTitle("Activity 1");

    b=findViewById(R.id.b);

    n=findViewById(R.id.n);
```

```java
        e=findViewById(R.id.e);

        p=findViewById(R.id.p);

        b.setOnClickListener(new View.OnClickListener() {

          @Override

          public void onClick(View v) {

            Intent i=new Intent(MainActivity.this, MainActivity2.class);

            String user=n.getText().toString();

            i.putExtra("userName",  user);

            String email=e.getText().toString();

            i.putExtra("userEmail", email);

            String phone=p.getText().toString();

            i.putExtra("userPhone", phone);
            startActivity(i);
          }

        });

    }
}
```

Activity_main2.xml

```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=".MainActivity2">



    <TextView


        android:id="@+id/n"
        android:layout_width="257dp"
        android:layout_height="150dp"
        android:textStyle="bold"
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.353" />



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

MainActivity2.java

package com.example.explicitintent;

import androidx.appcompat.app.ActionBar;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.widget.Button;

import android.widget.TextView;

public class MainActivity2 extends AppCompatActivity {

@Override

   protected void onCreate(Bundle savedInstanceState) {

      super.onCreate(savedInstanceState);

      setContentView(R.layout.*activity_main2*);

      ActionBar a=getSupportActionBar();

```java
        a.setTitle("Activity 2");

        TextView n=findViewById(R.id.n);

        Intent i=getIntent();

        String  name=i.getStringExtra("userName");
        String  email=i.getStringExtra("userEmail");
        String phone=i.getStringExtra("userPhone");

        n.setText("Name: "+name+"\nEmail: "+email+"\nPhone: "+phone);
    }
```
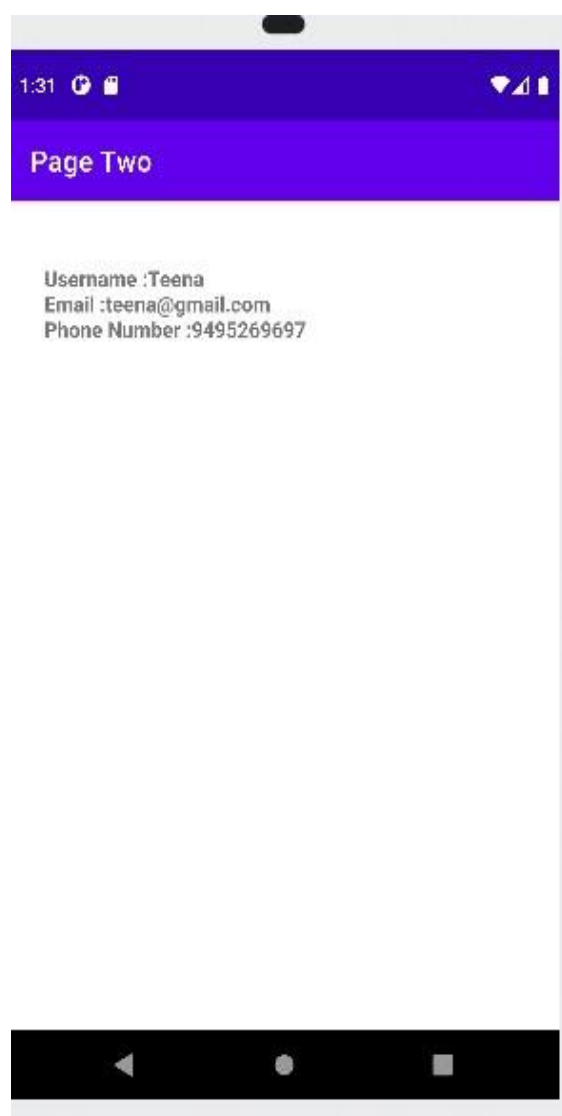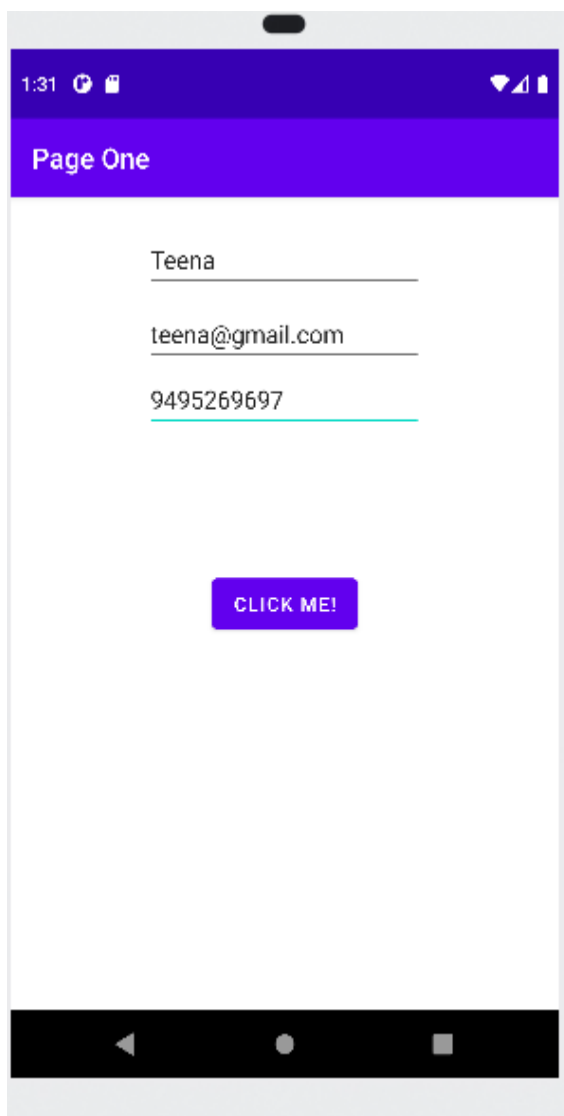
Output

Program no: 12

Aim: Implement Options Menu to navigate to activities

XML Code:

```
<?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=".MainActivity3">

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.497"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.642"
        />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Menu XML Code:

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:android="http://schemas.android.com/apk/res/android">
    <item
        android:id="@+id/it1"
```

```
        android:icon="@drawable/about"

        android:title="About"


        app:showAsAction="withText" />


    <item
        android:id="@+id/it2"

        android:icon="@drawable/help"

        android:title="Help" />

    </menu>
```

Java Code:

```java
 package com.example.myapp15_12_2;


import androidx.annotation.NonNull;

import androidx.appcompat.app.AppCompatActivity;


import android.content.Intent;

import android.os.Bundle;

import android.view.Menu;

import android.view.MenuItem;

import android.widget.ImageView;

import android.widget.Toast;


public class MainActivity3 extends AppCompatActivity {

    ImageView i;


//option menu

    @Override

    public boolean onCreateOptionsMenu(Menu menu) {

        getMenuInflater().inflate(R.menu.menu,menu);

        return true;

        //return super.onCreateOptionsMenu(menu);

    }
```

```java
    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        item.setIcon(R.drawable.about);
        i=findViewById(R.id.imageView);
        //handle item selection
        switch (item.getItemId()) {
            case R.id.it1:
                //view image - about click
                i.setImageResource(R.drawable.about);
                Toast.makeText(getApplicationContext(), "You Clicked About",
Toast.LENGTH_SHORT).show();
                return true;
            case R.id.it2:
                //moving to next page
                Intent in=new Intent(MainActivity3.this,MainActivity.class);
                startActivity(in);
                Toast.makeText(getApplicationContext(), "You Clicked Help",
Toast.LENGTH_SHORT).show();
                return true;
            default:
                return super.onOptionsItemSelected(item);
        }
    }

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main3);
    }

}
```

Output
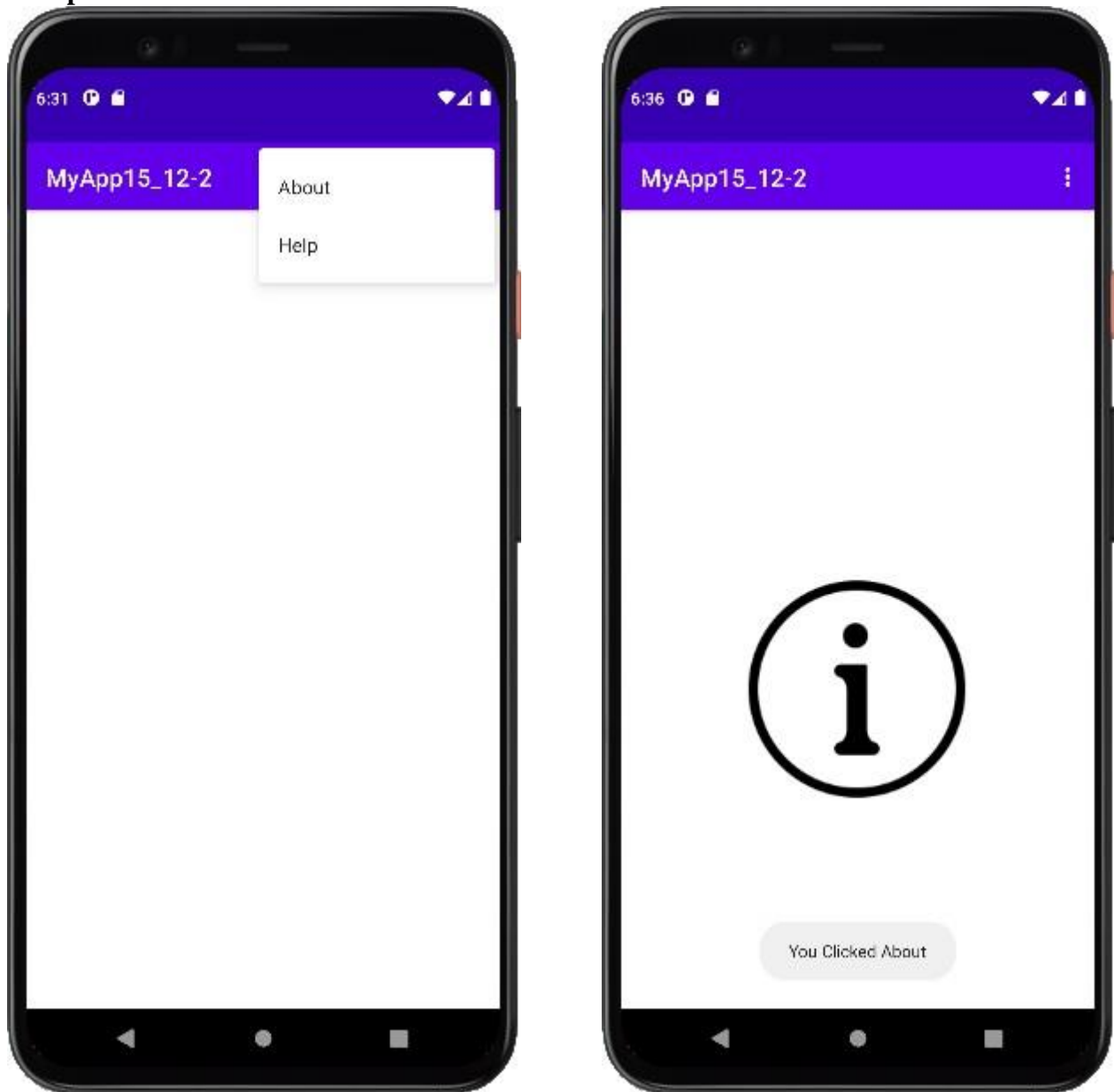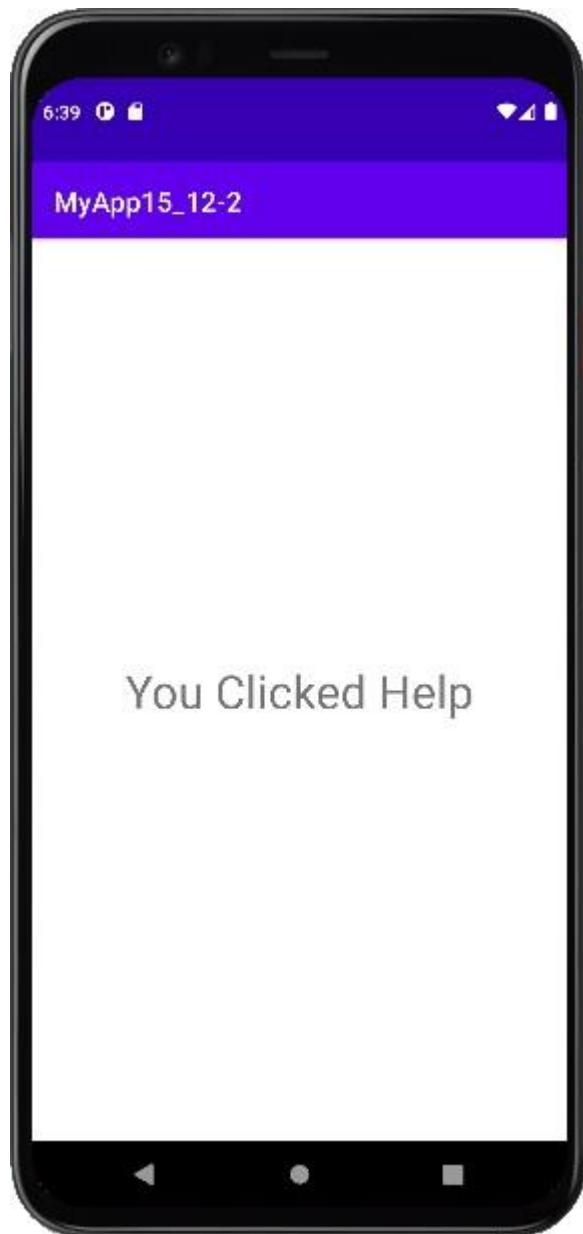
Program no: 13

Aim: Develop an application that uses ArrayAdapter with ListView

XML Code:

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

<android.support.constraint.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_conte
        nt"
        android:layout_height="wrap_content"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <ListView android:id="@+id/list"
        android:layout_width="396dp"
        android:layout_height="732dp"
        android:layout_marginStart="1dp"
        android:layout_marginEnd="1dp"
         app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
```

```
app:layout_constraintHorizontal_bias="0.461"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toTopOf="parent"

app:layout_constraintVertical_bias="0.0" />


</android.support.constraint.ConstraintLayout>
```

Java Code:

```
package com.example.listview;



import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;


import android.widget.AdapterView;


import android.widget.ArrayAdapter;import

android.widget.ListView; import

android.widget.Toast;


public class MainActivity extends AppCompatActivity {

ListView listView;

String countries[]={"India","America","UK"};

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);

listView=findViewById(R.id.list);

ArrayAdapter arrayAdapter=new

ArrayAdapter<String>(MainActivity.this,R.layout.support_simple_spinner_dropdown
```
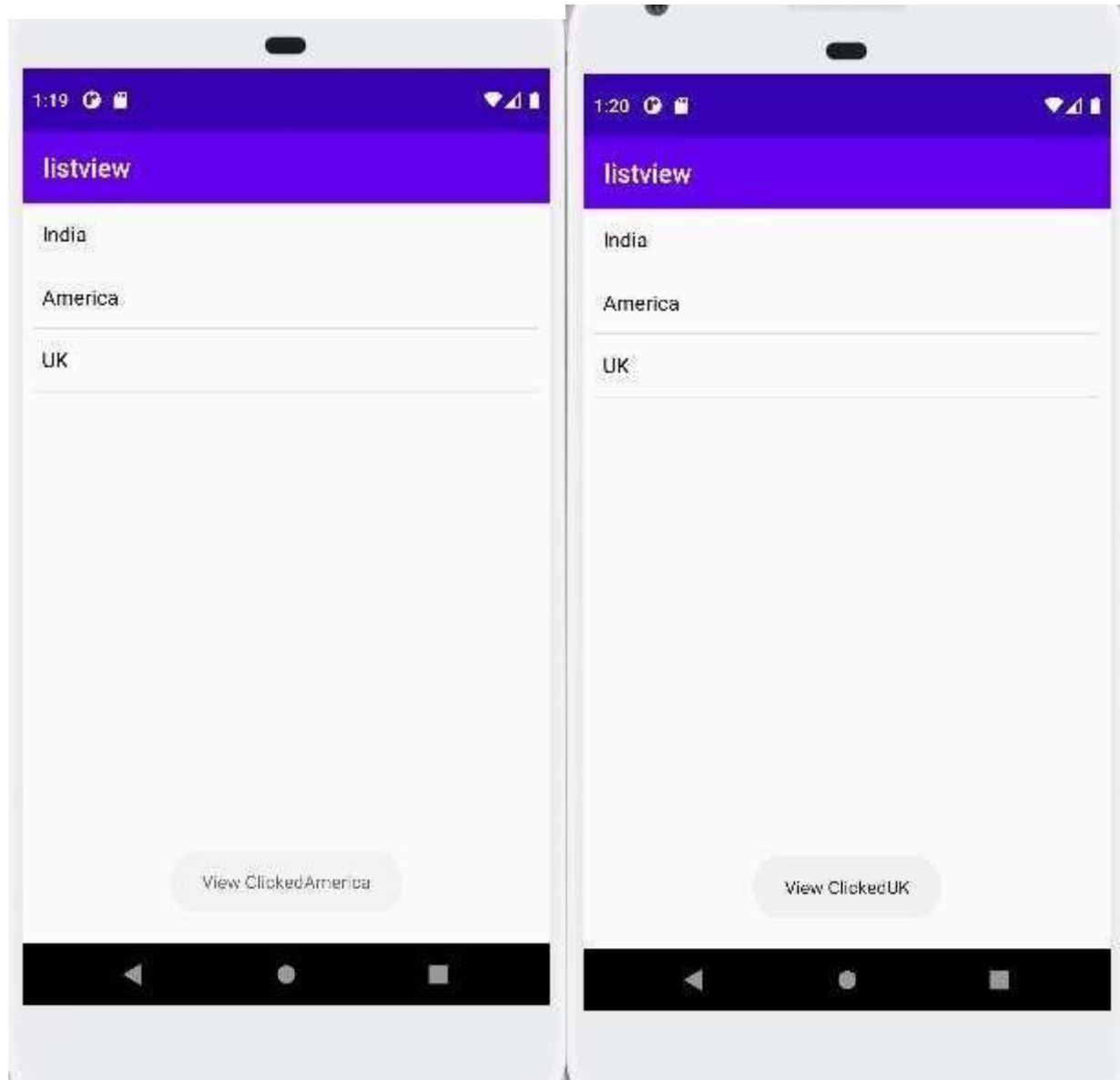
```
_item,countries);
      listView.setAdapter(arrayAdapter);
   listView.setOnItemClickListener(new AdapterView.OnItemClickListener() {
   @Override
      public void onItemClick(AdapterView<?> parent, View view, int position, long

      id) {

      Toast.makeText(getApplicationContext(), "View

      Clicked"+countries[position], Toast.LENGTH_SHORT).show();

      }


      });

      }

      }
```

Output
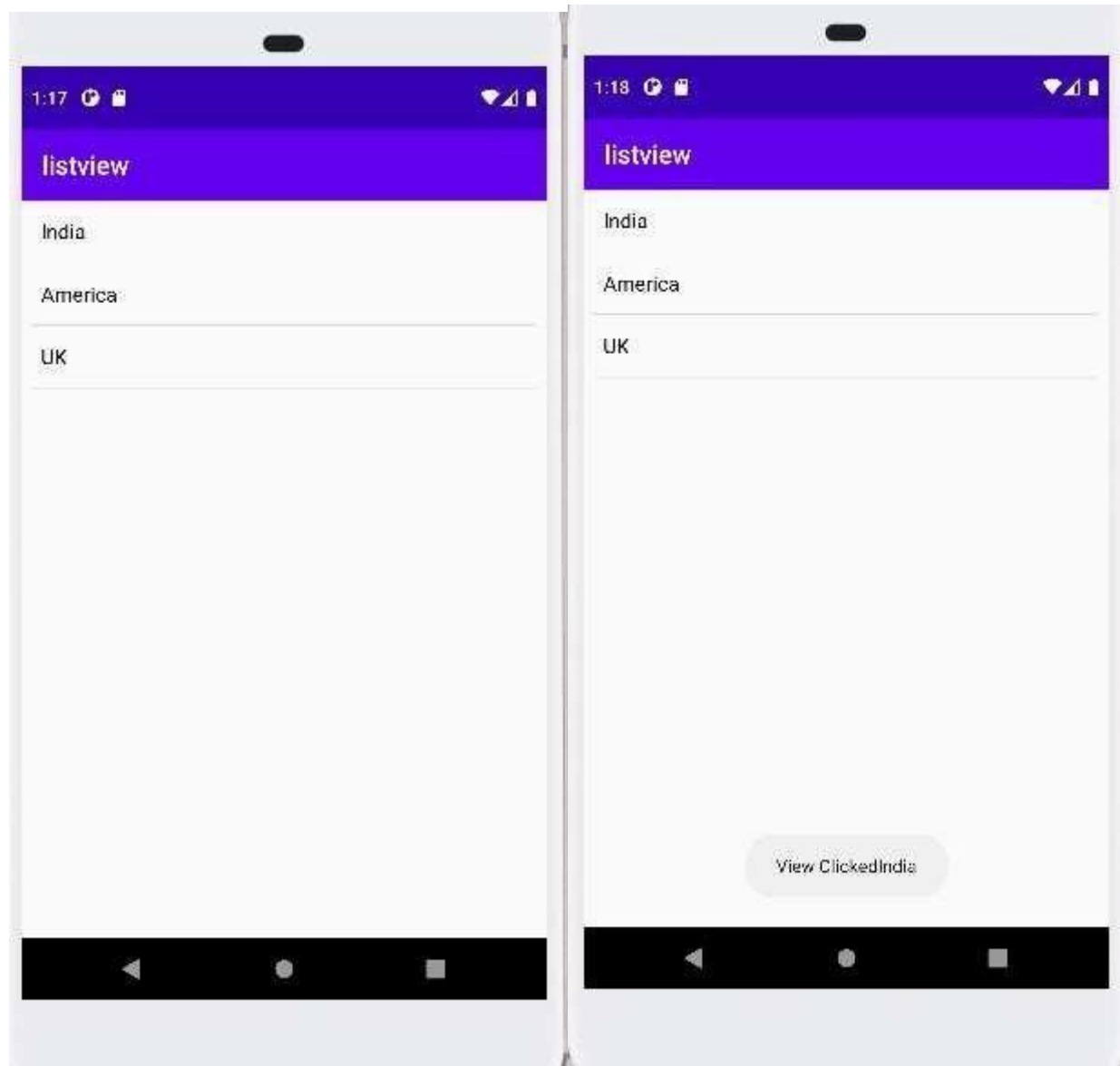
Program no: 14

Aim: Program to develop an application that use GridView with images and display Alert box on selection

XML Code:

activity_main.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">

    <GridView
        android:id="@+id/grid1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:numColumns="2"
        />

</LinearLayout>
```

grid_single.xml

```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">

    <ImageView
        android:layout_width="150dp"
        android:layout_height="150dp"
        android:id="@+id/img1"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/tv1"
        android:textSize="20dp" />
```

```
</LinearLayout>
```

Java Code:

MainActivity.java

```java
package com.example.gridview;

import androidx.appcompat.app.AppCompatActivity;

import android.graphics.drawable.RippleDrawable;
import android.os.Bundle;
import android.widget.GridView;

public class MainActivity extends AppCompatActivity {
    GridView gridview;
    String con[]={"image 1","image 2","image 3","image 4","image 5","image 6","image 7","image 8"};

    int img[]={R.drawable.image1,R.drawable.image2,R.drawable.image3,R.drawable.image4,R.drawable.image5,R.drawable.image6,R.drawable.image7, R.drawable.image8};
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        gridview=findViewById(R.id.grid1);
        CustomAdaptor customAdaptor=new CustomAdaptor(MainActivity.this,con,img);
        gridview.setAdapter(customAdaptor );
    }
}
```

CustomAdapter.java

```java
package com.example.gridview;

import android.content.Context;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.BaseAdapter;
import android.widget.ImageView;
import android.widget.TextView;
```

```java
public class CustomAdaptor extends BaseAdapter {

    Context context;
    String con[];
    int img[];
    LayoutInflater layoutInflater;

    public CustomAdaptor(MainActivity mainActivity, String[] con, int[] img) {

        this.context=mainActivity;
        this.con=con;
        this.img=img;
        layoutInflater=(LayoutInflater.from(mainActivity));

    }

    @Override
    public int getCount() {
        return img.length;
    }

    @Override
    public Object getItem(int position) {
        return null;
    }

    @Override
    public long getItemId(int position) {
        return 0;
    }

    @Override
    public View getView(int position, View convertView, ViewGroup parent) {

        convertView=layoutInflater.inflate(R.layout.gridlayout,null);
        TextView textView=(TextView) convertView.findViewById(R.id.tv1);
        ImageView imageView=(ImageView) convertView.findViewById(R.id.img1);

        textView.setText(con[position]);
        imageView.setImageResource(img[position]);


        return convertView;
    }
}
```

Output:
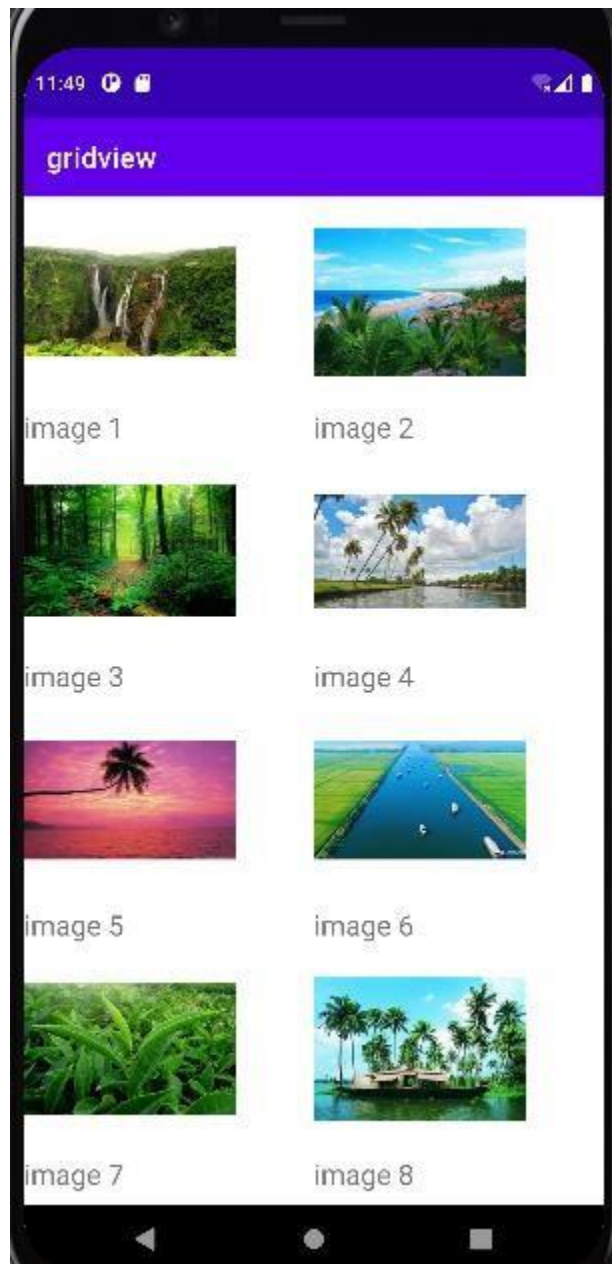
Program no: 15

Aim: Develop an application that implements Spinner component and perform event handling

<u>**XML Code**</u>

<u>**Activity_Main.xml**</u>

```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">

<Spinner
    android:id="@+id/spinner"
    android:layout_width="149dp"
    android:layout_height="40dp"
    android:layout_marginStart="8dp"
    android:layout_marginEnd="8dp"
    android:layout_marginBottom="8dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.409" />

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

Java Code

```java
package com.example.spinner;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Context;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.Spinner;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity  {

    Spinner spin;
    String Courses[] = {"MCA", "Btech", "Mtech", "other"};

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


        spin = findViewById(R.id.spinner);


        ArrayAdapter arrayAdapter = new ArrayAdapter(this,
R.layout.support_simple_spinner_dropdown_item, Courses);
        spin.setAdapter(arrayAdapter);

        spin.setOnItemSelectedListener(new AdapterView.OnItemSelectedListener() {
            @Override
```
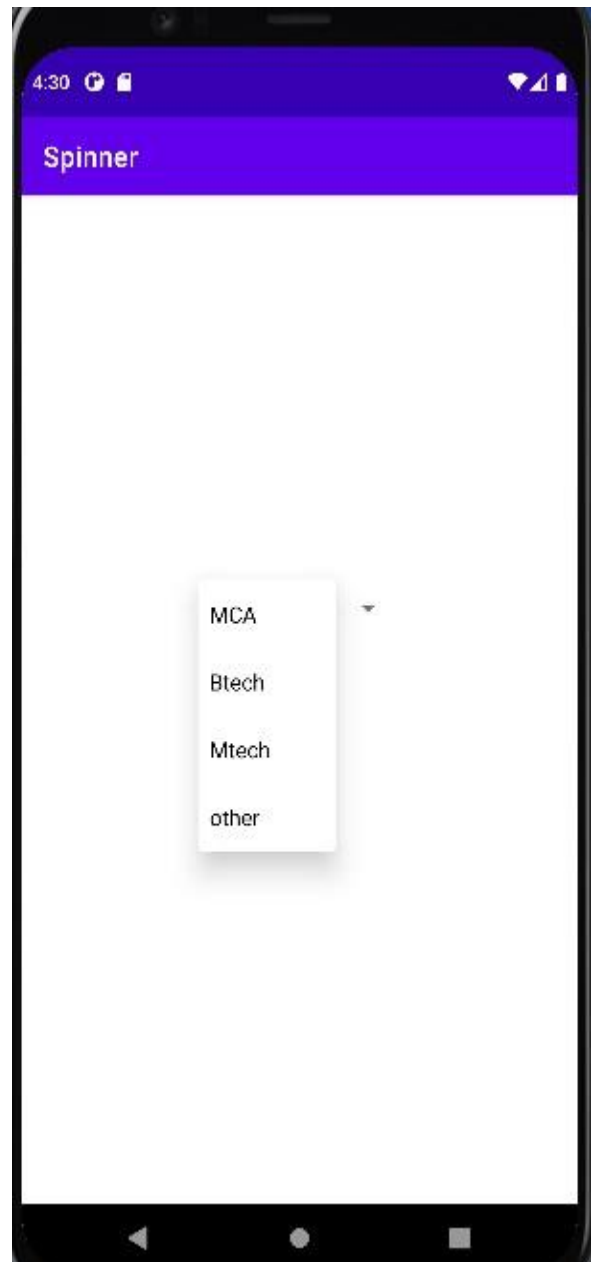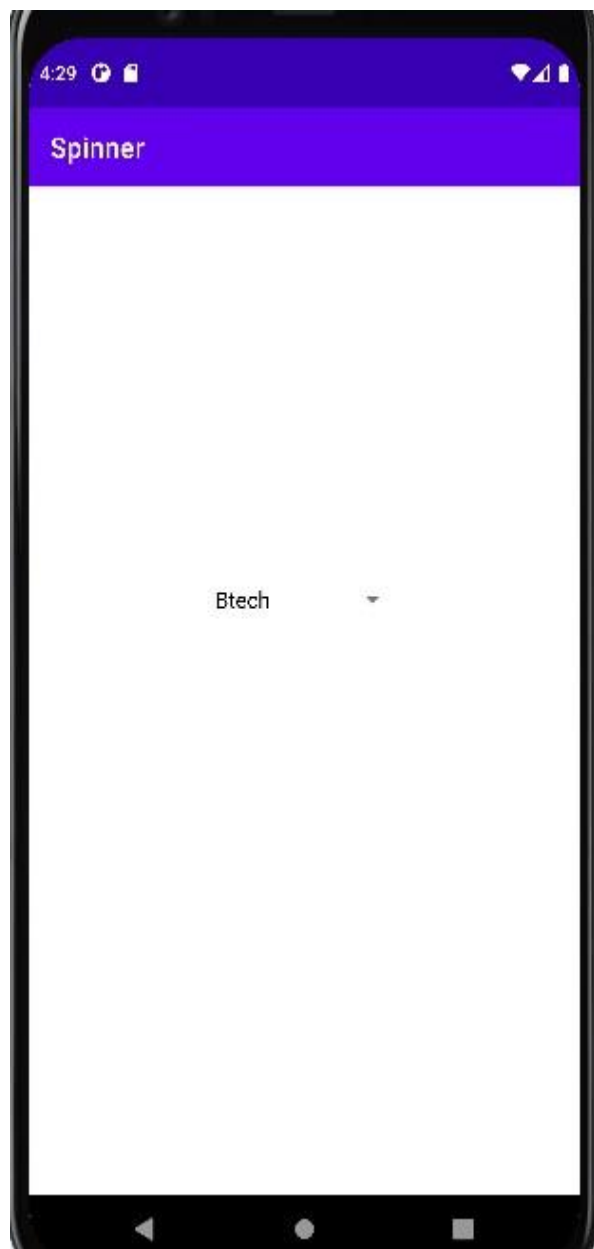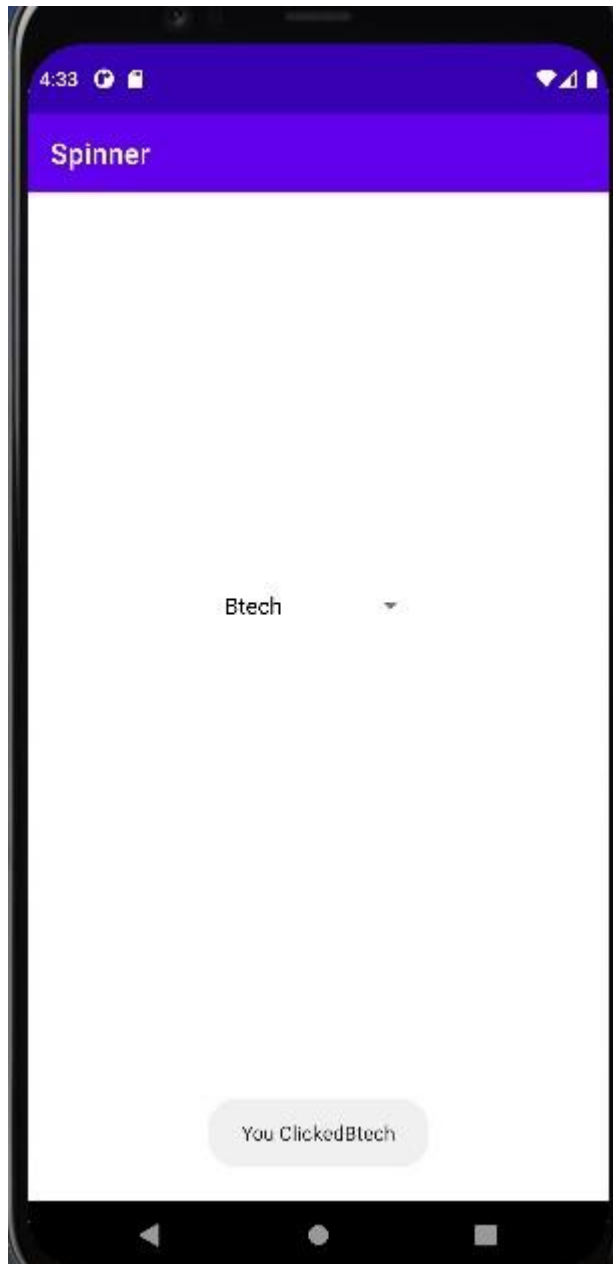
```java
    public void onItemSelected(AdapterView<?> parent, View view, int position, long id)
{
        Toast.makeText(getApplicationContext(),"You Clicked" + Courses[position],
Toast.LENGTH_LONG).show();
    }


    @Override
    public void onNothingSelected(AdapterView<?> parent) {
       return;
    }


   });
  }
}
```

Program no: 16

Aim: Apply themes via code and manifest file

XML Code:

<u>**Actvity_main.xml**</u>

```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="Hello Teena!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

<u>**AndroidManifest.xml**</u>

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

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.AppCompat.Light.DarkActionBar">
        <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>
```

themes.xml

```
<resources xmlns:tools="http://schemas.android.com/tools">
  <!-- Base application theme. -->
  <style name="Theme.Themes"
parent="Theme.MaterialComponents.DayNight.DarkActionBar">
      <!-- Primary brand color. -->
      <item name="colorPrimary">#F30FEF</item>
      <item name="colorPrimaryVariant">@color/teal_200</item>
      <item name="colorOnPrimary">@color/white</item>
      <!-- Secondary brand color. -->
      <item name="colorSecondary">@color/teal_200</item>
      <item name="colorSecondaryVariant">@color/teal_700</item>
      <item name="colorOnSecondary">@color/black</item>
      <!-- Status bar color. -->
      <item name="android:statusBarColor"
tools:targetApi="l">?attr/colorPrimaryVariant</item>
      <!-- Customize your theme here. -->
    </style>
  </resources>
```

Java Code:

Main Actvity.java

```java
package com.example.themes;

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);
    }
}
```
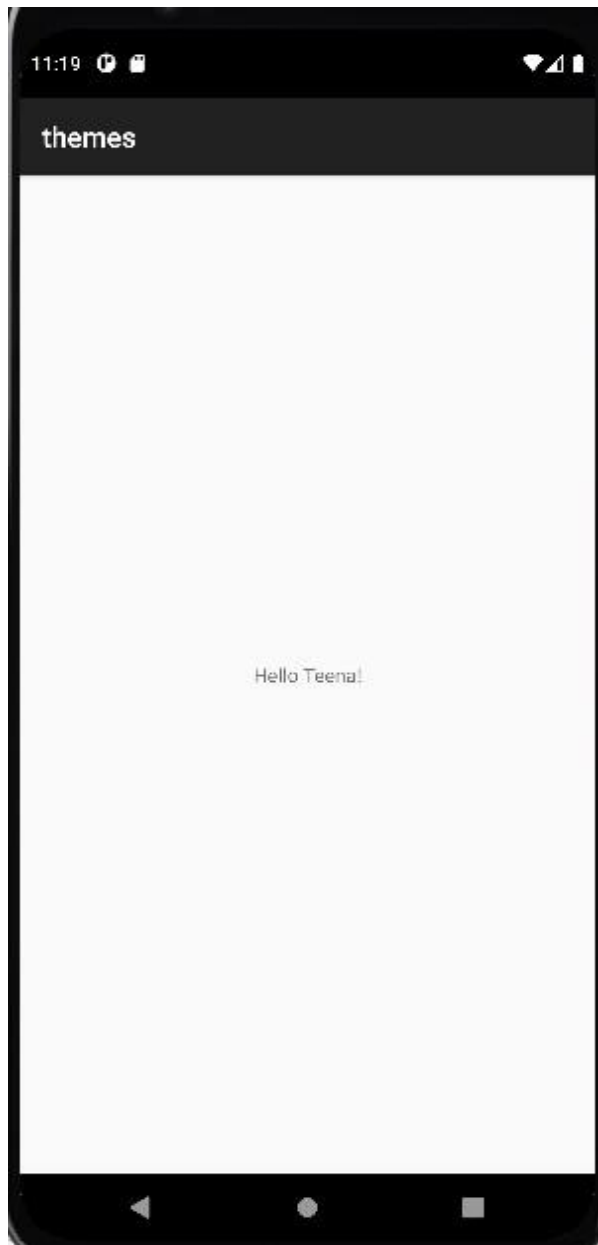

Output

Program no: 17

Aim: Develop application using Fragments

XML Code:

Activity_main.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"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <FrameLayout
        android:id="@+id/frameLayout"
        android:layout_width="match_parent"
        android:background="@color/teal_200"
        android:layout_height="0dp"
        android:layout_weight="4" />
    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="0dp"
        android:layout_weight="1">

        <Button
            android:id="@+id/b1"
            android:layout_width="160dp"
            android:layout_height="50dp"
            android:layout_alignParentBottom="true"
            android:layout_marginStart="30dp"
            android:layout_marginBottom="30dp"
            android:text="Fragment 1" />

        <Button
            android:id="@+id/b2"
            android:layout_width="160dp"
            android:layout_height="50dp"
            android:layout_alignParentBottom="true"
            android:layout_alignParentRight="true"
            android:layout_marginStart="30dp"
            android:layout_marginBottom="30dp"
            android:text="Fragment 2" />

</RelativeLayout>
```

</LinearLayout>

Fragment_1.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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"
    android:background="@color/purple_700"
    tools:context=".fragment1">

    <!-- TODO: Update blank fragment layout -->
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:textSize="30dp"
        android:text="Fragment 1" />

</RelativeLayout>
```

Fragment_2.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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"
    android:background="@color/teal_700"
    tools:context=".fragment2">

    <!-- TODO: Update blank fragment layout -->
    <TextView
```

```
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:textSize="30dp"
        android:text="Fragment 2" />


    </RelativeLayout>
```

Java Code:
MainActivity.java

```java
package com.example.myapp09_02_3;


import androidx.appcompat.app.AppCompatActivity;
import androidx.fragment.app.Fragment;
import androidx.fragment.app.FragmentManager;
import androidx.fragment.app.FragmentTransaction;


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


public class MainActivity extends AppCompatActivity {
    Button b1,b2;


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


        b1=findViewById(R.id.b1);
        b2=findViewById(R.id.b2);
```

```
    b1.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
        replaceFragmnt(new fragment1());
      }
    });


    b2.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
        replaceFragmnt(new fragment2());


      }
    });
  }


  private void replaceFragmnt(Fragment fragment) {
    FragmentManager fragmentManager=getSupportFragmentManager();
    FragmentTransaction fragmentTransaction=fragmentManager.beginTransaction();
    fragmentTransaction.replace(R.id.frameLayout,fragment);
    fragmentTransaction.commit();
  }

}
```

<u>fragment1.java</u>

```java
package com.example.myapp09_02_3;


import android.os.Bundle;


import androidx.fragment.app.Fragment;


import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;



public class fragment1 extends Fragment {



    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                 Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.fragment_fragment1, container, false);
    }
}
```

fragment2.java

```java
package com.example.myapp09_02_3;


import android.os.Bundle;


import androidx.fragment.app.Fragment;


import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;



public class fragment2 extends Fragment {


    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                    Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.fragment_fragment2, container, false);
    }
}
```

Output:
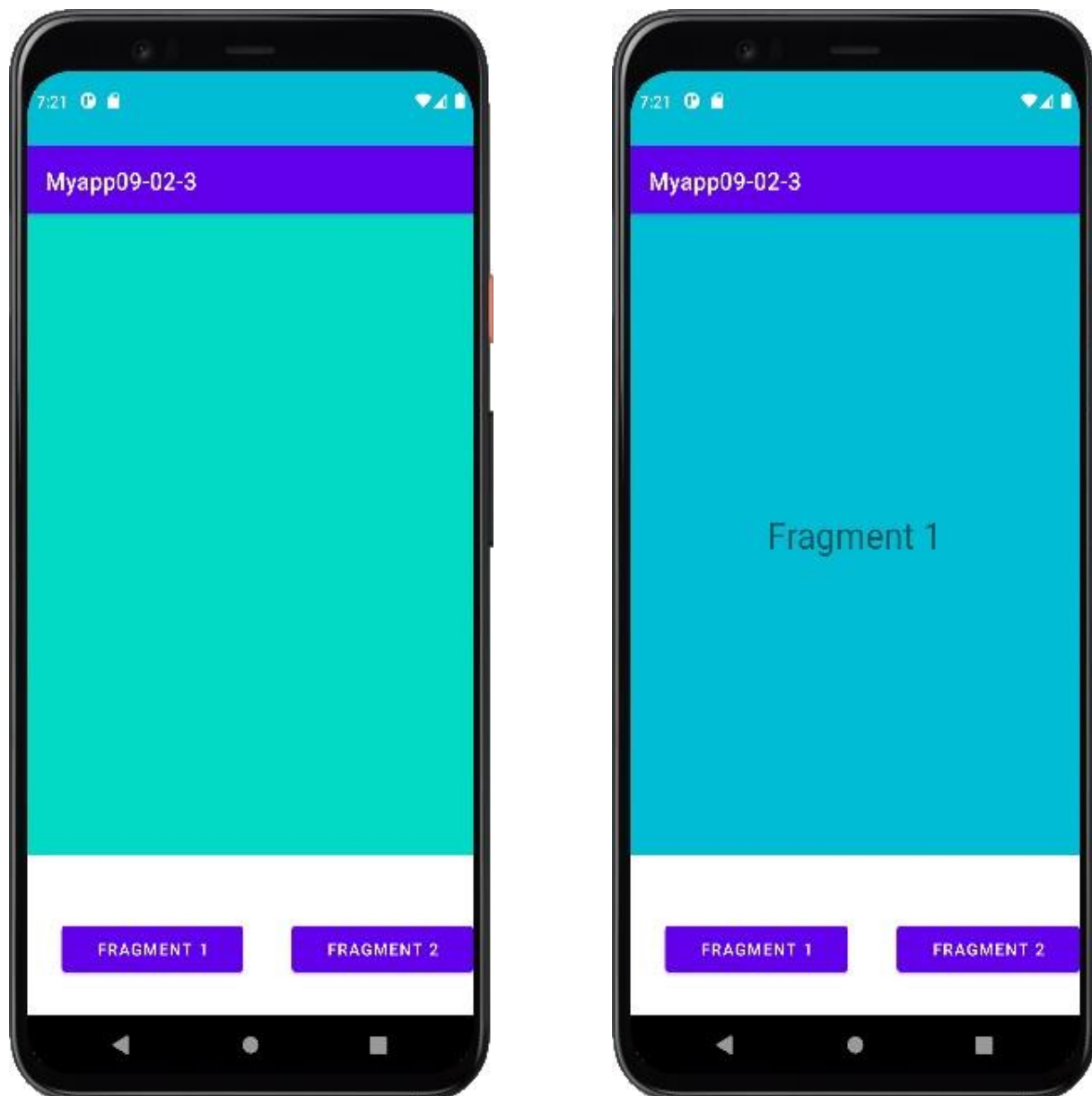
Program no: 18

Aim: Implement Navigation drawer

XML Code:

Activity_Main. Xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.drawerlayout.widget.DrawerLayout
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/drawerLayout"
    tools:context=".MainActivity">

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

        <TextView
            android:layout_width="202dp"
            android:layout_height="wrap_content"
            android:layout_gravity="center"
            android:text="NavigationDrawer"
            android:textSize="20dp" />
    </LinearLayout>
     <com.google.android.material.navigation.NavigationView
         android:layout_width="wrap_content"
         android:layout_height="match_parent"
```

```
        android:layout_gravity="start"

        app:menu="@menu/navigation_menu"/>


    </androidx.drawerlayout.widget.DrawerLayout>
```

Strings.xml

```xml
<resources>
    <string name="app_name">Navigation_drawer</string>
    <string name="nav_open">Open</string>
    <string name="nav_close">Close</string>
</resources>
```

Menu.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item
        android:id="@+id/ac"
        android:title="My Account"
        android:icon="@drawable/myaccount"/>
    <item
        android:id="@+id/se"
        android:title="Settings"
        android:icon="@drawable/myaccount"/>
    <item
        android:id="@+id/lg"
        android:title="Logout"
        android:icon="@drawable/myaccount"/>
</menu>
```

Java Code

MainActivity.java

```java
package com.example.navigation_drawer;


import androidx.annotation.NonNull;
import androidx.appcompat.app.ActionBar;
import androidx.appcompat.app.ActionBarDrawerToggle;
import androidx.appcompat.app.AppCompatActivity;
import androidx.drawerlayout.widget.DrawerLayout;


import android.os.Bundle;
import android.view.MenuItem;

public class MainActivity extends AppCompatActivity {

    DrawerLayout drawerLayout;
    ActionBarDrawerToggle actionBarDrawerToggle;



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

        drawerLayout=findViewById(R.id.drawerLayout);
        actionBarDrawerToggle=new
ActionBarDrawerToggle(this,drawerLayout,R.string.nav_open,R.string.nav_close);

        drawerLayout.addDrawerListener(actionBarDrawerToggle);
        actionBarDrawerToggle.syncState();
```

```java
            getSupportActionBar().setDisplayHomeAsUpEnabled(true);

    }


    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {


        if (actionBarDrawerToggle.onOptionsItemSelected(item))
        {
            return true;
        }
        return super.onOptionsItemSelected(item);

    }
}
```

Output:
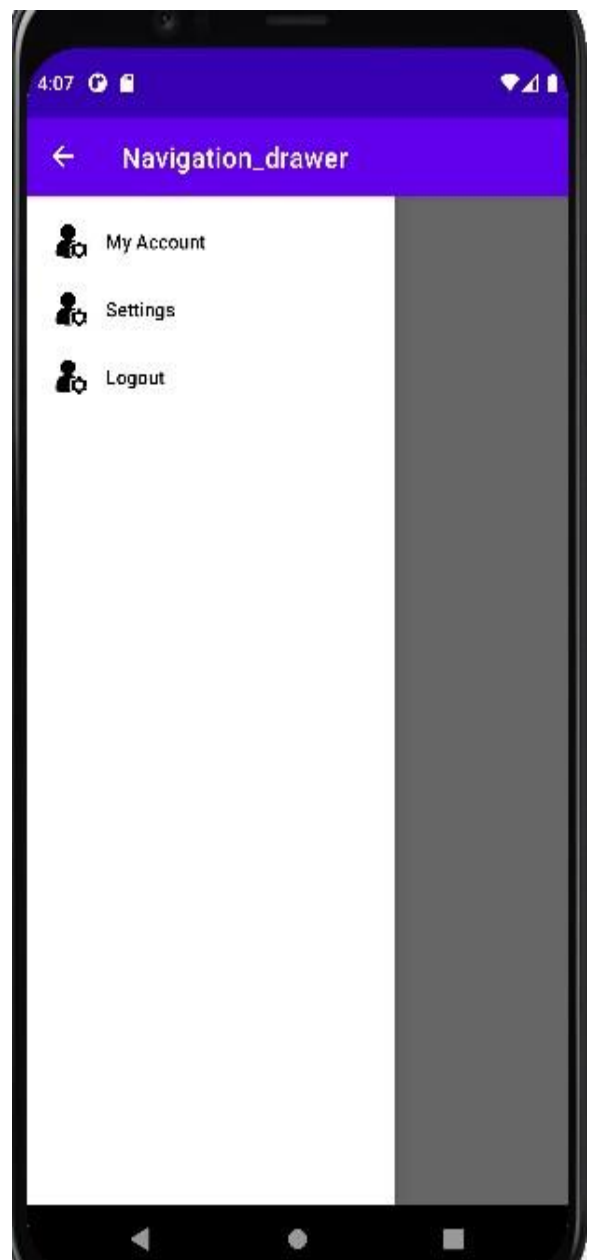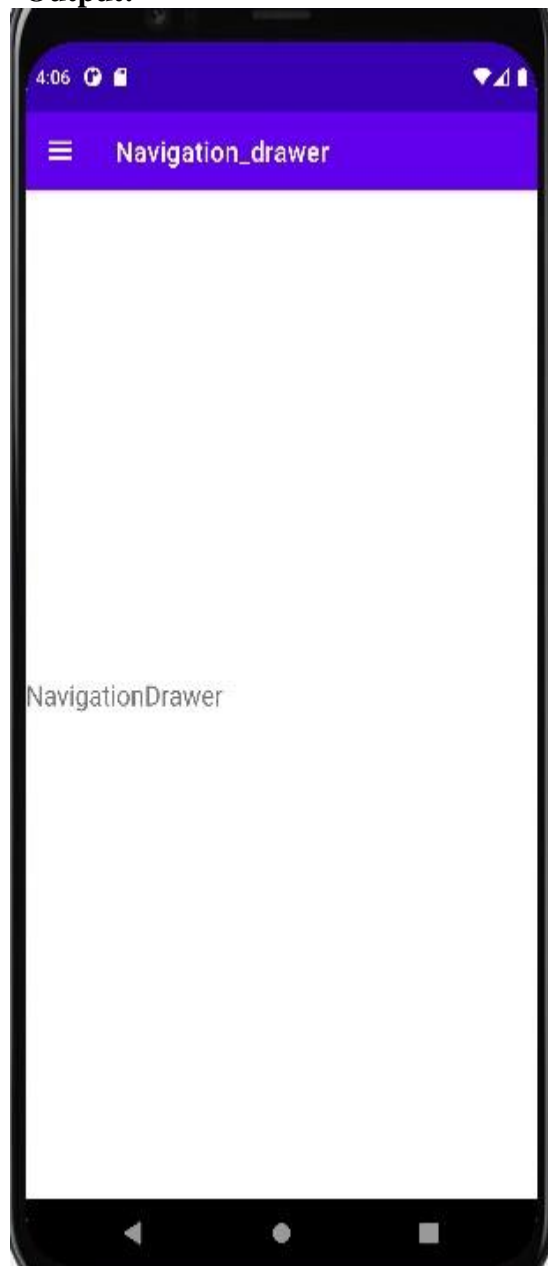
Program 19

Aim: Program to implement various SQLite operations : (INSERT, UPDATE ,DELETE ,SELECT)

XML Code:

Activity_main.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="wrap_content"
    android:layout_height="wrap_content"
    tools:context=".MainActivity"
    android:orientation="vertical">



    <TextView
        android:id="@+id/textView"
        android:layout_width="289dp"
        android:layout_height="45dp"
        android:layout_weight="1"
        android:textColor="@color/black"
        android:textStyle="bold"
        android:text="Name"
        android:textSize="20dp"/>

    <EditText
        android:id="@+id/Name"
        android:layout_width="500dp"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:ems="10"
        android:inputType="textPersonName"
        />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textColor="@color/black"
        android:textStyle="bold"
        android:text="address"
        android:textSize="20dp"/>
```

```xml
<EditText
    android:id="@+id/edit2"
    android:layout_width="500dp"
    android:layout_height="wrap_content"
    android:ems="10"

    android:inputType="textPersonName"
    />

<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginLeft="150dp"
    android:text="Insert" />

<Button
    android:id="@+id/button1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginLeft="150dp"
    android:text="view" />

<EditText
    android:id="@+id/edit3"
    android:layout_width="500dp"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textPersonName" />

<Button
    android:id="@+id/button2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginLeft="150dp"
    android:text="Delete" />


<Button
    android:id="@+id/button3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginLeft="150dp"
    android:text="Update" />
</LinearLayout>
```

Java Code:

MainActivity.java

```java
package com.example.database_ins;

import androidx.appcompat.app.AppCompatActivity;

import android.database.Cursor;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

import  com.example.database_ins.R;
import com.example.database_ins.helperdb;

public class MainActivity extends AppCompatActivity {

  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    EditText e1 =findViewById(R.id.Name);
    EditText e2=findViewById(R.id.edit2);
    EditText e3=findViewById(R.id.edit3);
    Button b1=findViewById(R.id.button);
    Button b2=findViewById(R.id.button1);
    Button b3=findViewById(R.id.button2);
    Button b4=findViewById(R.id.button3);
    helperdb helper=new helperdb(this);
    StringBuffer sb=new StringBuffer();//store fetched value cursor
    b1.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
        String na=e1.getText().toString();
        String pa=e2.getText().toString();

        helper.insert(na,pa);



      }
    });

    b2.setOnClickListener(new View.OnClickListener() {
```

```java
        @Override
        public void onClick(View v) {
            Cursor cr=helper.viewdb();
            StringBuffer sb=new StringBuffer();
            while (cr.moveToNext()){
                sb.append("id :"+cr.getString(0)+"\n");
                sb.append("name :"+cr.getString(1)+"\n");
                sb.append("address :"+cr.getString(2)+"\n");
            }
            Toast.makeText(getApplicationContext(),sb.toString(),Toast.LENGTH_LONG).show()
;

        }
    });

    b3.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String valid=e3.getText().toString() ;
            helper.deldb(valid);
        }
    });

    b4.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String  valid=e3.getText().toString();
            String na=e1.getText().toString();
            String pa=e2.getText().toString();
            helper.uptdb(valid,na,pa);
        }
    });

    }
}
```

helperdb.java

```java
package com.example.database_ins;

    import android.content.ContentValues;
    import  android.content.Context;
    import android.database.Cursor;
    import android.database.sqlite.SQLiteDatabase;
    import android.database.sqlite.SQLiteOpenHelper;

    import androidx.annotation.Nullable;
```

```java
public class helperdb extends SQLiteOpenHelper {

    private static String dbName="student";
    private static int dbVersion=1;

    SQLiteDatabase db;



    public helperdb( Context context) {
        super(context,dbName, null, dbVersion);
    }

    @Override
    public void onCreate(SQLiteDatabase db) {
        db.execSQL("create table tbl_stud(sid integer primary key autoincrement,sname
varchar(20),saddress varchar(50))");


    }

    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {

    }
    public void insert(String name,String address)
    {
        db=getWritableDatabase();
        ContentValues data=new ContentValues();
        data.put("sname",name);
        data.put("saddress",address);
        db.insert("tbl_stud",null,data);

    }

    public Cursor viewdb(){
        db=getReadableDatabase();
        Cursor cr=db.rawQuery("Select * from tbl_stud",null);
        return cr;
    }
    public  void  deldb(String valid)
    {
        db=getWritableDatabase();
        db.delete("tbl_stud","sid=?",new String[]{valid});
    }
```
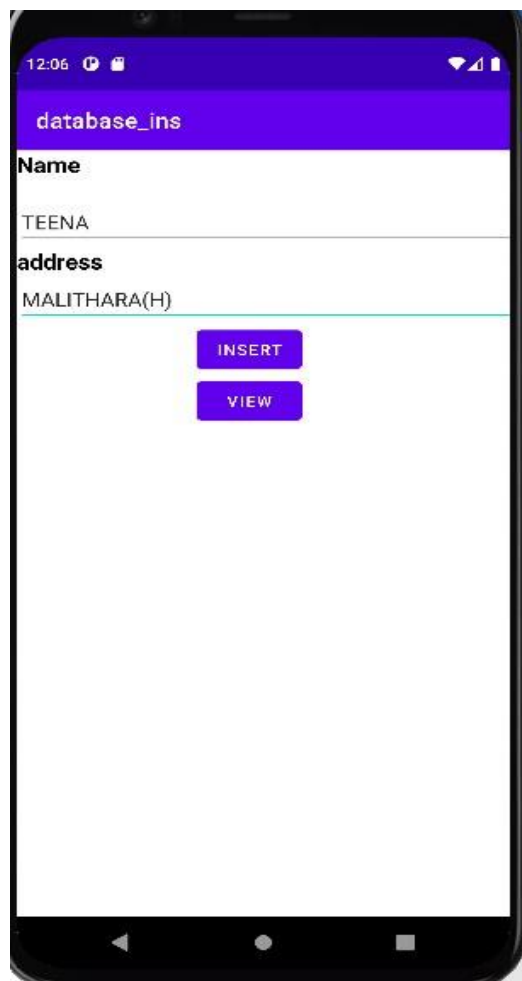
```
public  void  uptdb(String valid,String na,String pa)
{
   db=getWritableDatabase();
   ContentValues data=new ContentValues();
   data.put("sname",na);
   data.put("saddress",pa);
   db.update("tbl_stud",data,"sid=?",new String[]{valid});
}
}
```

Output

Insert   **View**

Delete   **Update**

Update