

20MCA243 MOBILE APPLICATION DEVELOPMENT LAB

Lab Report Submitted By

ARYA SASI

Reg. No.: AJC20MCA-2025

In Partial fulfillment for the Award of the Degree Of

**MASTER OF COMPUTER APPLICATIONS (2 Year)
(MCA)**

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY



**AMAL JYOTHI COLLEGE OF ENGINEERING
KANJIRAPPALLY**

[Affiliated to APJ Abdul Kalam Technological University, Kerala. Approved by AICTE, Accredited by NAAC with 'A' grade. Koovapally, Kanjirappally, Kottayam, Kerala – 686518]

2021-2022

DEPARTMENT OF COMPUTER APPLICATIONS
AMAL JYOTHI COLLEGE OF ENGINEERING
KANJIRAPPALLY



CERTIFICATE

This is to certify that the lab report, “**20MCA243 MOBILE APPLICATION DEVELOPMENT LAB**” is the bonafide work of **ARYA SASI (Reg.No:AJC20MCA-2025)** in partial fulfillment of the requirements for the award of the Degree of Master of Computer Applications under APJ Abdul Kalam Technological University during the year 2021-22.

Ms. Navyamol K T
Staff In-Charge

CONTENT

Sl.No	Content	Date	Page No:
1	Program to develop the android mobile application which consist of GUI components for Login Page creation.	20/01/2022	1
2	Program to display the content of EditText in TextView on button click.	20/01/2022	8
3	Program to design a Login Form with username and password using LinearLayout and toast valid credentials	27/01/2022	12
4	Program to implementing basic arithmetic operations of a simple calculator	27/01/2022	18
5	Program to complement validations on various UI controls	27/01/2022	27
6	Program to design a registration activity and store registration details in local memory of phone using Intents and SharedPreferences	27/01/2022	34
7	Program to design a simple Calculator using GridLayout and Cascaded LinearLayout	27/01/2022	41
8	Program to create a Facebook page using RelativeLayout; set properties using .xml file	27/01/2022	50
9	Program to develop an application that toggles image using FrameLayout	27/01/2022	55
10	Program to implement Adapters and perform exception handling	04/02/2022	58
11	Program to implement Intent to navigate between multiple activities (Explicit Intent)	04/02/2022	61
12	Program to develop an application that works with Implicit intents	04/02/2022	68
13	Program to implement Options Menu to navigate to activities	10/02/2022	71
14	Program to develop an application that uses ArrayAdapter with ListView	10/02/2022	75

15	Program to develop an application that use GridView with images and display Alert box on selection	11/02/2022	78
16	Program to develop an application that implements Spinner component and perform event handling	11/02/2022	83
17	Program to apply themes via code from manifest file	11/02/2022	86
18	Program to develop application using Fragments	11/02/2022	90
19	Program to implement Navigation drawer	11/02/2022	95
20	Program to implement activity life cycle		
21	Program to implement various SQLite operations : (INSERT, UPDATE ,DELETE ,SELECT)	24/02/2022	99

Program No: 01

Aim: Program to develop the android mobile application which consist of GUI components for Login Page creation.

XML Code:

```
<?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"
    android:padding="20dp"
    android:background="#fff"
    tools:context=".login">

    <TextView
        android:id="@+id/sig"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:fontFamily="casual"
        android:transitionName="title"
        android:text="Sign in to continue"
        android:textSize="18sp"/>

    <LinearLayout
```

```
android:layout_marginTop="20dp"
```

```
android:layout_marginBottom="20dp"
```

```
android:orientation="vertical">
```

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

```
    android:id="@+id/username"
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="wrap_content"
```

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

```
    android:transitionName="nme"
```

```
    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.textfield.TextInputLayout
```

```
    android:id="@+id/password"
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="wrap_content"
```

```
    android:hint="Password"
```

```
    app:passwordToggleEnabled="true"
```

```
    app:passwordToggleTint="@color/black"
```

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

```
        <com.google.android.material.textfield.TextInputEditText
```

```
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:inputType="textPassword"/>
</com.google.android.material.textfield.TextInputLayout>
<Button
    android:id="@+id/fp"
    android:layout_width="200dp"
    android:layout_height="30dp"
    android:textSize="9dp"
    android:background="#00000000"
    android:text="Forget password?"
    android:textColor="@color/black"
    android:layout_gravity="right"
    android:elevation="0dp"
    android:layout_margin="5dp"/>

<Button
    android:id="@+id/login_button"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="5dp"
    android:layout_marginBottom="5dp"
    android:backgroundTint="#000"
    android:fontFamily="@font/audiowide"
    android:text="Sign-In"
    android:textColor="#fff"
```

```

        android:transitionName="btttn" />

<Button
    android:id="@+id/register_link"
    android:layout_width="200dp"
    android:layout_height="wrap_content"
    android:background="#00000000"
    android:text="New User? SIGN UP now!"
    android:layout_gravity="right"
    android:elevation="0dp"
    android:layout_margin="5dp"/>

</LinearLayout>

</LinearLayout>

```

Java Code:

```

package com.example.myapplication2;

import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
import androidx.core.content.ContextCompat;
import android.app.ActivityOptions;
import android.content.Intent;
import android.content.SharedPreferences;
import android.content.pm.PackageManager;
import android.os.AsyncTask;
import android.os.Build;
import android.os.Bundle;
import android.util.Pair;

```



```

import android.view.View;

import android.widget.Button;

import android.widget.TextView;

import android.widget.Toast;

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

import org.json.JSONObject;

public class login extends AppCompatActivity

    { TextInputLayout usr,psd;

    TextView ln,ls;

    Button btn_login,reg,forget;

    String strusername,strpassword, baseUrl= "";

    SharedPreferences sp;

    @Override

    protected void onCreate(Bundle savedInstanceState)

        { super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_login);

        ln=findViewById(R.id.logo_name);

        ls=findViewById(R.id.sig);

        usr=(TextInputLayout)findViewById(R.id.username);

        psd=(TextInputLayout)findViewById(R.id.password);

        forget=findViewById(R.id.fp);

        btn_login=findViewById(R.id.login_button);

        reg=findViewById(R.id.register_link);


        sp = getSharedPreferences("login_daa", MODE_PRIVATE);

        getSupportActionBar().hide();

```

```

/*forgot.setOnClickListener(new View.OnClickListener()

{ @Override

public void onClick(View v) {

    Intent j=new Intent(getApplicationContext(),forgot_password.class);

    startActivity(j);

}

});*/

btn_login.setOnClickListener(new View.OnClickListener()

{ @Override

public void onClick(View v)

    { strusername=usr.getText().getText().toString().trim()

    ;

    strpassword=psd.getText().getText().toString().trim();

    if (strusername.equals(""))

    {

        Toast.makeText(login.this,"Enter username",Toast.LENGTH_LONG).show();

    }

    else if(strpassword.equals(""))

    {

        Toast.makeText(login.this,"Enter password", Toast.LENGTH_LONG).show();

    }

    else

    {

        //new checkPermission().execute();

    }

}

```

```
    }  
    });  
}  
}
```

OUTPUT:



Program No: 02

Aim: Program to display the content of EditText in TextView on button click.

XML Code:

```
<?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="#FFD24C"
```

```
    android:gravity="center"
```

```
    android:orientation="vertical"
```

```
    tools:context=".Edit2Text">
```

```
<EditText
```

```
    android:id="@+id/edt1"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:hint="Enter name here.." />
```

```
<Button
```

```
    android:id="@+id/btn1"
```

```
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="20dp"
android:text="Add" />
```

```
<TextView
    android:id="@+id/txt2"
    android:layout_width="match_parent"
    android:layout_height="50dp"
    android:layout_marginTop="20dp"
    android:gravity="center"
    android:textSize="20dp" />
```

```
</LinearLayout>
```

Java Code:

```
package com.example.display;

import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;

import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
```

```
public class Edit2Text extends AppCompatActivity

{ Button b1;

EditText e1;

TextView t1;

@Override

protected void onCreate(Bundle savedInstanceState)

{ super.onCreate(savedInstanceState);

setContentView(R.layout.activity_edit2_text);

e1 = findViewById(R.id.edt1);

b1 = findViewById(R.id.btn1);

t1 = findViewById(R.id.txt2);

b1.setOnClickListener(new View.OnClickListener()

{ @Override

public void onClick(View v) {

String value = e1.getText().toString();

t1.setText(String.valueOf(value));

}

});

}

}
```

OUTPUT:

Program No: 03

Aim: Design a Login Form with username and password using LinearLayout and toast valid credentials

XML Code:

```
<?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/txtlgn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:fontFamily="@font/archivo_black"
        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_content"
    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.textfield.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:

```

package com.example.myapplication2;

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.getText().toString().trim();

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

            if (username.equals("")){

                Toast.makeText(Login.this, "Enter your username",

Toast.LENGTH_SHORT).show();

            }

            else

                if(password.equals("")){ Toast.makeText(Login.thi

                    s, "Enter your password",

Toast.LENGTH_SHORT).show();

                }

            Else

            {

                Intent j = new Intent(Login.this,Dashboard.class);

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

                    j.putExtra("usrn",username);

```


OUTPUT:

Program No: 04

Aim: Implementing basic arithmetic operations of a simple calculator

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"
    android:background="#DDF3BBD8"
    android:foregroundTint="#4CAF50"
    android:orientation="horizontal"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/no1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter the number 1"
        android:textColor="#700912"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintHorizontal_bias="0.151"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
```

```

app:layout_constraintVertical_bias="0.216" />
<EditText
    android:id="@+id/et1"
    android:layout_width="190dp"
    android:layout_height="52dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.859"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.203" />
<TextView
    android:id="@+id/no2"
    android:layout_width="130dp"
    android:layout_height="19dp"
    android:text="Enter the number 2"
    android:textColor="#72187C"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.156"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.303" />
<EditText
    android:id="@+id/et2"

```

```
android:layout_width="188dp"

android:layout_height="58dp"
android:ems="10"
android:inputType="textPersonName"
android:textColor="#661773"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.849"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.283" />
<Button
    android:id="@+id/add"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:backgroundTint="#009688"
    android:foregroundTint="@color/purple_200"
    android:text="ADD"
    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="0.389" />
<Button
    android:id="@+id/substract"
```



```

android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:backgroundTint="#2196F3"
android:text="SUBTRACT"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.487"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.521" />
<Button
android:id="@+id/multiply"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:backgroundTint="#FFEB3B"
android:text="MULTIPLY"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.501"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.638" />
<Button
android:id="@+id/divide"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:backgroundTint="#FF5722"

```

```

android:text="DIVIDE"

app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.488"
app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.752" />
<TextView
    android:id="@+id/result"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:backgroundTint="#00BCD4"
    android:text="RESULT"
    android:textColor="#0037FF"
    android:textColorHighlight="#E91EA5"
    android:textColorLink="#9C27B0"
    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="0.873" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

Java Code:

```
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

{ TextView no1;

  EditText et1;

  TextView no2;

  EditText et2;

  Button add;

  Button subtract;

  Button multiply;

  Button divide;

  TextView result;

  @Override

  protected void onCreate(Bundle savedInstanceState)

  { super.onCreate(savedInstanceState);

    setContentView(R.layout.activity_main);

    no1=findViewById(R.id.no1);

    et1=findViewById(R.id.et1);

    no2=findViewById(R.id.no2);

    et2=findViewById(R.id.et2);

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

```

subtract=findViewById(R.id.subtract);

multiply=findViewById(R.id.multiply);

divide=findViewById(R.id.divide);

result=findViewById(R.id.result);

add.setOnClickListener(new View.OnClickListener()

{ @Override

public void onClick(View v) {

Integer val1=Integer.parseInt(et1.getText().toString());

Integer val2=Integer.parseInt(et2.getText().toString());

Integer val3=val1+val2;

result.setText("Sum "+val3);

}

});

subtract.setOnClickListener(new View.OnClickListener()

{ @Override

public void onClick(View v) {

Integer val1=Integer.parseInt(et1.getText().toString());

Integer val2=Integer.parseInt(et2.getText().toString());

Integer val3=val1-val2;

result.setText("Substraction "+val3);

}

});

multiply.setOnClickListener(new View.OnClickListener()

{ @Override

public void onClick(View v) {

Integer val1=Integer.parseInt(et1.getText().toString());

```

```
Integer val2=Integer.parseInt(et2.getText().toString());

Integer val3=val1*val2;

result.setText("Product "+val3);

}

});

divide.setOnClickListener(new View.OnClickListener()

{ @Override

public void onClick(View v) {

Integer val1=Integer.parseInt(et1.getText().toString());

Integer val2=Integer.parseInt(et2.getText().toString());

Integer val3=val1/val2;

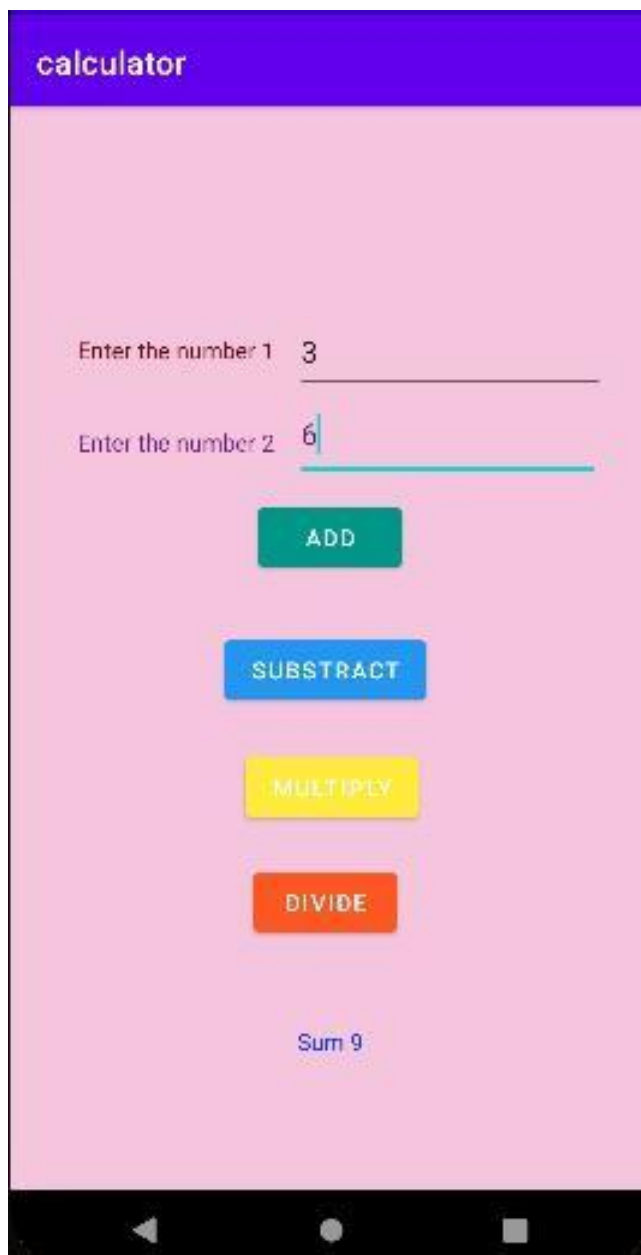
result.setText("Quotient "+val3);

}

});

}

}
```

OUTPUT:

Program No: 05

Aim: Implement validations on various UI controls

XML Code:

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

<LinearLayout

    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:orientation="vertical"
    tools:context=".Ui_validation"
    tools:ignore="HardcodedText">

    <EditText

        android:id="@+id/firstName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginStart="16dp"
        android:layout_marginTop="16dp"
        android:layout_marginEnd="16dp"
        android:hint="First Name"
        android:inputType="text" />

    <EditText
```

```
    android:id="@+id/lastName"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginTop="16dp"
    android:layout_marginEnd="16dp"
    android:hint="Last Name"
    android:inputType="text" />
<EditText
    android:id="@+id/email"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginTop="16dp"
    android:layout_marginEnd="16dp"
    android:hint="Email"
    android:inputType="textEmailAddress" />
<EditText
    android:id="@+id/password"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginTop="16dp"
    android:layout_marginEnd="16dp"
    android:hint="Password"
    android:inputType="textPassword" />
```



```
<LinearLayout
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_marginTop="8dp"
```

```
    android:gravity="end"
```

```
    android:orientation="horizontal">
```

```
<Button
```

```
    android:id="@+id/cancelButton"
```

```
    style="@style/Widget.AppCompat.Button.Borderless"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_marginEnd="4dp"
```

```
    android:text="CANCEL"
```

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

```
<Button
```

```
    android:id="@+id/proceedButton"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_marginEnd="16dp"
```

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

```
    android:text="PROCEED"
```

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

```
    tools:ignore="ButtonStyle" />
```

```
</LinearLayout>
```

```
</LinearLayout>
```

Java Code:

```

package com.example.display;

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 Ui_validation extends AppCompatActivity {

    // two buttons

    Button bCancel, bProceed;

    // four text fields

    EditText etFirstName, etLastName, etEmail, etPassword;

    // one boolean variable to check whether all the text fields

    // are filled by the user, properly or not.

    boolean isAllFieldsChecked = false;

    @Override

    protected void onCreate(Bundle savedInstanceState)

    { super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_ui_validation);

        // register buttons with their proper IDs.

        bProceed = findViewById(R.id.proceedButton);

        bCancel = findViewById(R.id.cancelButton);

        // register all the EditText fields with their IDs.

        etFirstName = findViewById(R.id.firstName);

        etLastName = findViewById(R.id.lastName);

```

```

etEmail = findViewById(R.id.email);

etPassword = findViewById(R.id.password);

// handle the PROCEED button

bProceed.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        // store the returned value of the dedicated function which checks

        // whether the entered data is valid or if any fields are left blank.

        isAllFieldsChecked = CheckAllFields();

        // the boolean variable turns to be true then

        // only the user must be proceed to the activity2

        if (isAllFieldsChecked) {

            Intent i = new Intent(Ui_validation.this, Dashboard.class);

            startActivity(i);

        }

    }

});

// if user presses the cancel button then close the

// application or the particular activity.

bCancel.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v)

    { Ui_validation.this.finish();

      System.exit(0);

    }

});

}

```

```

// function which checks all the text fields
// are filled or not by the user.
// when user clicks on the PROCEED button
// this function is triggered.
private boolean CheckAllFields()
{
    if (etFirstName.length() == 0)
    {
        etFirstName.setError("This field is required");
        return false; }
    if (etLastName.length() == 0)
    {
        etLastName.setError("This field is
        required"); return false;
    }
    if (etEmail.length() == 0)
    {
        etEmail.setError("Email is
        required"); return false;    }
    if (etPassword.length() == 0)
    {
        etPassword.setError("Password is
        required"); return false;
    }
    else if (etPassword.length() < 8) {
        etPassword.setError("Password must be minimum 8 characters");
        return false;
    }
    // after all validation return true.
    return true;
}
}

```

OUTPUT:

Program No: 06

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

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/btnadd"

android:layout_width="87dp"

android:layout_height="52dp"

android:text="ADD"

app:layout_constraintBottom_toBottomOf="parent"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toBottomOf="@+id/tv111"

app:layout_constraintVertical_bias="0.12" />

<TextView

android:id="@+id/tv111"

android:layout_width="293dp"

android:layout_height="100dp"
```

```

android:layout_marginTop="176dp"
android:textFontWeight="@integer/material_motion_duration_long_1"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.745"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Java Code:

```

package com.example.todo;

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.TextView;

public class MainActivity extends AppCompatActivity
{
    Button btn;
    TextView tv11;
    SharedPreferences sharedPreferences;

    public static final String SHARED_PREF_NAME="mypref";
    public static final String KEY_NAME="";

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

    private void addListeneronButton()
    {
        btn=(Button) findViewById(R.id.btnadd);
        tv11=(TextView) findViewById(R.id.tv111);
    }
}

```

```

sharedPreferences = getSharedPreferences(SHARED_PREF_NAME,MODE_PRIVATE);
String name=sharedPreferences.getString(KEY_NAME,String.valueOf(0));
tv11.setText("Name "+name);
btn.setOnClickListener(new View.OnClickListener()
{ @Override
public void onClick(View view) {
Intent intent=new Intent(MainActivity.this,add.class);
startActivity(intent);
}
});
}
}

```

activity_add.xml

```

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

<androidx.constraintlayout.widget.ConstraintLayout

xmlns:android="http://schemas.android.com/apk/res/android"

xmlns:tools="http://schemas.android.com/tools"

xmlns:app="http://schemas.android.com/apk/res-auto"

android:layout_width="match_parent"

android:layout_height="match_parent"

tools:context=".add">

<Button

android:id="@+id/btnsub"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_marginBottom="56dp"

android:text="SAVE"

```



```

app:layout_constraintBottom_toBottomOf="parent"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintHorizontal_bias="0.498"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toBottomOf="@+id/editTextdta"

app:layout_constraintVertical_bias="0.241" />

<EditText

android:id="@+id/editTextdta"

android:layout_width="199dp"

android:layout_height="54dp"


android:layout_marginTop="248dp"

android:ems="10"

android:inputType="textPersonName"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toTopOf="parent" />

<TextView

android:id="@+id/textviewname"

android:layout_width="207dp"

android:layout_height="46dp"

android:text="Name"

app:layout_constraintBottom_toTopOf="@+id/editTextdta"

```

```

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toTopOf="parent"

app:layout_constraintVertical_bias="0.686" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

add.java

```

package com.example.todo;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Context;

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.TextView;

public class add extends AppCompatActivity {

    EditText tf;

    TextView tv;

    Button sub;

    String n1;

    SharedPreferences sharedPreferences;

    public static final String SHARED_PREF_NAME="mypref";

```

```

public static final String KEY_NAME="";

@Override

protected void onCreate(Bundle savedInstanceState)

{ super.onCreate(savedInstanceState);

setContentView(R.layout.activity_add);

addButton();

}

private void addButton() {

sub = (Button) findViewById(R.id.btnsub);

tv = (TextView) findViewById(R.id.textviewname);

tf = (EditText) findViewById(R.id.editTextdta);

sharedPreferences = getSharedPreferences(SHARED_PREF_NAME,MODE_PRIVATE);

String name = sharedPreferences.getString(KEY_NAME, String.valueOf(0));

sub.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view)

{ String n1=tf.getText().toString();

SharedPreferences.Editor editor = sharedPreferences.edit();

editor.putString(KEY_NAME,n1);

editor.commit();

Intent int1 = new Intent(add.this, MainActivity.class);

startActivity(int1);

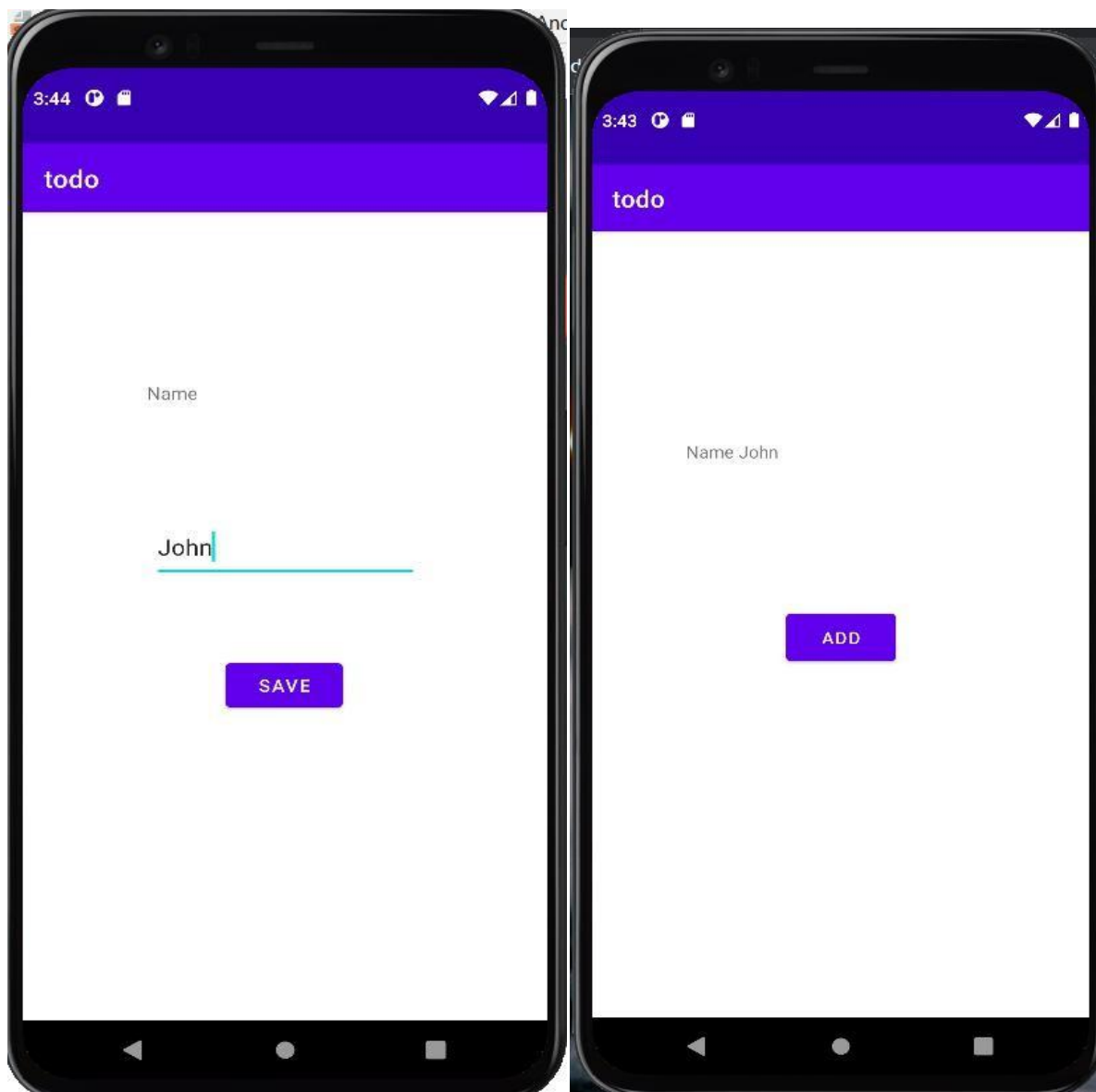
}

});

}

}

```

OUTPUT:

Program No: 07

Aim: Design a simple Calculator using GridLayout and Cascaded LinearLayout

XML Code:

```
<?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="#00000000"
    android:layout_gravity="bottom"
    android:gravity="bottom"
    android:orientation="vertical"
    tools:context=".Output">

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

        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_gravity="end"
            android:orientation="vertical">

            <TextView
```

```
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginEnd="20dp"
android:text="18+7"
android:textAlignment="textEnd"
android:textColor="@color/black"
android:textSize="40dp" />
```

```
<TextView
```

```
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginEnd="20dp"
android:text="=25"
android:textAlignment="textEnd"
android:textColor="@color/black"
android:textSize="40dp" />
```

```
</LinearLayout>
```

```
<GridLayout
```

```
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:layout_weight="1"
android:columnCount="4"
android:gravity="bottom"
android:rowCount="4">
```

```
<Button
```

```
android:id="@+id/b9"
android:layout_width="50dp"
```

```

        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:background="@drawable/bg_button"
        android:text="9"
        android:textColor="@color/white"
        android:textSize="25dp" />

```

```
<Button
```

```

        android:id="@+id/b8"
        android:layout_width="50dp"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:background="@drawable/bg_button"
        android:text="8"
        android:textColor="@color/white"
        android:textSize="25dp" />

```

```
<Button
```

```

        android:id="@+id/b7"
        android:layout_width="50dp"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:background="@drawable/bg_button"
        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" />
```

<Button

```
android:id="@+id/b6"
android:layout_width="50dp"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:background="@drawable/bg_button"
android:text="6"
android:textColor="@color/white"
android:textSize="25dp" />
```

<Button

```
android:id="@+id/b5"
android:layout_width="50dp"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:background="@drawable/bg_button"
android:text="5"
android:textColor="@color/white"
android:textSize="25dp" />
```

<Button

```
android:id="@+id/b4"
android:layout_width="50dp"
```



```
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:background="@drawable/bg_button"
android:text="4"
android:textColor="@color/white"
android:textSize="25dp" />
```

<Button

```
android:id="@+id/bdiv"
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="50dp"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:background="@drawable/bg_button"
android:text="3"
android:textColor="@color/white"
android:textSize="25dp" />
```

<Button

```
android:id="@+id/b2"
android:layout_width="50dp"
android:layout_height="wrap_content"
```

```

    android:layout_margin="10dp"
    android:background="@drawable/bg_button"
    android:text="2"
    android:textColor="@color/white"
    android:textSize="25dp" />

```

```
<Button
```

```

    android:id="@+id/b1"
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="@drawable/bg_button"
    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="50dp"
    android:layout_height="wrap_content"

```

```
android:layout_margin="10dp"
android:background="@drawable/bg_button"
android:text="0"
android:textColor="@color/white"
android:textSize="25dp" />
```

<Button

```
android:id="@+id/b."
android:layout_width="50dp"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:background="@drawable/bg_button"
android:text="."
android:textColor="@color/white"
android:textSize="25dp" />
```

<Button

```
android:id="@+id/bequal"
android:layout_width="50dp"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:background="@drawable/bg_button"
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:

```

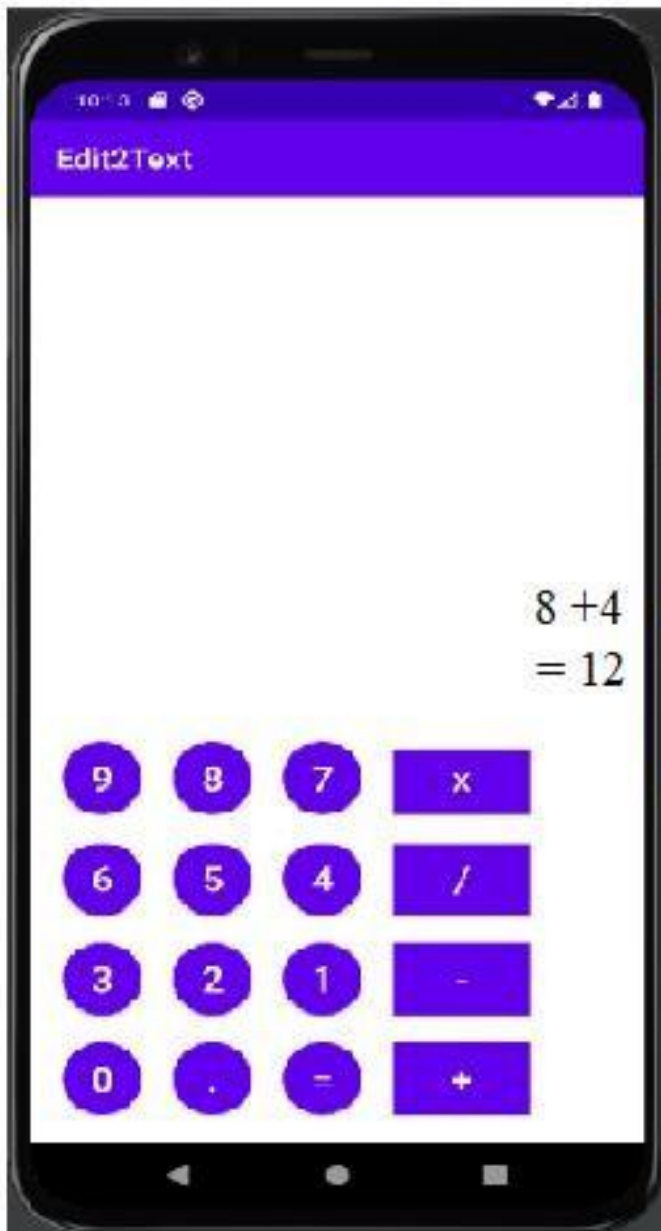
package com.example.edit2text;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;

public class Output extends AppCompatActivity
{
    TextView t1;

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

```

OUTPUT:

Program No: 08

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

XML Code:

```
<?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="@color/white"
    tools:context=".facebook">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:background="#29487D"
        android:gravity="center|top"
        android:orientation="vertical">

        <LinearLayout
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginTop="70dp"
            android:layout_marginBottom="100dp"
            android:orientation="vertical">

            <TextView
                android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
        android:fontFamily="@font/arvo"
        android:padding="10dp"
        android:text="facebook"
        android:textColor="@color/white"
        android:textSize="36dp" />
</LinearLayout>
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:padding="15dp"
    android:orientation="vertical"
    android:layout_margin="20dp">
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Email or Phone"
        android:layout_marginBottom="30dp"
        android:textColorHint="#594F4F"/>
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginBottom="30dp"
        android:hint="password"
        android:textColorHint="#594F4F"/>
    <Button
        android:layout_width="match_parent"
```

```
        android:layout_height="wrap_content"

        android:text="Log In"

        android:background="@color/design_default_color_primary"

        android:textAllCaps="false"/>
</LinearLayout>

<LinearLayout

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:orientation="horizontal"

    android:layout_marginTop="180dp"

    android:layout_gravity="bottom"

    android:gravity="center">

    <TextView

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:gravity="end"

        android:textStyle="bold"

        android:textColor="@color/white"

        android:layout_weight="50"

        android:text="SignUp for Facebook"/>

    <TextView

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:gravity="end"

        android:textColor="@color/white"

        android:layout_marginEnd="130dp"

        android:layout_weight="1"
```



```
        android:textStyle="bold"

        android:text="?" />

    </LinearLayout>

</LinearLayout>

</LinearLayout>
```

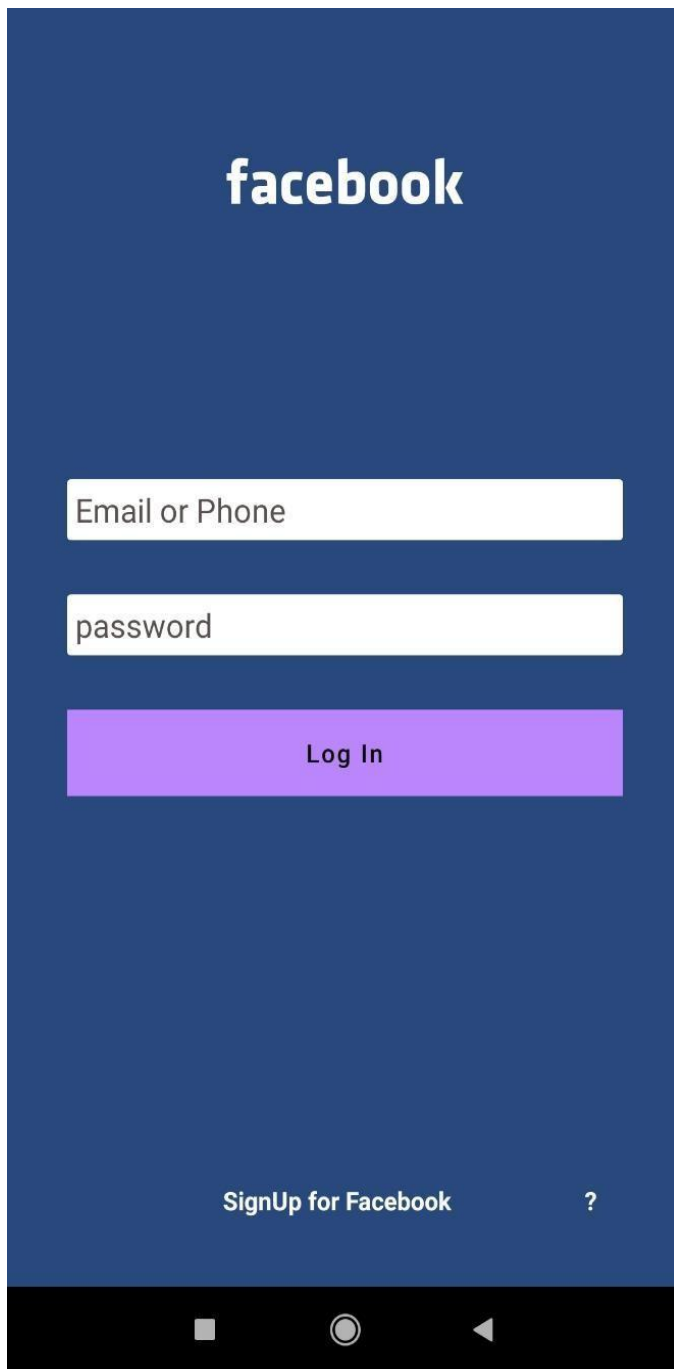
Java Code:

```
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;

public class facebook extends AppCompatActivity {

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

OUTPUT:

Program No: 09

Aim: Develop an application that toggles image using FrameLayout

XML Code:

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

<FrameLayout 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:layout_gravity="center"

    android:background="@color/teal_700"

    tools:context=".MainActivity">

    <ImageView

        android:id="@+id/image2"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_gravity="center"

        android:src="@drawable/image2"

        android:visibility="gone"/>

    <ImageView

        android:id="@+id/image1"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_gravity="center"

        android:src="@drawable/image1"/>

</FrameLayout>
```

Java Code:

```

package com.example.frame_layout;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.ImageView;

public class MainActivity extends AppCompatActivity implements View.OnClickListener

    { ImageView img1,img2;

    @Override

    protected void onCreate(Bundle savedInstanceState)

        { super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        img1 =findViewById(R.id.image1);

        img2 =findViewById(R.id.image2);

        img1.setOnClickListener(this);

        img2.setOnClickListener(this);    }

    public void onClick(View v)

    {    int id=v.getId();

        switch (id){

            case R.id.image1:

                img1.setVisibility(View.GONE);

                img2.setVisibility(View.VISIBLE);

                break;

            case R.id.image2:

                img1.setVisibility(View.VISIBLE);

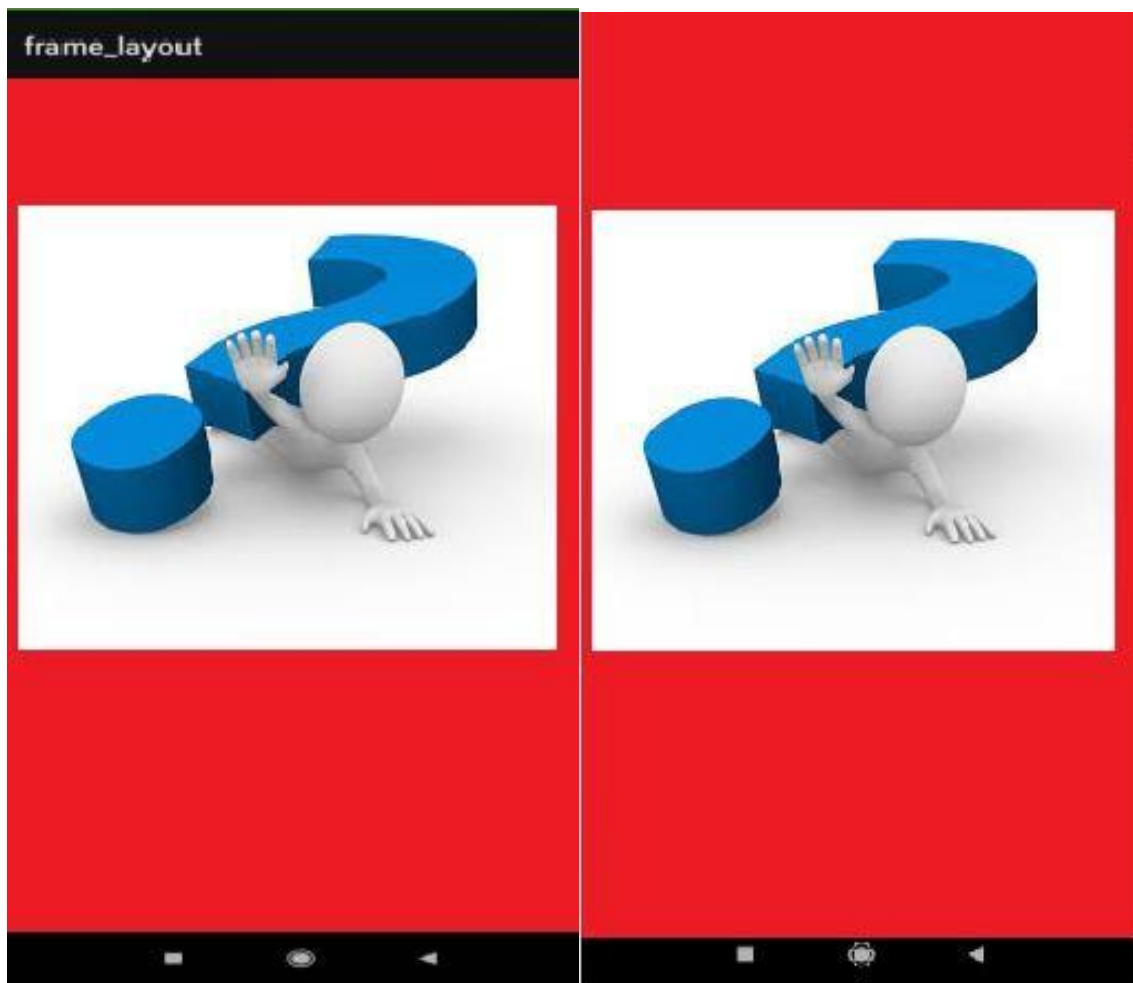
                img2.setVisibility(View.GONE);

                break;

```

```
}  
}  
}
```

OUTPUT:



Program No: 10

Aim: Implement Adapters and perform exception handling

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">

    <ListView

        android:layout_width="409dp"

        android:layout_height="354dp"

        tools:layout_editor_absoluteX="1dp"

        tools:layout_editor_absoluteY="1dp"

        android:id="@+id/list1"/>

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

Java Code:

```
package com.example.myproject;

import androidx.appcompat.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.TextView;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity implements
AdapterView.OnItemClickListener {

    ListView l1;

    @Override

    protected void onCreate(Bundle savedInstanceState)

    { super.onCreate(savedInstanceState);

    setContentView(R.layout.activity_main);

    String[] cars = {"BMW", "BENZ", "AUDI"};

    try {

        ArrayAdapter<String> adapter = new ArrayAdapter<String>(this,
R.layout.support_simple_spinner_dropdown_item, cars);

        l1.setAdapter(adapter);

        l1.setOnItemClickListener(this);

    }

    catch (Exception e)

    {

        Toast.makeText(this,e.getMessage(),Toast.LENGTH_SHORT).show();

    }

}

@Override

public void onItemClick(AdapterView<?> adapterView, View view, int i, long l)

{ TextView tem=(TextView) view;

    Toast.makeText(this, tem.getText(), Toast.LENGTH_LONG).show();

}

}

```

OUTPUT:

Program No: 11

Aim: Implement Intent to navigate between multiple activities (Explicit intent)

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"

    android:onClick="callActivity"

    tools:context=".intent_activity">

    <EditText

        android:id="@+id/name"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:ems="10"

        android:hint="Name"

        android:inputType="textPersonName"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintHorizontal_bias="0.437"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.148" />
```

<EditText

```
    android:id="@+id/address"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Address"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.437"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.313" />
```

<EditText

```
    android:id="@+id/email"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Email"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.437"
    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"
    android:onClick="callActivity"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.454"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.609" />

```

</androidx.constraintlayout.widget.ConstraintLayout>

Display.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=".intent_act2">

    <TextView
        android:id="@+id/view3"
        android:layout_width="189dp"
        android:layout_height="36dp"
        android:textAlignment="center"

```

```

        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.459"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.398" />
<TextView
    android:id="@+id/view1"
    android:layout_width="189dp"
    android:layout_height="36dp"
    android:textAlignment="center"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.459"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.22" />
<TextView
    android:id="@+id/view2"
    android:layout_width="189dp"
    android:layout_height="36dp"
    android:textAlignment="center"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.459"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"

```

```

        app:layout_constraintVertical_bias="0.306" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Java Code:

```

package com.example.myapp;

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 intent_activity extends AppCompatActivity
{
    Button b1;

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

    public void callActivity(View view) {
        Intent i = new Intent(intent_activity.this, intent_act2.class);

        final EditText editText1 = (EditText)findViewById(R.id.name);

        String msg = editText1.getText().toString();

        final EditText editText2 = (EditText)findViewById(R.id.address);

        String add = editText2.getText().toString();

        final EditText editText3 = (EditText)findViewById(R.id.email);

        String em = editText3.getText().toString();

        i.putExtra("Value1", msg);

        i.putExtra("Value2", add);
    }
}

```

```

        i.putExtra("Value3", em);

        startActivity(i);
    }
}

```

Display.java

```

package com.example.myapp;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;

public class intent_act2 extends AppCompatActivity
{
    TextView view1;
    TextView view2;
    TextView view3;

    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_intent_act2);
        view1 = (TextView) findViewById(R.id.view1);
        view2 = (TextView) findViewById(R.id.view2);
        view3 = (TextView) findViewById(R.id.view3);

        Bundle extras = getIntent().getExtras();

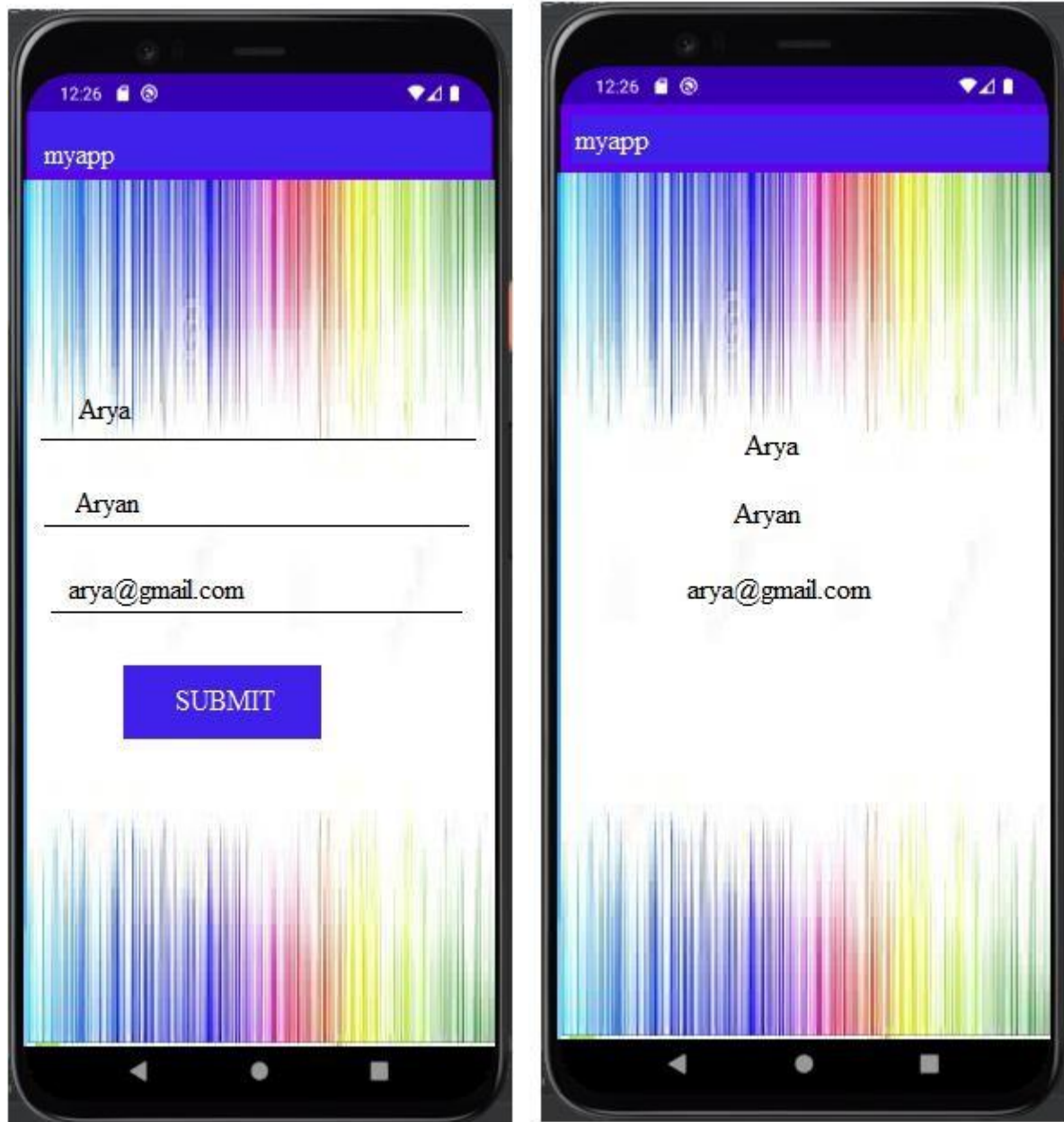
        String value1 = extras.getString("Value1");
        String value2 = extras.getString("Value2");
        String value3 = extras.getString("Value3");

        view1.setText(value1);
        view2.setText(value2);
        view3.setText(value3);
    }
}

```

```
}  
}
```

OUTPUT:



Program No: 12

Aim: Develop an application that works with Implicit intents

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=".explicit">

    <Button
        android:id="@+id/cm"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Refer Google"
        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:

```
package com.example.myapplication;

import androidx.appcompat.app.ActionBar;
```



```

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.net.Uri;

import android.net.UrlQuerySanitizer;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;


public class explicit extends AppCompatActivity

{ @Override

protected void onCreate(Bundle savedInstanceState)

{ super.onCreate(savedInstanceState);

setContentView(R.layout.activity_explicit);

Button click = findViewById(R.id.cm);

click.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

Intent j = new Intent(Intent.ACTION_VIEW,

Uri.parse("https://www.google.com/"));

startActivity(j);

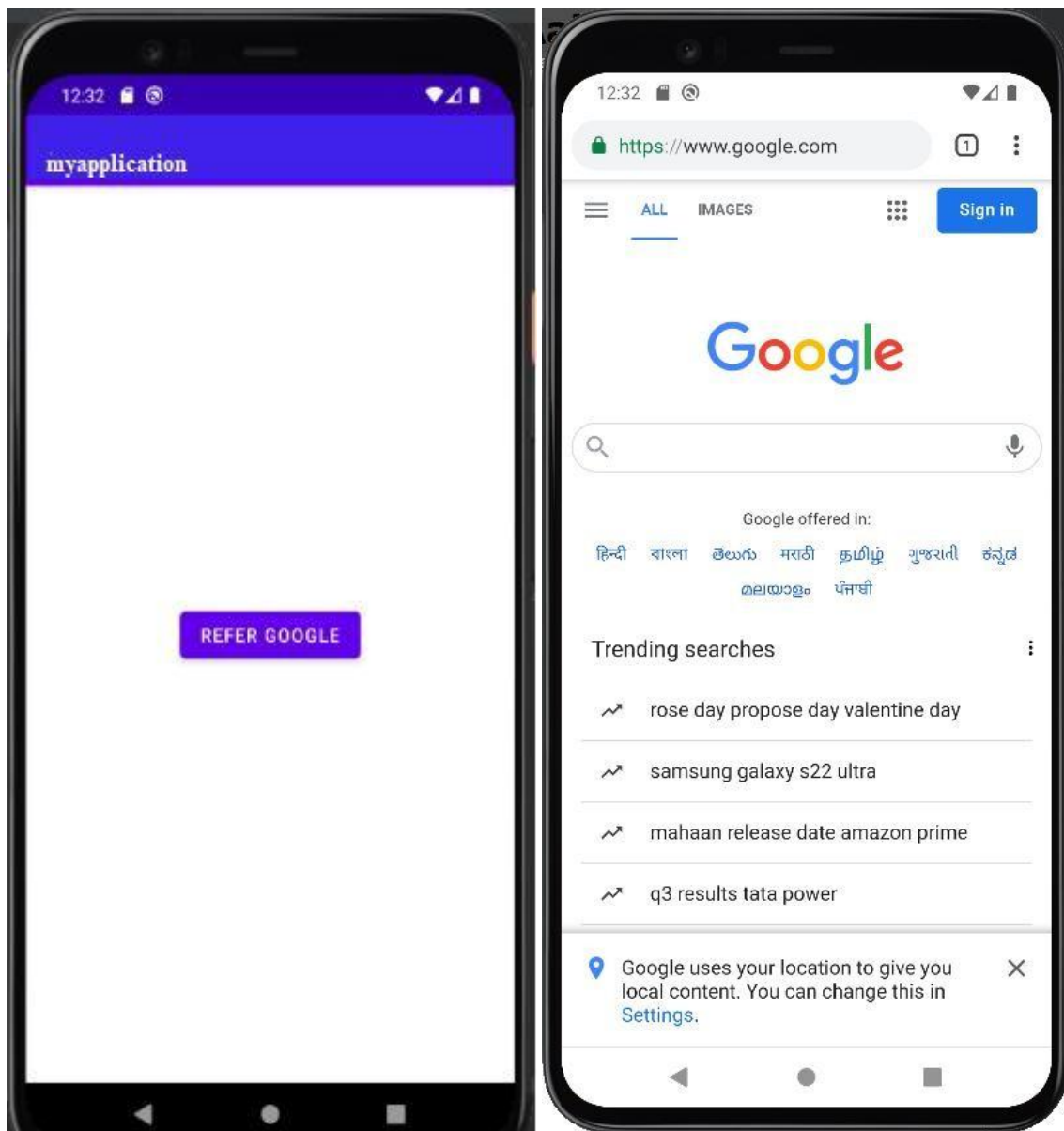
}

});

}

}

```

OUTPUT:

Program No: 13

Aim: Implement Options Menu to navigate to activities

XML Code:

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

<menu xmlns:android="http://schemas.android.com/apk/res/android">

    <item android:id="@+id/item1" android:title="Home"/>

    <item android:id="@+id/item2" android:title="Settings"/>

    <item android:id="@+id/item3" android:title="About"/>

    <item android:id="@+id/item4" android:title="Help"/>

    <item android:id="@+id/item5" android:title="LogOut"/>

</menu>

<?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=".menu_bar">

    <TextView

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="Welcome..."

        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 Code:

```

package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;
import android.annotation.SuppressLint;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.widget.Toast;

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

    @Override
    public boolean onCreateOptionsMenu(Menu menu)
    {
        getMenuInflater().inflate(R.menu.menu_list,
            menu); return true;
    }

    @Override
    public boolean onOptionsItemSelected(MenuItem item)
    {
        switch (item.getItemId()) {

```

```
        case R.id.item1:

            Toast.makeText(getApplicationContext(), "Home clicked",
Toast.LENGTH_SHORT).show();

            return true;

        case R.id.item2:

            Toast.makeText(getApplicationContext(), "Settings clicked",
Toast.LENGTH_SHORT).show();

            return true;

        case R.id.item3:

            Toast.makeText(getApplicationContext(), "About clicked",
Toast.LENGTH_SHORT).show();

            return true;

        case R.id.item4:

            Toast.makeText(getApplicationContext(), "Help clicked",
Toast.LENGTH_SHORT).show();

            return true;

            case R.id.item5:

                Toast.makeText(getApplicationContext(), "Logout clicked",
Toast.LENGTH_SHORT).show();

            return true;

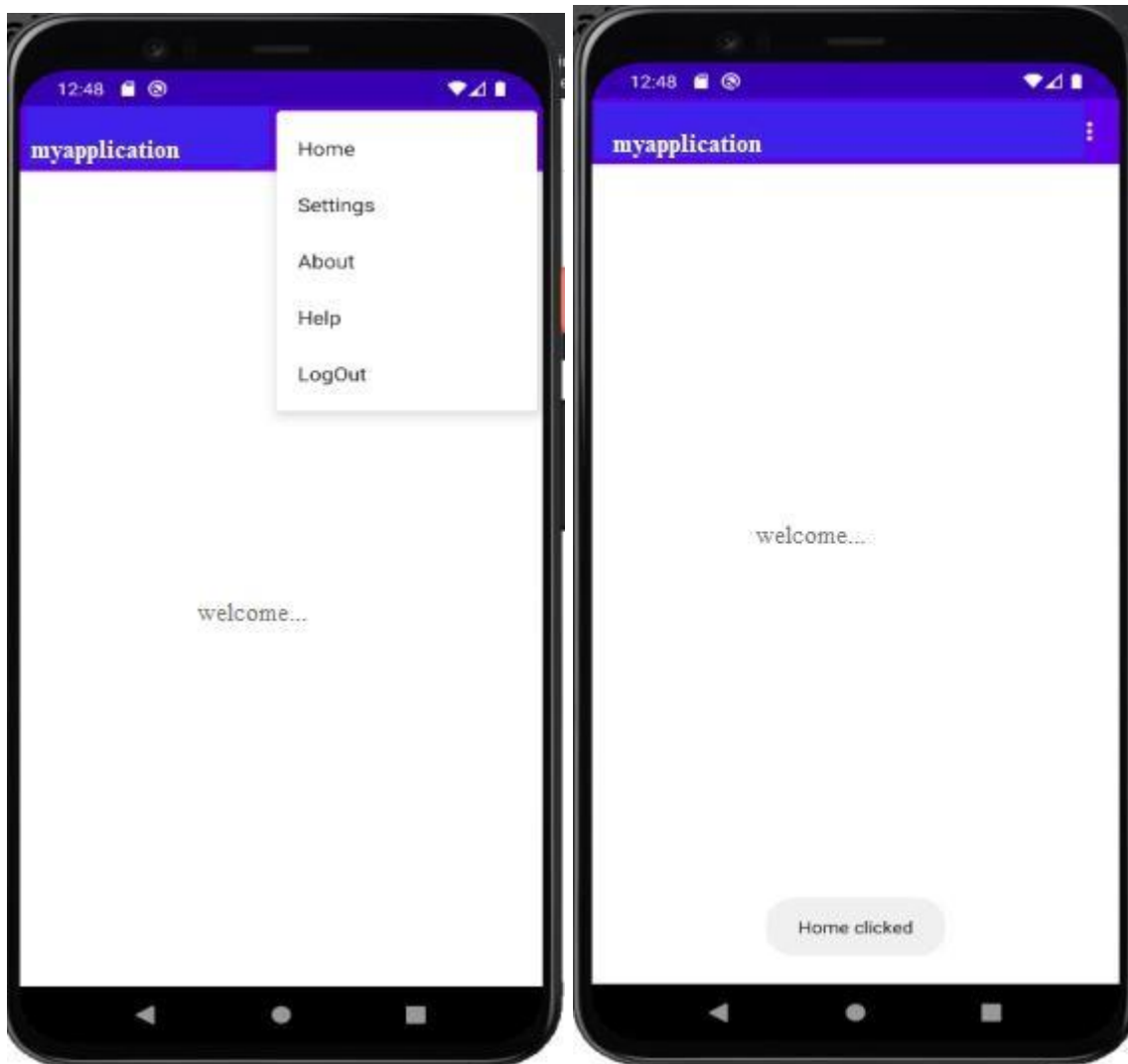
        default:

            return super.onOptionsItemSelected(item);

    }

}

}
```

OUTPUT:

Program No: 14

Aim: Develop an application that uses ArrayAdapter with ListView

XML Code:

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

<LinearLayout

    xmlns:android="http://schemas.android.com/apk/res/android"

    xmlns:tools="http://schemas.android.com/tools"

    xmlns:app="http://schemas.android.com/apk/res-auto"

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    tools:context=".arrayAdapter">

    <ListView

        android:id="@+id/mobile_list"

        android:layout_width="match_parent"

        android:layout_height="wrap_content" >

    </ListView>

</LinearLayout>
```

Java Code:

```
package com.example.myapplication2;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.AdapterView;
```

```

import android.widget.AdapterView;

import android.widget.ListView;

import android.widget.TextView;

import android.widget.Toast;

public class arrayAdapter extends AppCompatActivity implements
AdapterView.OnItemClickListener {

    ListView l;

    String[] days = {"Sunday", "Monday", "Tuesday", "Wednesday", "Thursday", "Friday",
"Saturday"};

    @Override

    protected void onCreate(Bundle savedInstanceState)

    { super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_array_adapter);

        l = findViewById(R.id.mobile_list);

        ArrayAdapter<String> adapter = new ArrayAdapter<String>(this,
R.layout.support_simple_spinner_dropdown_item, days);

        l.setAdapter(adapter);

        l.setOnItemClickListener(this);

    }

    @Override

    public void onItemClick(AdapterView<?> adapterView, View view, int i, long l)

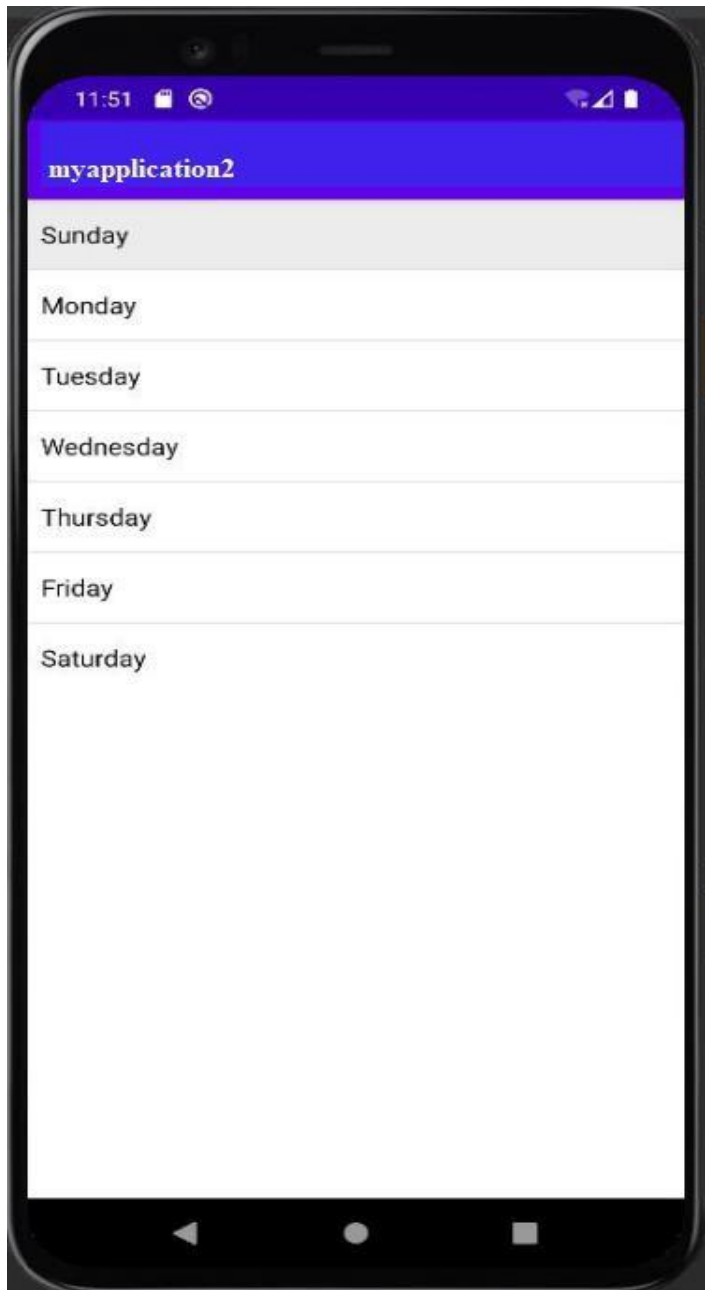
    { TextView temp = (TextView) view;

        Toast.makeText(this, "You clicked " + temp.getText() + " at " + i,
Toast.LENGTH_LONG).show();

    }

}

```


OUTPUT:

Program No: 15

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

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">
<GridView
    android:id="@+id/idGVcourses"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:horizontalSpacing="6dp"
    android:numColumns="2"
    android:verticalSpacing="6dp" />
</androidx.constraintlayout.widget.ConstraintLayout>
#carditem.xml
<?xml version="1.0" encoding="utf-8"?>
<!--XML implementation of Card Layout-->
<androidx.cardview.widget.CardView
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
android:layout_width="match_parent"
android:layout_height="120dp"
android:layout_gravity="center"
```

```

    android:layout_margin="5dp"
    app:cardCornerRadius="5dp"
    app:cardElevation="5dp">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical">
        <ImageView
            android:id="@+id/image"
            android:layout_width="100dp"
            android:layout_height="100dp"
            android:layout_gravity="center"
            android:src="@mipmap/ic_launcher" />
        <TextView
            android:id="@+id/flower"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="@string/app_name"
            android:textAlignment="center" />
        </LinearLayout>
    </androidx.cardview.widget.CardView>

```

Java Code:

```

package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.GridView;
import java.util.ArrayList;

```

```

public class MainActivity extends AppCompatActivity {
    GridView images;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        coursesGV = findViewById(R.id.idimages);
        ArrayList<image> imageArrayList;
        imageArrayList = new ArrayList<image>();
        imageArrayList.add(new image("HTML", R.drawable.img));
        imageArrayList.add(new image("JAVA", R.drawable.img_1));
        imageArrayList.add(new image("JSP",R.drawable.img_2));
        imageArrayList.add(new image("PHP", R.drawable.img_3));
        imageArrayList.add(new image("PYTHON", R.drawable.img_4));
        imageArrayList.add(new image("SQL", R.drawable.img_5));
        imageAdapter adapter = new imageAdapter(this, imageArrayList);
        image.setAdapter(adapter)  }
    }

```

#Adapter

```

package com.example.myapplication;
import android.content.Context;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.ArrayAdapter;
import android.widget.ImageView;
import android.widget.TextView;
import androidx.annotation.NonNull;

```

```

import androidx.annotation.Nullable;
import java.util.ArrayList;

public class imageAdapter extends ArrayAdapter<image> {
    public imageAdapter(@NonNull Context context, ArrayList<image>
imageArrayList) {
        super(context, 0, imageArrayList);
    }

    @NonNull
    @Override
    public View getView(int position, @Nullable View convertView, @NonNull
ViewGroup parent) {
        View listitemView = convertView;
        if (listitemView == null) {
            // Layout Inflater inflates each item to be displayed in GridView.
            listitemView =
LayoutInflater.from(getContext()).inflate(R.layout.card_item, parent, false);
        }
        Image image = getItem(position);
        TextView image = listitemView.findViewById(R.id.flower);
        ImageView image = listitemView.findViewById(R.id.image);
        courseTV.setText(image.getCourse_name());
        courseIV.setImageResource(image.getImgid());
        return listitemView;
    }
}

```

OUTPUT



Program No: 16

AIM : Program to develop an application that implements Spinner component and perform event handling.

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">
    <Spinner
        android:id="@+id/spinner"
        android:layout_width="197dp"
        android:layout_height="70dp"
        tools:layout_editor_absoluteX="92dp"
        tools:layout_editor_absoluteY="297dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.502"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.48"/>
</androidx.constraintlayout.widget.ConstraintLayout>
```

Java Code:

```
package com.example.spinnercomponents;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

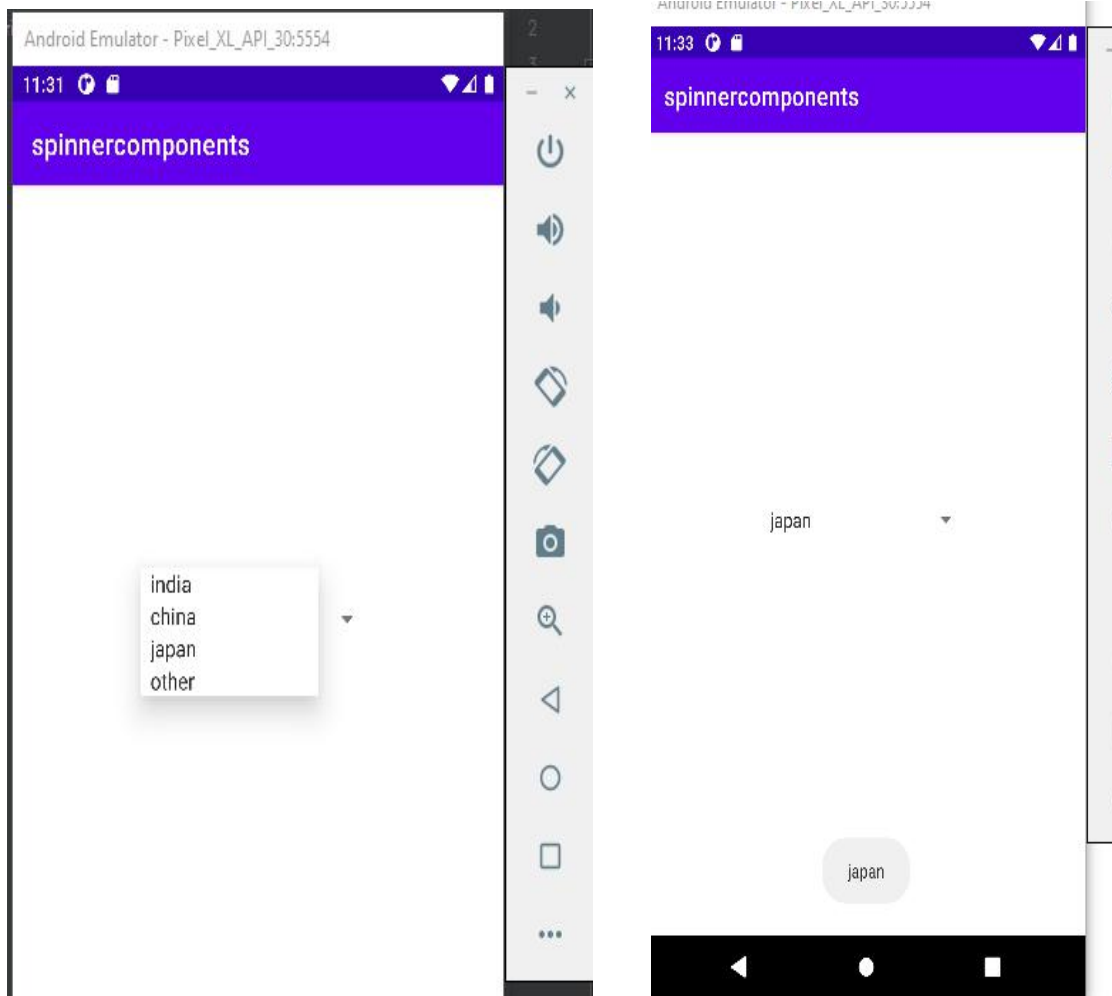
import android.view.View;
```

```

import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.Spinner;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity implements
    AdapterView.OnItemSelectedListener {
    String[] country = {"india","china","japan","other"};
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Spinner spin =(Spinner) findViewById(R.id.spinner);
        spin.setOnItemSelectedListener(this);
        ArrayAdapter aa = new
        ArrayAdapter(this,android.R.layout.simple_spinner_item,country);
        aa.setDropDownViewResource(android.R.layout.simple_spinner_item);
        spin.setAdapter(aa);
    }
    @Override
    public void onItemSelected(AdapterView<?> arg0, View arg1, int position, long id){
        Toast.makeText(getApplicationContext(),country[position],Toast.LENGTH_LONG).show();
    }
    @Override
    public void onNothingSelected(AdapterView<?>arg0){
    }
}

```


OUTPUT



Program No: 17

Aim: Program to apply themes via code from manifest file.

XML Code :

```
<?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:gravity="center"
    tools:context=".MainActivity">
    <EditText
        android:id="@+id/editTextTextPersonName"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="Name"/>
</LinearLayout>
//color.xml
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="orange">#6076F1</color>
    <color name="teal">#6076F1</color>
    <color name="blue">#00BCD4</color>
</resources>
```

//themes.xml

```
<resources xmlns:tools="http://schemas.android.com/tools">
    <!-- Base application theme. -->
    <style name="Theme.myapplication"
parent="Theme.MaterialComponents.DayNight.DarkActionBar">

        <item name="colorPrimary">@color/black</item>
        <item name="colorPrimaryDark">@color/orange</item>
        <item name="colorAccent">@color/teal</item>
        <item name="android:textColorPrimary">@color/blue</item>

    </style>
</resources>
```

//AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.myapplication">
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportRtl="true"
        android:theme="@style/Theme.myapplication">

        <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>

<meta-data
    android:name="preloaded_fonts"
    android:resource="@array/preloaded_fonts" />
</application>

</manifest>

```

Java Code:

```

package com.example.myapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class theme extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_theme);
    }
}

```

OUTPUT:

Program No: 18**Aim:**Program to develop application using Fragments**XML Code :**

```

<?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">

    <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:backgroundTint="#2196F3"
            android:text="Fragment1" />

        <Button
            android:id="@+id/b2"
            android:layout_width="160dp"
            android:layout_height="50dp"
            android:layout_alignParentRight="true"
            android:layout_alignParentBottom="true"
            android:layout_marginStart="30dp"
            android:layout_marginBottom="30dp"
            android:backgroundTint="#FFC107"
            android:text="Fragment2" />

    </RelativeLayout>

```

```
<FrameLayout
```

```
    android:id="@+id/frameLayout"
    android:layout_width="match_parent"
    android:layout_height="0dp"
    android:layout_weight="4"
    android:background="@color/purple_200"/>
```

```
</LinearLayout>
```

Java code:

```
package com.example.fragment;

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) {
        replaceFragment(new Fragment1());
    }
});
b2.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        replaceFragment(new Fragment2());
    }
});
}

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

#fragment1

package com.example.fragment;
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_1, container, false);
    }
}

```

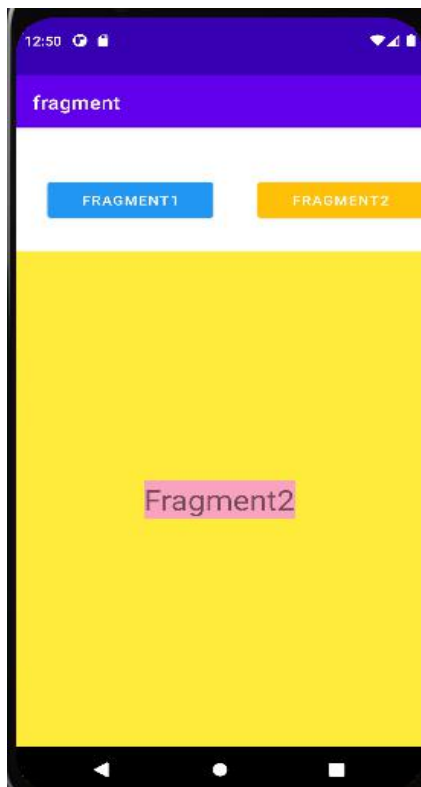
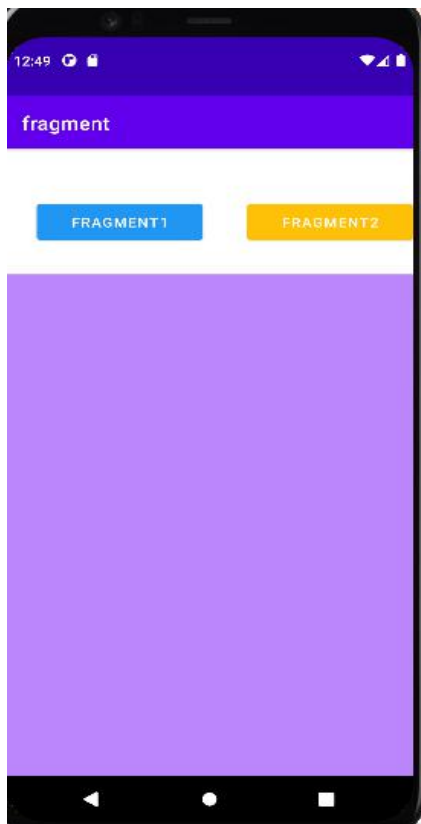
#fragment2

```

package com.example.fragment;
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_2, container, false);
    }
}

```

OUTPUT



Program No: 19**Aim:**Program to implement Navigation drawer.**XML Code :**

```

<?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"
    tools:context=".navigation"
    android:id="@+id/drawer">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent">

        <TextView
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:text="Hello \nWelcome back"
            android:textSize="30dp">
        </TextView>
    </LinearLayout>

    <com.google.android.material.navigation.NavigationView
        android:layout_width="match_parent"

```

```

        android:layout_height="match_parent"
        app:menu="@menu/menu"
        android:id="@+id/navigation_view"
        android:layout_gravity="start">

</com.google.android.material.navigation.NavigationView>
</androidx.drawerlayout.widget.DrawerLayout>

```

Java Code:

```

package com.example.myapplication;

import androidx.annotation.NonNull;
import androidx.appcompat.app.ActionBarDrawerToggle;
import androidx.appcompat.app.AppCompatActivity;
import androidx.drawerlayout.widget.DrawerLayout;
import android.os.Bundle;
import android.view.MenuItem;
import android.widget.Toast;
import com.google.android.material.navigation.NavigationView;

public class navigation extends AppCompatActivity implements
    NavigationView.OnNavigationItemSelectedListener {
    public DrawerLayout drawerLayout;
    public ActionBarDrawerToggle actionBarDrawerToggle;

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

```

```

drawerLayout = findViewById(R.id.drawer);
actionBarDrawerToggle = new ActionBarDrawerToggle(this, drawerLayout,
R.string.nav_open, R.string.nav_close);
drawerLayout.addDrawerListener(actionBarDrawerToggle);
actionBarDrawerToggle.syncState();
getSupportActionBar().setDisplayHomeAsUpEnabled(true);

NavigationView navigationView = findViewById(R.id.navigation_view);
navigationView.setNavigationItemSelectedListener(this);
}

```

@Override

```

public boolean onOptionsItemSelected(@NonNull MenuItem item) {
    if (actionBarDrawerToggle.onOptionsItemSelected(item)) {
        return true;
    }
    return super.onOptionsItemSelected(item);
}

```

@Override

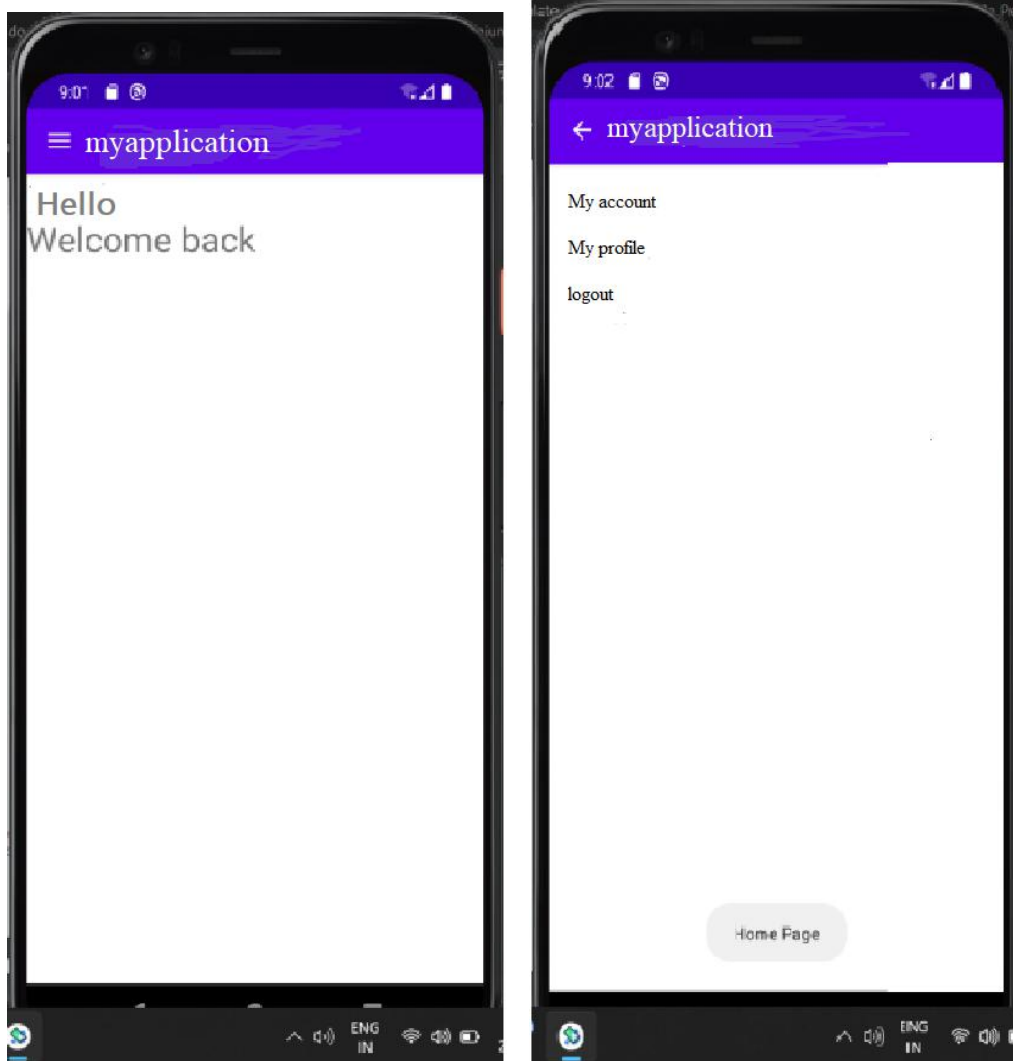
```

public boolean onNavigationItemSelected(@NonNull MenuItem item) {
    int id = item.getItemId();
    if (id == R.id.account) {
        Toast.makeText(this, "My account", Toast.LENGTH_SHORT).show();
    }
    if (id == R.id.profile) {
        Toast.makeText(this, "My profile",
            Toast.LENGTH_SHORT).show(); }
    if (id == R.id.logout) {

```

```
Toast.makeText(this, "Logout", Toast.LENGTH_SHORT).show();  }  
return false  }  }
```

OUTPUT



Program No: 21

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

XML Code :

```
<?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:padding="10dp"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/texttitle"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:text="Please enter the details below"
        android:textSize="24dp" />

    <EditText
        android:id="@+id/name"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Name"
        android:textSize="24dp"
        android:layout_below="@+id/texttitle"
        android:inputType="textPersonName"
        />

    <EditText
        android:id="@+id/contact"
```

```

        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Contact"
        android:textSize="24dp"
        android:layout_below="@+id/name"
        android:inputType="number"
    />

<EditText
    android:id="@+id/dob"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Date of birth"
    android:textSize="24dp"

    android:layout_below="@+id/contact"
    android:inputType="number"
/>

<Button
    android:id="@+id/buttonInsert"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textSize="24dp"
    android:text="Insert new Data"
    android:layout_marginTop="30dp"
    android:layout_below="@+id/dob"
/>

<Button
    android:id="@+id/buttonUpdate"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textSize="24dp"
    android:text="Update Data"
    android:layout_below="@+id/buttonInsert"
/>

```



```

<Button
    android:id="@+id/buttondelete"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textSize="24dp"
    android:text="Delete existing data"
    android:layout_below="@+id/buttonUpdate"
/>

<Button
    android:id="@+id/buttonView"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textSize="24dp"
    android:text="View data"
    android:layout_below="@+id/buttondelete"
/>

</RelativeLayout>

```

Java Code :

```

package com.example..sqlite_app;

import androidx.appcompat.app.AlertDialog;
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.Toast;

public class MainActivity extends AppCompatActivity {
    EditText name, contact, dob;
    Button insert, update, delete, view;
    DBHelper DB;

```

```

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    name=findViewById(R.id.name);
    contact=findViewById(R.id.contact);
    dob=findViewById(R.id.dob);
    insert=findViewById(R.id.buttonInsert);
    update=findViewById(R.id.buttonUpdate);
    delete=findViewById(R.id.buttonDelete);
    view=findViewById(R.id.buttonView);
    DB=new DBHelper(this);

    insert.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String nameTXT=name.getText().toString();
            String contactTXT=contact.getText().toString();
            String dobTXT=dob.getText().toString();

            Boolean checkinsertdata=DB.insertuserdata(nameTXT,contactTXT,dobTXT);
            if(checkinsertdata==true)
                Toast.makeText(MainActivity.this, "New Entry Inserted",
Toast.LENGTH_SHORT).show();
            else
                Toast.makeText(MainActivity.this, "unable to insert",
Toast.LENGTH_SHORT).show();
        }
    });
    update.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String nameTXT=name.getText().toString();

```

```

String contactTXT=contact.getText().toString();
String dobTXT=dob.getText().toString();

Boolean checkupdatedata=DB.updateuserdata(nameTXT,contactTXT,dobTXT);
if(checkupdatedata==true)
    Toast.makeText(MainActivity.this, "Entry updated",
Toast.LENGTH_SHORT).show();
else
    Toast.makeText(MainActivity.this, "Not updated",
Toast.LENGTH_SHORT).show();
}
});
delete.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String nameTXT=name.getText().toString();

        Boolean checkdeletedata=DB.deletedata(nameTXT);
        if(checkdeletedata==true)
            Toast.makeText(MainActivity.this, "Entry deleted",
Toast.LENGTH_SHORT).show();
        else
            Toast.makeText(MainActivity.this, "Not deleted",
Toast.LENGTH_SHORT).show();
    }
});
view.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        Cursor res=DB.getdata();
        if(res.getCount()==0){
            Toast.makeText(MainActivity.this, "No entry exists",
Toast.LENGTH_SHORT).show();

            return;

```

```

    }
    StringBuffer buffer=new StringBuffer();
    while(res.moveToNext()){
        buffer.append("Name:"+res.getString(0)+"\n");
        buffer.append("Contact:"+res.getString(1)+"\n");
        buffer.append("Date of Birth:"+res.getString(2)+"\n");
    }
    AlertDialog.Builder builder=new AlertDialog.Builder(MainActivity.this);
    builder.setCancelable(true);
    builder.setTitle("User Entries");
    builder.setMessage(buffer.toString());
    builder.show();

    }
    });
}
}

```

#DBHelper.java

```

package com.example.sqlite_app;
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;

public class DBHelper extends SQLiteOpenHelper {
    public DBHelper(Context context) {
        super(context, "Userdata", null, 1);
    }
}

```

```

@Override
public void onCreate(SQLiteDatabase DB) {
    DB.execSQL("create Table Userdetails(name TEXT primary key, contact TEXT, dob
TEXT)");
}

@Override
public void onUpgrade(SQLiteDatabase DB, int oldVersion, int newVersion) {
    DB.execSQL("drop Table if exists Userdetails");
}

public Boolean insertuserdata(String name, String contact, String dob){
    SQLiteDatabase DB=this.getWritableDatabase();
    ContentValues contentValues=new ContentValues();
    contentValues.put("name",name);
    contentValues.put("contact",contact);
    contentValues.put("dob",dob);
    long result=DB.insert("Userdetails", null, contentValues);
    if(result==-1){
        return false;
    }else{
        return true;
    }
}

public Boolean updateuserdata(String name, String contact, String dob){
    SQLiteDatabase DB=this.getWritableDatabase();
    ContentValues contentValues=new ContentValues();
    contentValues.put("contact",contact);
    contentValues.put("dob",dob);
    Cursor cursor=DB.rawQuery("Select * from Userdetails where name=?", new
String[] {name});
    if(cursor.getCount()>0) {
        long result = DB.update("Userdetails", contentValues, "name=?", new String[] {name});
        if (result == -1) {

```

```

        return false;
    } else {
        return true;
    }
} else {
    return false;
}
}

public Boolean deletedata(String name){
    SQLiteDatabase DB=this.getWritableDatabase();
    Cursor cursor=DB.rawQuery("Select * from Userdetails where name=?", new
String[]{name});
    if(cursor.getCount()>0) {
        long result = DB.delete("Userdetails", "name=?", new String[]{name});
        if (result == -1) {
            return false;
        } else {
            return true;
        }
    } else {
        return false;
    }
}

public Cursor getdata (){
    SQLiteDatabase DB=this.getWritableDatabase();
    Cursor cursor=DB.rawQuery("Select * from Userdetails",null);
    return cursor;
}
}

```

OUTPUT

