

20MCA243 MOBILE APPLICATION DEVELOPMENT LAB

Lab Report Submitted By

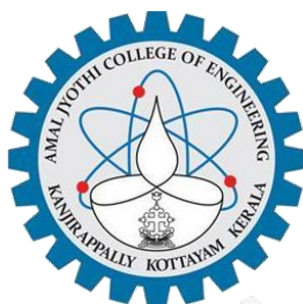
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Reg. No.: AJC20MCA-2074

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**

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DEPARTMENT OF COMPUTER APPLICATIONS
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CERTIFICATE

This is to certify that the lab report, “**20MCA243 MOBILE APPLICATION DEVELOPMENT LAB**” is the bonafide work of **SWARNA MOL K K (Reg.No:AJC20MCA-2074)** 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.

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Program no :1

Aim :

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

activity_main.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:layout_gravity="center" android:background="#8BD8EF" android:gravity="center"
    android:orientation="vertical" tools:context=".MainActivity">
    <androidx.cardview.widget.CardView android:layout_width="300dp"
    android:layout_height="wrap_content" android:layout_gravity="center"
    app:cardCornerRadius="15dp">
        <LinearLayout android:layout_width="match_parent"
    android:layout_height="wrap_content" android:layout_gravity="center"
    android:orientation="vertical">

            <TextView android:layout_width="wrap_content"
    android:layout_height="wrap_content" android:layout_gravity="center"
    android:layout_marginTop="7dp" android:layout_marginBottom="10dp"
    android:text="Login" android:textColor="#3F51B5" android:textSize="40dp"
    android:textStyle="bold" />

            <EditText android:id="@+id/username"
                android:layout_width="match_parent" android:layout_height="wrap_content"
    android:layout_margin="20dp" android:hint="Username" />

            <EditText android:id="@+id/password"
                android:layout_width="match_parent" android:layout_height="wrap_content"
    android:layout_margin="20dp" android:hint="Password" android:inputType="textPassword"
    />

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

```

android:layout_height="wrap_content" android:layout_marginLeft="25dp"

        android:text="Forgot Password?" android:textColor="#3F51B5"
    android:textStyle="bold" />
    <Button

        android:id="@+id/login" android:layout_width="match_parent"
    android:layout_height="wrap_content" android:layout_margin="20dp" android:text="Login"
    />

    <LinearLayout android:layout_width="match_parent"
    android:layout_height="match_parent" android:layout_marginBottom="20dp"
    android:gravity="center" android:orientation="horizontal">
        <TextView android:layout_width="wrap_content"
    android:layout_height="wrap_content" android:text="Not a member?" />
        <TextView android:layout_width="wrap_content"
    android:layout_height="wrap_content" android:text="SignUp" android:textColor="#3F51B5"
    android:textStyle="bold" />
    </LinearLayout>

</LinearLayout>

</androidx.cardview.widget.CardView>

```

```
</LinearLayout>
```

MainActivity.java :

```

package com.example.login_cred;

import android.os.Bundle; import android.view.View; import android.widget.Button; import
android.widget.EditText; import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity; public class MainActivity extends
AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);

```

```

EditText username = findViewById(R.id.username); Button login =
findViewById(R.id.login); login.setOnClickListener(new View.OnClickListener() {
    @Override

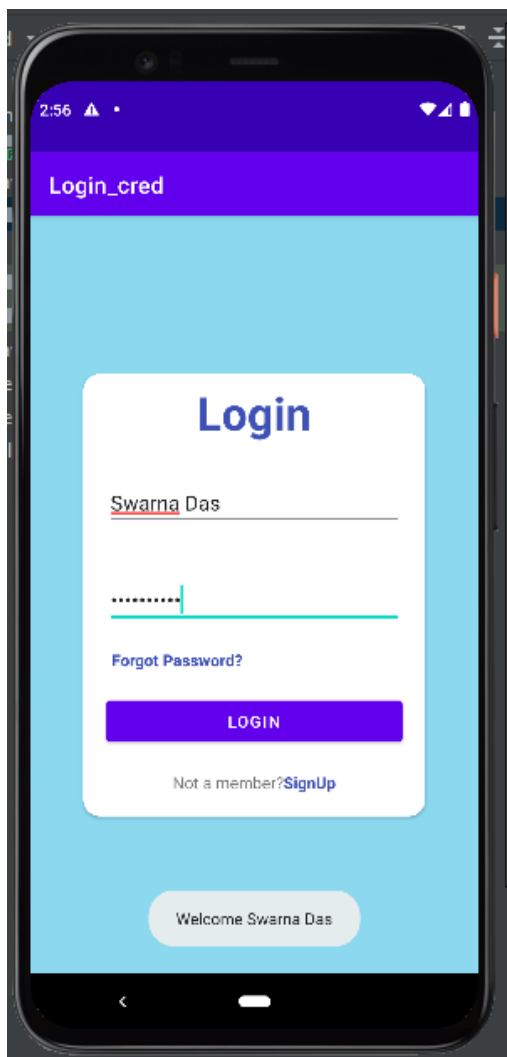
    public void onClick(View v) {

        Toast.makeText(MainActivity.this, "Welcome " + username.getText().toString(),
        Toast.LENGTH_SHORT).show();
    }

});
}
}

```

Output:



Program no :2**Aim :**

Write a program that demonstrates Activity Lifecycle.

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:padding="10dp"

    tools:context=".MainActivity">

    <TextView

        android:id="@+id/txt"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_marginTop="20dp"

        android:textSize="34dp" />

</RelativeLayout>
```

MainActivity.java :

```
package com.example.activitylifecycle;

import android.app.Activity;

import android.os.Bundle;

import android.util.Log;

public class MainActivity extends Activity { @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:

```

2022-02-24 10:40:29.818 8920-8943/com.example.lifecycle D/OpenGL: [OpenGL] /vendor/lib/egl/libEGL_emulation.so
2022-02-24 10:46:25.854 8920-8943/com.example.lifecycle D/libEGL: Loaded /vendor/lib/egl/libGLESv1_CM_emulation.so
2022-02-24 10:46:25.884 8920-8943/com.example.lifecycle D/libEGL: Loaded /vendor/lib/egl/libGLESv2_emulation.so
2022-02-24 10:46:25.968 8920-8920/com.example.lifecycle D/lifecycle: onCreate invoked
2022-02-24 10:46:25.977 8920-8920/com.example.lifecycle D/lifecycle: onStart invoked
2022-02-24 10:46:25.985 8920-8920/com.example.lifecycle D/lifecycle: onResume invoked
2022-02-24 10:46:26.078 8920-8941/com.example.lifecycle D/HostConnection: HostConnection::get() New Host Connection established 0xe87df9b0, tid 8941
2022-02-24 10:46:26.084 8920-8941/com.example.lifecycle D/HostConnection: HostComposition ext ANDROID_EMU_CHECKSUM_HELPER_v1 ANDROID_EMU_native_sync_v2 ANDROID
2022-02-24 10:46:26.094 8920-8941/com.example.lifecycle W/OpenGLRenderer: Failed to choose config with EGL_SWAP_BEHAVIOR_PRESERVED, retrying without...
2022-02-24 10:46:26.295 8920-8941/com.example.lifecycle D/EGL_emulation: eglCreateContext: 0xe87dff10: maj 2 min 0 rcv 2
2022-02-24 10:46:26.304 8920-8941/com.example.lifecycle D/EGL_emulation: eglMakeCurrent: 0xe87dff10: ver 2 0 (info 0xe8b18f30) (first time)
2022-02-24 10:46:26.317 8920-8941/com.example.lifecycle I/Gralloc4: mapper 4.x is not supported
2022-02-24 10:46:26.318 8920-8941/com.example.lifecycle D/HostConnection: createUnique: call
2022-02-24 10:46:26.328 8920-8941/com.example.lifecycle D/HostConnection: HostConnection::get() New Host Connection established 0xe87df930, tid 8941
2022-02-24 10:46:26.331 8920-8941/com.example.lifecycle D/goldfish-address-space: allocate: Ask for block of size 0x100
2022-02-24 10:46:26.332 8920-8941/com.example.lifecycle D/goldfish-address-space: allocate: ioctl allocate returned offset 0x3f3ffe000 size 0x2000
2022-02-24 10:46:26.343 8920-8941/com.example.lifecycle D/HostConnection: HostComposition ext ANDROID_EMU_CHECKSUM_HELPER_v1 ANDROID_EMU_native_sync_v2 ANDROID
2022-02-24 10:46:26.651 8920-8932/com.example.lifecycle I/ample.lifecycle: Background young concurrent copying GC freed 19135(1233KB) AllocSpace objects, 0(0B) l
2022-02-24 10:46:26.652 8920-8934/com.example.lifecycle W/System: A resource failed to call close.
2022-02-24 10:46:38.113 8920-8920/com.example.lifecycle D/lifecycle: onPause invoked
2022-02-24 10:46:39.121 8920-8920/com.example.lifecycle D/lifecycle: onStop invoked
2022-02-24 10:46:39.132 8920-8920/com.example.lifecycle D/lifecycle: onDestroy invoked
2022-02-24 10:47:03.281 8920-8934/com.example.lifecycle W/System: failed to call release.

```

Program no :3**Aim :**

Implementing basic arithmetic operations of a simple calculator

activity_main.xml :

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

<TextView
    android:id="@+id/t1"
    android:layout_width="141dp"
    android:layout_height="30dp"
    android:text=""
    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="0.757" />

<EditText
    android:id="@+id/e1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textPersonName"
    android:text=""
    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="0.38" />

```

```
<EditText
```

```

    android:id="@+id/e2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textPersonName"
    android:text=""
    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" />

```

```
<Button
```

```

    android:id="@+id/b1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="ADDITION"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.012"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.653" />

```

```
<Button
```

```
    android:id="@+id/b2"
```

```

android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="SUBTRACTION"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.331"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.653" />

```

<Button

```

android:id="@+id/b3"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="MULTIPLICATION"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.977"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.653" />

```

<Button

```

android:id="@+id/b4"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="DIVISION"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.649"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.653" />

```

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

MainActivity.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 {

    TextView t1;
    EditText e1;
    EditText e2;
    Button ADD;
    Button SUB;
    Button MUL;
    Button DIV;

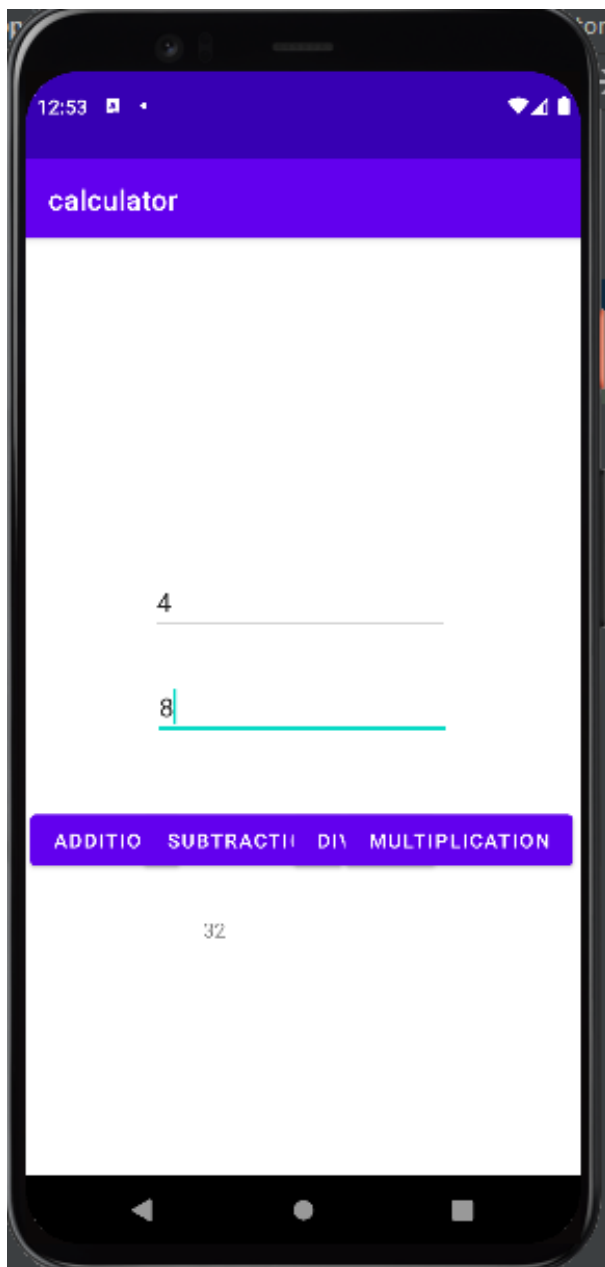
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        t1=findViewById(R.id.t1);
        e1=findViewById(R.id.e1);
        e2=findViewById(R.id.e2);
        ADD=findViewById(R.id.b1);
        SUB=findViewById(R.id.b2);
        MUL=findViewById(R.id.b3);
        DIV=findViewById(R.id.b4);
        ADD.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Integer val1=Integer.parseInt(e1.getText().toString());
```

```

        Integer val2=Integer.parseInt(e2.getText().toString());
        int c=val1+val2;
        t1.setText(""+c);
    }
});
SUB.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v1) {
        Integer val1=Integer.parseInt(e1.getText().toString());
        Integer val2=Integer.parseInt(e2.getText().toString());
        int c=val1-val2;
        t1.setText(""+c);
    }
});
MUL.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v2) {
        Integer val1=Integer.parseInt(e1.getText().toString());
        Integer val2=Integer.parseInt(e2.getText().toString());
        int c=val1*val2;
        t1.setText(""+c);
    }
});
DIV.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v3) {
        Integer val1=Integer.parseInt(e1.getText().toString());
        Integer val2=Integer.parseInt(e2.getText().toString());
        int c=val1/val2;
        t1.setText(""+c);
    }
});
}

```

```
}
```

Output:

Program no :4**Aim :**

Implement validations on various UI controls.

activity_main.xml :

```
<?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_pare
nt"
    android:layout_height="wrap_conte
nt"
    android:layout_marginTop="8dp"
    android:gravity="end"
    android:orientation="horizontal">

```

<Button

```

    android:id="@+id/cancelButton"
    style="@style/Widget.AppCompat.Button.Borderl
ess" 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>

```

MainActivity.java :

```

package com.example.UI;

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

The image displays two side-by-side screenshots of a mobile application's registration screen. Both screens show a form with the following fields: a text field for 'First Name' (containing 'Swarna'), a text field for 'Last Name' (containing 'das'), an email field (containing 'swarnadas308@gmail.com'), and a password field (containing '*****'). A 'PROCEED' button is located at the bottom right of the form.

Left Screenshot (3:00 PM): The 'Last Name' field has a red exclamation mark icon above it, and a black tooltip with the text 'This field is required' points to the icon. The 'PROCEED' button is visible.

Right Screenshot (3:29 PM): The 'Password' field has a red exclamation mark icon above it, and a black tooltip with the text 'Password must be 8 characters long' points to the icon. The 'PROCEED' button is partially obscured by the tooltip.

At the bottom of each screenshot is a black navigation bar with three white icons: a square, a circle, and a triangle.

Program no :5**Aim :**

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

activity_main.xml :

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <TextView
        android:id="@+id/textView3"
        android:layout_width="60dp"
        android:layout_height="17dp"
        android:text="Name"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.091"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.222" />
    <EditText
        android:id="@+id/name"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.756"
```



```

        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.215" />
<TextView
    android:id="@+id/textView4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Email ID"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.096"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.325" />
<EditText
    android:id="@+id/em"

    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.761"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.319" />
<TextView
    android:id="@+id/textView5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Phone No."
    app:layout_constraintBottom_toBottomOf="parent"

```

```

        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.09"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.435" />
<EditText
    android:id="@+id/ph"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"

    android:ems="10"
    android:inputType="number"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.761"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.431" />
<Button
    android:id="@+id/sav"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="SAVE"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.413"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.562" />
<TextView
    android:id="@+id/textView6"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"

```

```
android:text="Enter Your Details"
```

```
android:textSize="25sp"
```

```
android:textStyle="bold"
```

```
app:layout_constraintBottom_toBottomOf="parent"
```

```
app:layout_constraintEnd_toEndOf="parent"
```

```
app:layout_constraintHorizontal_bias="0.464"
```

```
app:layout_constraintStart_toStartOf="parent"
```

```
app:layout_constraintTop_toTopOf="parent"
```

```
app:layout_constraintVertical_bias="0.133" />
```

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

MainActivity.java :

```
package com.example.sharedpref;
```

```
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 a = getSupportActionBar();
```

```
        a.setTitle("Welcome");
```

```
        Button sub = findViewById(R.id.sav);
```

```
        EditText nam = findViewById(R.id.name);
```

```
        EditText email = findViewById(R.id.em);
```

```
        EditText phone = findViewById(R.id.ph);
```

```

sub.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Intent i = new Intent(MainActivity.this, add.class);

        String user = nam.getText().toString();
        i.putExtra("Name", user);
        String E_mail = email.getText().toString();
        i.putExtra("Email", E_mail);
        String Phones = phone.getText().toString();
        i.putExtra("Phone", Phones);
        startActivity(i);
        SharedPreferences sharedPreferences = getSharedPreferences("MySharedPref",
MODE_PRIVATE);
        SharedPreferences.Editor myEdit = sharedPreferences.edit();
        myEdit.putString("name", nam.getText().toString());
        myEdit.putString("email", email.getText().toString());
        myEdit.putString("phone", phone.getText().toString());
        myEdit.apply();
    }
});
}
}

```

activity_add.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=".add">
    <TextView

```

```

    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Your Details Using Intent"
    android:textStyle="bold"
    android:textSize="20sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.146" />
<TextView
    android:id="@+id/dis"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textStyle="italic"
    android:textSize="15sp"
    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="0.233" />
<TextView
    android:id="@+id/textView3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Your Details Using Shared Preference"
    android:textSize="20sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"

```

```

app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.771"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.467" />
<TextView
    android:id="@+id/dis1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="15sp"
    android:textStyle="italic"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.527"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.571" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

add.java :

```

package com.example.sharedpref;

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 add extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_add);
    }
}

```

```

ActionBar a = getSupportActionBar();
a.setTitle("Display");

TextView diss = findViewById(R.id.dis);
TextView diss1 = findViewById(R.id.dis1);

Intent i = getIntent();
String name = i.getStringExtra("Name");
String email = i.getStringExtra("Email");
String phone = i.getStringExtra("Phone");

diss.setText("Name : " + name + "\nEmail : " + email + "\nPhone : " + phone);

SharedPreferences sharedPreferences = getSharedPreferences("MySharedPref",
MODE_PRIVATE);

String Name = sharedPreferences.getString("name", "");
String Email = sharedPreferences.getString("email", "");
String Phone = sharedPreferences.getString("phone", "");
diss1.setText("Name : " + Name + "\nEmail : " + Email + "\nPhone : " + Phone);
}
}

```

Output:



Enter Your Details

Name swarnamol k k

Email ID swarna@gmail.com

Phone No. 9995158304

SAVE



Your Details Using Intent

*Name : swarnamol k k
Email : swarna@gmail.com
Phone : 9995158304*

Your Details Using Shared Preference

*Name : swarnamol k k
Email : swarna@gmail.com
Phone : 9995158304*



Program no :6**Aim :**

Design a simple Calculator using GridLayout and Cascaded LinearLayout.

activity_main.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="#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"
    t" 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>

MainActivity.java :

```
package com.example.edit2text;

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

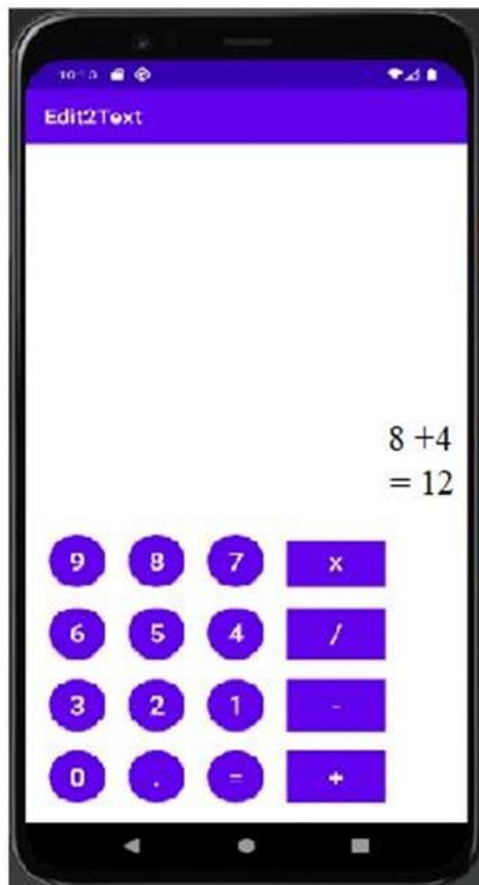
public class Output extends
    AppCompatActivity { TextView t1;

    @Override

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

    }
```

Output:



Program no :7**Aim :**

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

activity_main.xml :

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@color/purple_200"
    android:orientation="vertical"
    android:textAlignment="viewEnd"
    tools:context=".MainActivity">

    <FrameLayout
        android:id="@+id/frameLayout"
        android:layout_width="362dp"
        android:layout_height="403dp"
        android:background="@color/white"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.489"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.609">

        <EditText
            android:id="@+id/ed1"
            android:layout_width="match_parent"
            android:layout_height="61dp"
            android:layout_marginStart="30dp"

```

```
android:layout_marginTop="30dp"
```

```
android:layout_marginEnd="20dp"
```

```
android:ems="15"
```

```
android:inputType="textPersonName"
```

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

```
<EditText
```

```
android:id="@+id/ed2"
```

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

```
android:layout_height="61dp"
```

```
android:layout_marginStart="30dp"
```

```
android:layout_marginTop="110dp"
```

```
android:layout_marginEnd="20dp"
```

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

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

```
android:id="@+id/l1"
```

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

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

```
android:layout_marginStart="30dp"
```

```
android:layout_marginTop="30dp"
```

```
android:layout_marginEnd="20dp">
```

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

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

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

```
android:hint="Name" />
```

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

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

```
android:id="@+id/l2"
```

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

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

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

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

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

```
    android:layout_marginStart="30dp"
```

```
    android:layout_marginTop="110dp"
```

```
    android:layout_marginEnd="20dp"
```

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

```
    android:textColor="#3F51B5" />
```

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

```
<Button
```

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

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

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

```
    android:layout_marginStart="30dp"
```

```
    android:layout_marginTop="180dp"
```

```
    android:layout_marginEnd="20dp"
```

```
    android:backgroundTint="#2196F3"
```

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

```
<TextView
```

```
    android:id="@+id/textView3"
```

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

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

```
    android:layout_marginStart="100dp"
```

```
    android:layout_marginTop="240dp"
```

```
    android:layout_marginEnd="20dp"
```

```
    android:text="Forgotten Password..?"
```

```
    android:textColor="#1F3AD1" />
```

```

<Button
    android:id="@+id/button2"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginStart="70dp"
    android:layout_marginTop="290dp"
    android:layout_marginEnd="50dp"
    android:backgroundTint="#2FE136"

    android:text="Create a Account" />

```

```

</FrameLayout>

```

```

<TextView
    android:id="@+id/textView"
    android:layout_width="189dp"
    android:layout_height="43dp"
    android:fontFamily="sans-serif-black"
    android:text="facebook"
    android:textAlignment="center"
    android:textColor="#3F51B5"
    android:textSize="34sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.049" />

```

```

<TextView
    android:id="@+id/textView2"
    android:layout_width="335dp"
    android:layout_height="91dp"
    android:text="Facebook help you to connect and share with the people in your life"
    android:textAlignment="center"

```

```

    android:textColor="#0C0C0C"
    android:textSize="20sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.433"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.13" />

```

```

<TextView
    android:id="@+id/textView4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Create a Page for Celebrity"
    android:textAlignment="center"
    android:textColor="#0C0C0C"
    android:textSize="16sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.555"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.891" />

```

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

MainActivity.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;
import com.google.android.material.textfield.TextInputLayout;
public class MainActivity extends AppCompatActivity {
    Button b1,b2;
    TextInputLayout e1,e2;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        b1=findViewById(R.id.button);
        b2=findViewById(R.id.button2);
        e1=findViewById(R.id.l1);
        e2=findViewById(R.id.l2);

        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String uname=e1.getText().getText().toString();
                String passw=e2.getText().getText().toString();
                if(uname.equals("")){
                    Toast.makeText(MainActivity.this, "Enter Username",
Toast.LENGTH_SHORT).show();
                }
                else if(passw.equals("")){
                    Toast.makeText(MainActivity.this, "Enter Password",
Toast.LENGTH_SHORT).show();
                }
                else{

                    Intent j=new Intent(MainActivity.this,login.class);
                    if(uname.equals("Swarna")){
                        j.putExtra("name",uname);

```

```

        startActivity(j);
    }
    else {
        Toast.makeText(MainActivity.this, "Invalid user",
Toast.LENGTH_LONG).show();
    }

}

}

});

b2.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Intent i=new Intent(MainActivity.this,signup.class);
        startActivity(i);
    }
});
}
}

```

activity_login.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=".login">

    <TextView

```



```

android:id="@+id/textView8"
android:layout_width="0dp"
android:layout_height="wrap_content"
android:fontFamily="serif-monospace"
android:text="You are Login"
android:textAlignment="center"
android:textColor="#E91E63"
android:textSize="30sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />

```

```
<TextView
```

```

    android:id="@+id/t1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:fontFamily="sans-serif-medium"
    android:textColor="#2196F3"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.407" />

```

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

login.java:

```
package com.example.facebook;
```

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

```
import android.content.Intent;
```

```

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

public class login extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_login);
        Intent j=getIntent();
        TextView t1=findViewById(R.id.t1);
        String uname=j.getStringExtra("name");
        t1.setText(uname);
    }
}

```

activity_signup.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=".signup">

<TextView
    android:id="@+id/textView5"
    android:layout_width="259dp"
    android:layout_height="45dp"
    android:fontFamily="sans-serif-black"
    android:text="SIGN UP"
    android:textColor="#C31414ED"
    android:textSize="30sp"

```

```

app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.138"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.04" />

```

<TextView

```

android:id="@+id/textView6"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Its quick and easy"
android:textColor="#1B39D1"
android:textSize="20sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.083"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.102" />

```

<EditText

```

android:id="@+id/ed1"
android:layout_width="189dp"
android:layout_height="45dp"
android:ems="10"
android:hint="First Name"
android:inputType="textPersonName"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.031"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.301" />

```

```

<EditText
    android:id="@+id/ed2"
    android:layout_width="200dp"
    android:layout_height="45dp"
    android:ems="10"
    android:hint="Surname"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="1.0"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.3" />

```

```

<EditText
    android:id="@+id/ed3"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Mobile number or email"
    android:inputType="text"
    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="0.416" />

```

```

<EditText
    android:id="@+id/ed4"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:ems="10"

```

```

android:hint=" New Password"
android:inputType="textPassword"
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="0.523" />

```

<Spinner

```

android:id="@+id/spinner"
android:layout_width="409dp"
android:layout_height="wrap_content"
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="0.649" />

```

<TextView

```

android:id="@+id/textView7"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Date of Birth"
android:textSize="20sp"
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="0.613" />

```

<Button

```

    android:id="@+id/button3"
    android:layout_width="200dp"
    android:layout_height="wrap_content"
    android:text="SIGN IN"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.91" />

```

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

signup.java:

```

package com.example.facebook;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.EditText;
import android.widget.Spinner;

public class signup extends AppCompatActivity {
    EditText e1,e2,e3,e4;
    Spinner s1;
    String[] date={"1999","2000","2001","2002","2004"};
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_signup);
        Intent i=getIntent();
        e1=findViewById(R.id.ed1);

```

```

e2=findViewById(R.id.ed2);
e3=findViewById(R.id.ed3);
e4=findViewById(R.id.ed4);
s1=findViewById(R.id.spinner);

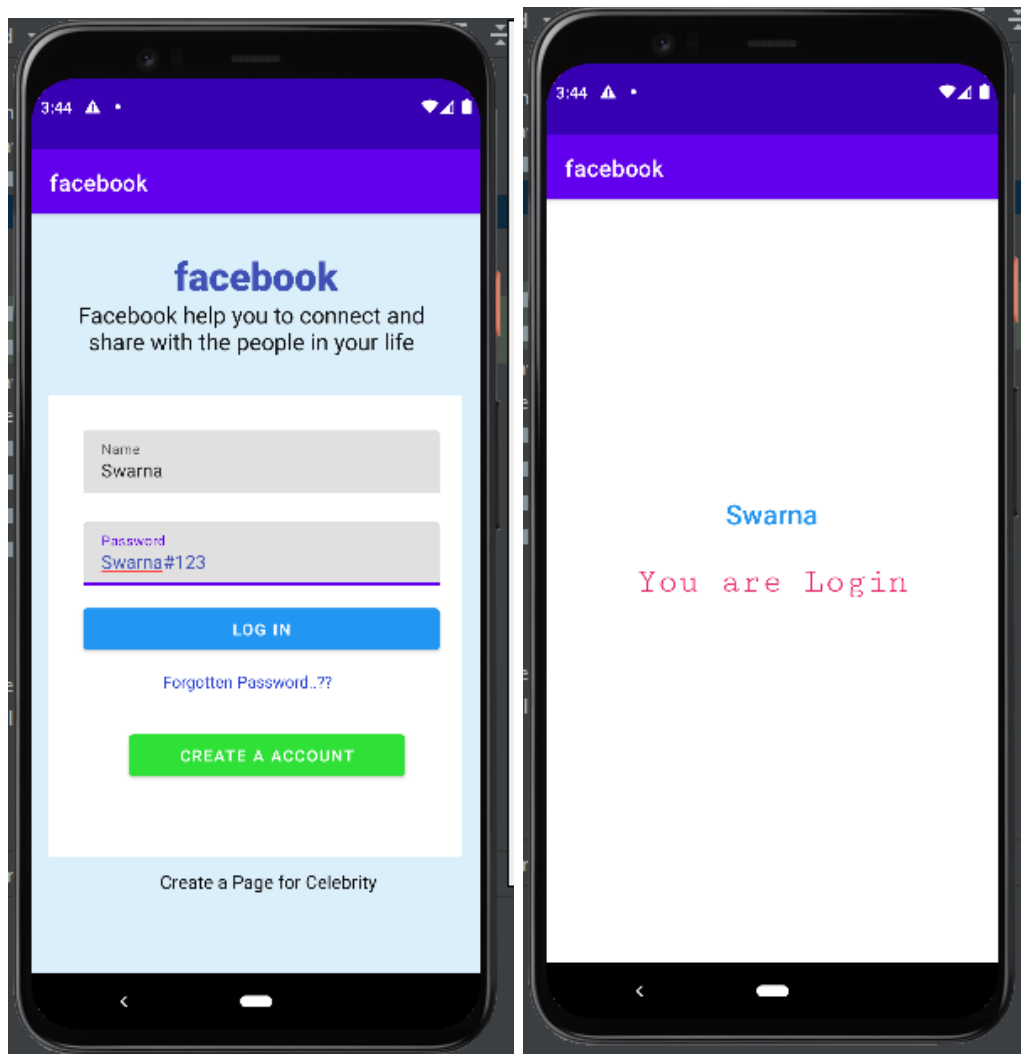
```

```

    ArrayAdapter arrayAdapter=new ArrayAdapter(this,
androidx.appcompat.R.layout.support_simple_spinner_dropdown_item,date);
    s1.setAdapter(arrayAdapter);
}
}

```

Output:



3:53

facebook

SIGN UP

Its quick and easy

First Name Surname

Mobile number or email

New Password

Date of Birth
1999

SIGN IN

Program no :8**Aim :**

Develop an application that toggles image using FrameLayout.

activity_main.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/im1"
        android:layout_width="180dp"
        android:layout_height="405dp"
        app:srcCompat="@drawable/t1"
        tools:layout_editor_absoluteX="51dp"
        tools:layout_editor_absoluteY="16dp" />

    <ImageView
        android:id="@+id/im2"
        android:layout_width="149dp"
        android:layout_height="409dp"
        android:layout_marginStart="37dp"
        android:layout_marginTop="14dp"
        android:layout_marginEnd="14dp"
        android:layout_marginBottom="85dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toStartOf="@+id/im1"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/im1"
```

```
app:layout_constraintVertical_bias="0.973"
app:srcCompat="@drawable/t2" />
```

```
</FrameLayout>
```

MainActivity.java :

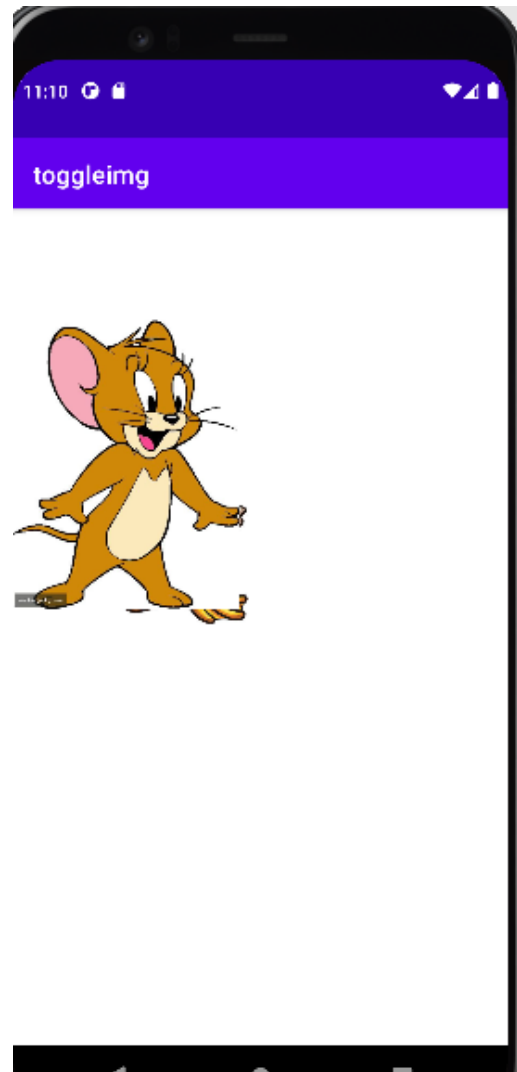
```
package com.example.toggleimg;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

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

        ImageView im1=findViewById(R.id.im1);
        ImageView im2=findViewById(R.id.im2);
        im2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                im1.bringToFront();
            }
        });
        im1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                im2.bringToFront();
            }
        });
    }
}
```

```
});  
}  
}
```

Output:

Program no :9**Aim :**

Implement Adapters and perform exception handling .

activity_main.xml :

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="TextView"
        tools:layout_editor_absoluteX="181dp"
        tools:layout_editor_absoluteY="363dp" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java :

```
package com.example.exception;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    TextView textView;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        try {
```

```
        textView.setText("Welcome");  
    }  
    catch (Exception e)  
    {  
        Toast.makeText(this,e.getMessage(),Toast.LENGTH_SHORT).show();  
    }  
}  
}
```

Output:



Program no :10**Aim :**

Implement Intent to navigate between multiple activities.

activity_main.xml :

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

    <Button
        android:id="@+id/bt"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Next"
        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="0.584" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java :

```
package com.example.implicitintent;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
```

```

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

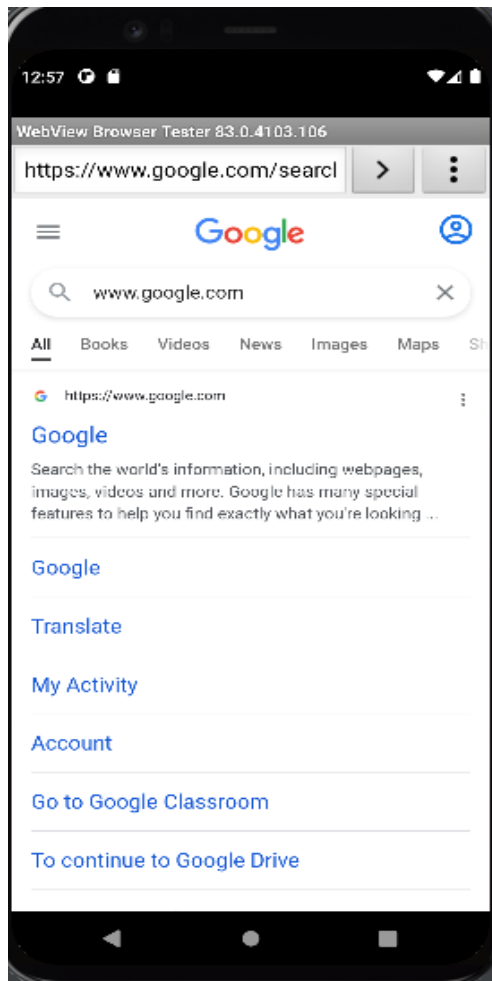
import java.net.URI;

public class MainActivity extends AppCompatActivity {
    Button b;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        b=findViewById(R.id.bt);
        b.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent i=new Intent(Intent.ACTION_VIEW,
Uri.parse("https://www.google.com/search?q=www.google.com&rlz=1C1OKWM_enIN980I
N980&ei=roS5YeOpIMyfseMPlfqGgAk&oq=www.&gs_lcp=Cgdnd3Mtd2l6EAMYADILC
AAQgAQQsQMqgwEyBQgAEIAEMgUIABCABDILCAAQgAQQsQMqgwEyCAgAEIA
EELEDmgsIABCABBCxAxCDATIFCAAQgAQyBQgAEIAEMgUIABCABDIFCAAQgA
Q6BQguEIAEOgcIABCxAxBDSgQIQRgASgQIRhgAUJgeWMclYIByaAFwAngAgAFqiA
GOA5IBAzIuMpgBAKABAbABAMABAQ&sclient=gws-wiz"));
                startActivity(i);
            }
        });
    }
}

```

Output:



Program no :11**Aim :**

Develop application that works with explicit intents.

activity_main.xml :

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

```
<Button
    android:id="@+id/bt"
    android:layout_width="102dp"
    android:layout_height="39dp"
    android:text="Next"
    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="0.618" />
```

```
<EditText
    android:id="@+id/ed1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textPersonName"
    android:hint="Enter Name :"
    app:layout_constraintBottom_toBottomOf="parent"
```

```

app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.398"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.134" />

```

<EditText

```

android:id="@+id/ed2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:inputType="number"
android:hint="Enter phone number : "
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.398"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.262" />

```

<EditText

```

android:id="@+id/ed3"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:inputType="textPersonName"
android:hint="Enter Emailid : "
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.398"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.383" />

```

</androidx.constraintlayout.widget.ConstraintLayout>

MainActivity.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 e1;
    EditText e2;
    EditText e3;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ActionBar action=getSupportActionBar();
        action.setTitle("First Intent Activity");
        b=findViewById(R.id.bt);
        e1=findViewById(R.id.ed1);
        e2=findViewById(R.id.ed2);
        e3=findViewById(R.id.ed3);
        b.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent i=new Intent(MainActivity.this,MainActivity2.class);

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

```

```

        i.putExtra("uname",uname);
        String phone=e2.getText().toString();
        i.putExtra("phone",phone);
        String email=e3.getText().toString();
        i.putExtra("email",email);
        startActivity(i);
    }
});
}
}

```

activity_main2.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=".MainActivity2">

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

```

package com.example.explicitintent;

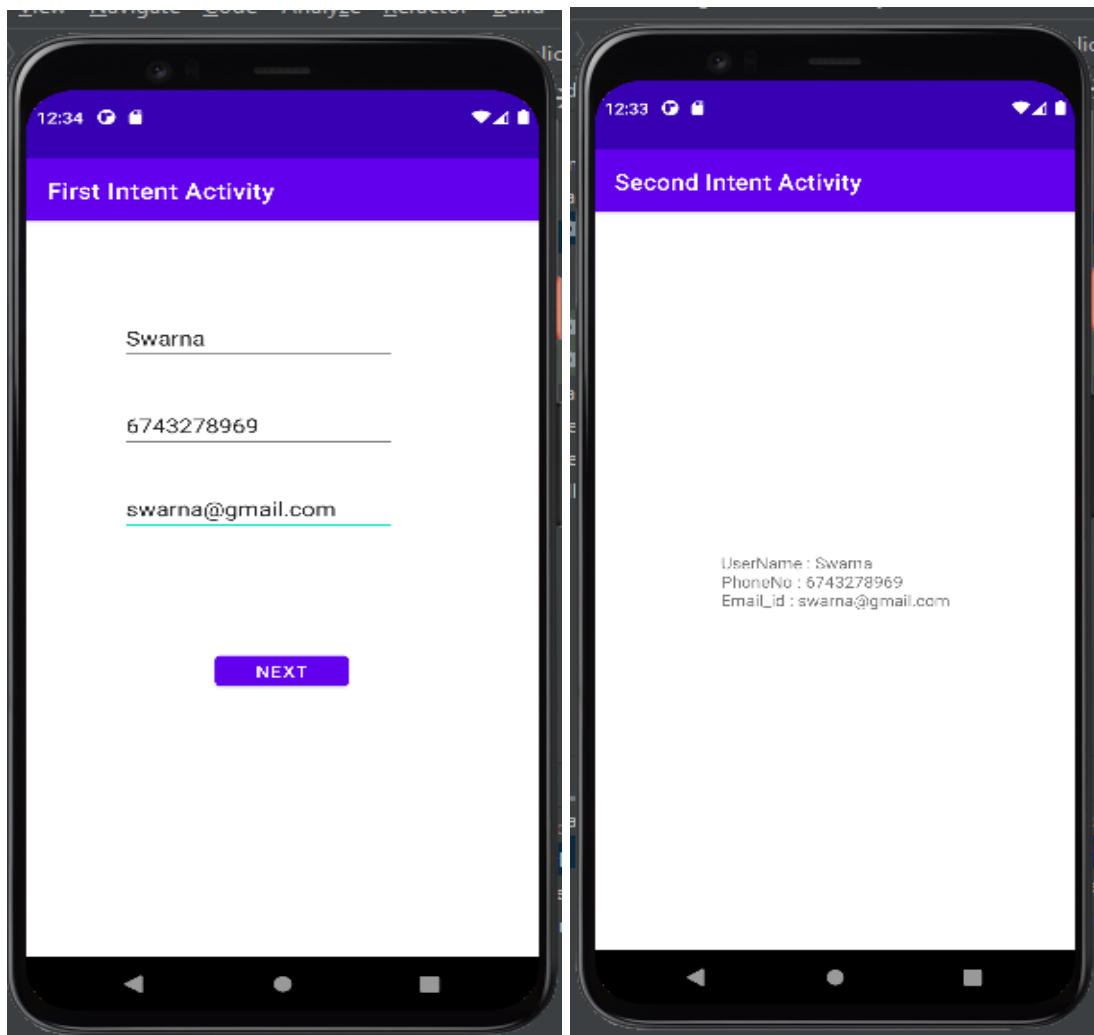
```

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

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

public class MainActivity2 extends AppCompatActivity {
    TextView t;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        ActionBar action=getSupportActionBar();
        action.setTitle("Second Intent Activity");
        t=findViewById(R.id.tv);
        Intent i=getIntent();
        String s1=i.getStringExtra("uname");
        String s2=i.getStringExtra("phone");
        String s3=i.getStringExtra("email");
        t.setText("UserName : "+s1+"\nPhoneNo : "+s2+"\nEmail_id : "+s3);
    }
}
```

Output:



Program no :12**Aim :**

Implement Options Menu to navigate to activities.

activity_main.xml :

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

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="102dp"
        android:layout_marginTop="179dp"
        android:layout_marginEnd="101dp"
        android:layout_marginBottom="461dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:srcCompat="@drawable/about" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java :

```
package com.example.menu;

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.Toast;

public class MainActivity extends AppCompatActivity {

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

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

    @Override
    public boolean onOptionsItemSelected(MenuItem item) {
        switch (item.getItemId()){
            case R.id.item1:
                Toast.makeText(getApplicationContext(),"about",Toast.LENGTH_LONG).show();
                Intent i=new Intent(MainActivity.this,MainActivity2.class);
                startActivity(i);
                return true;
            case R.id.item2:
                Toast.makeText(getApplicationContext(), "help", Toast.LENGTH_LONG).show();
                return true;
            default:
                return super.onOptionsItemSelected(item);
        }
    }
}

```



```

    }
}

```

menu.xml

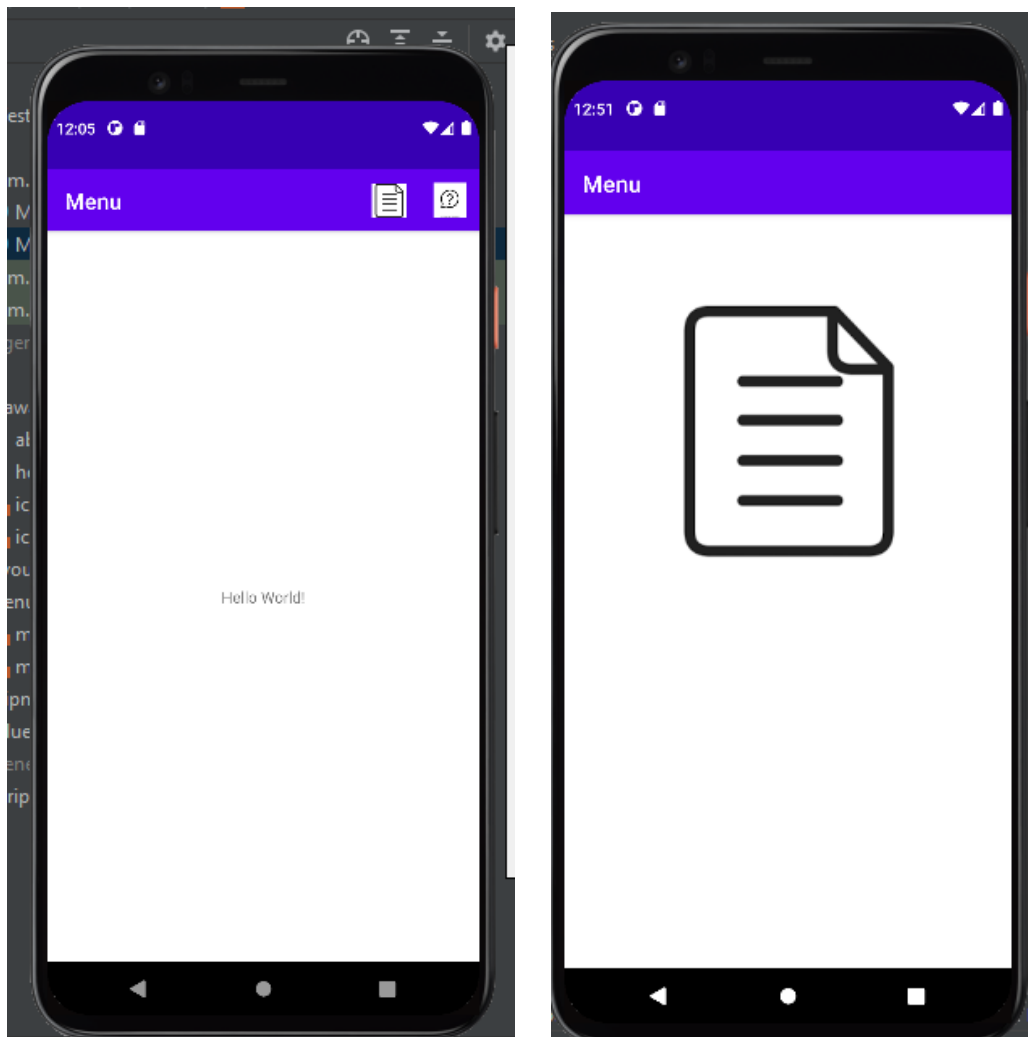
```

<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item android:id="@+id/item1"

        android:title="about"
        android:icon="@drawable/about"/>
    <item android:id="@+id/item2"
        android:title="help"
        android:icon="@drawable/help"/>
</menu>

```

Output:



Program no :13**Aim :**

Develop an application that uses ArrayAdapter with ListView.

activity_main.xml :

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

    <ListView
        android:id="@+id/l1"
        android:layout_width="245dp"
        android:layout_height="403dp"
        android:layout_marginStart="1dp"
        android:layout_marginTop="1dp"
        android:layout_marginEnd="1dp"
        android:layout_marginBottom="1dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.439"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.343" />

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

MainActivity.java :

```
package com.example.listview;
```

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

```

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

public class MainActivity extends AppCompatActivity {
    ListView l;
    String countries[]={ "china","america","india"};

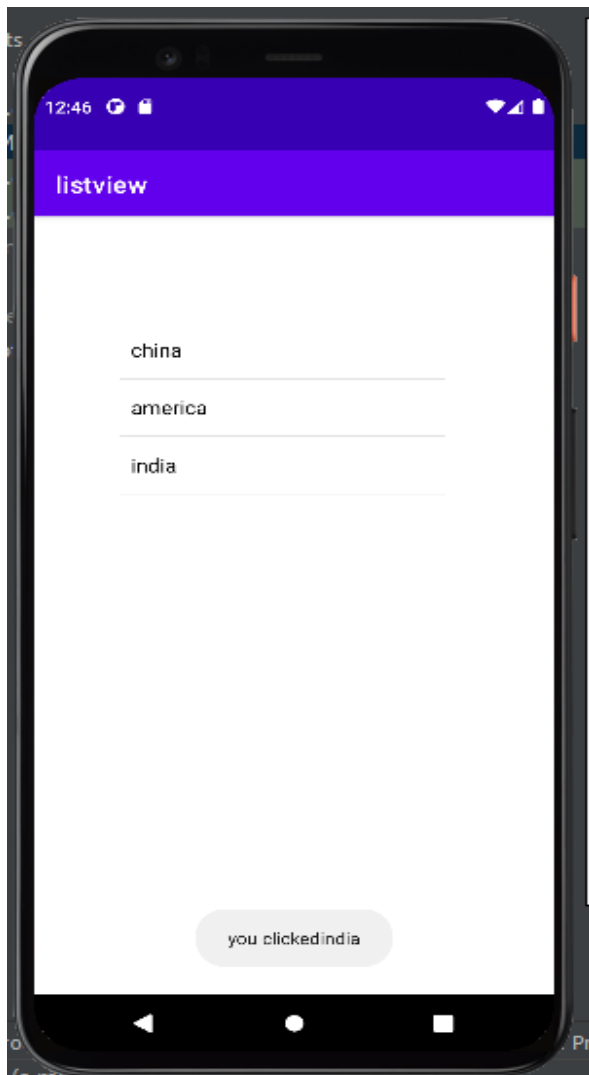
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        l=findViewById(R.id.l);

        ArrayAdapter arrayAdapter=new
        ArrayAdapter<String>(MainActivity.this,R.layout.support_simple_spinner_dropdown_item,c
        ountries);
        l.setAdapter(arrayAdapter);
        l.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> parent, View view, int position, long id) {
                Toast.makeText(getApplicationContext(),"you clicked"
+countries[position],Toast.LENGTH_LONG).show();

            }
        });
    }
}

```

Output:



Program no :14**Aim :**

Develop an application that use GridView with images and display Alert box on selection.

activity_main.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:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:id="@+id/grid"
        android:numColumns="3">

        </GridView>
    </LinearLayout>
```

MainActivity.java :

```
package com.example.gridview;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.widget.GridView;

public class MainActivity extends AppCompatActivity {

    GridView gridView;

    String img[]={ "img1","img2","img3","img4","img5","img6","img7","img8" };

    int
```

```
imgg[]={ R.drawable.img,R.drawable.img_1,R.drawable.img_2,R.drawable.img_3,R.drawable.img_4,
R.drawable.img_5,R.drawable.img_6,R.drawable.img_7};
```

```
@Override
```

```
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    gridView=findViewById(R.id.grid);
    CustomAdaptor customAdaptor=new CustomAdaptor(MainActivity.this,img,imgg);
    gridView.setAdapter(customAdaptor);
}
```

grid layout.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/text"
        android:textSize="20dp"/>

</LinearLayout>
```

CustomAdaptor.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;

public class CustomAdaptor extends BaseAdapter {

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

    public CustomAdaptor(MainActivity mainActivity, String[] img, int[] ing) {
        this.context=mainActivity;
        this.img=img;
        this.ing=ing;
        layoutInflater=(LayoutInflater.from(mainActivity));
    }

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

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

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

    @Override
    public View getView(int position, View convertView, ViewGroup viewGroup) {
        convertView=layoutInflater.inflate(R.layout.grid_layout,null);

```

```

TextView textView=(TextView)convertView.findViewById(R.id.text);
ImageView imageView=(ImageView) convertView.findViewById(R.id.img1);

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

return convertView;

}
}

```

Output:



Program no :15**Aim :**

Develop an application that implements Spinner component and perform event handling.

activity_main.xml :

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

    <Spinner
        android:id="@+id/spinner"
        android:layout_width="290dp"
        android:layout_height="wrap_content"
        android:layout_marginStart="29dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

MainActivity.java :

```
package com.example.spinner2;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
```

```

import android.widget.Spinner;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    Spinner spinner;
    String course[]={ "MCA", "MTech", "BTech" };
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        spinner=findViewById(R.id.spinner);

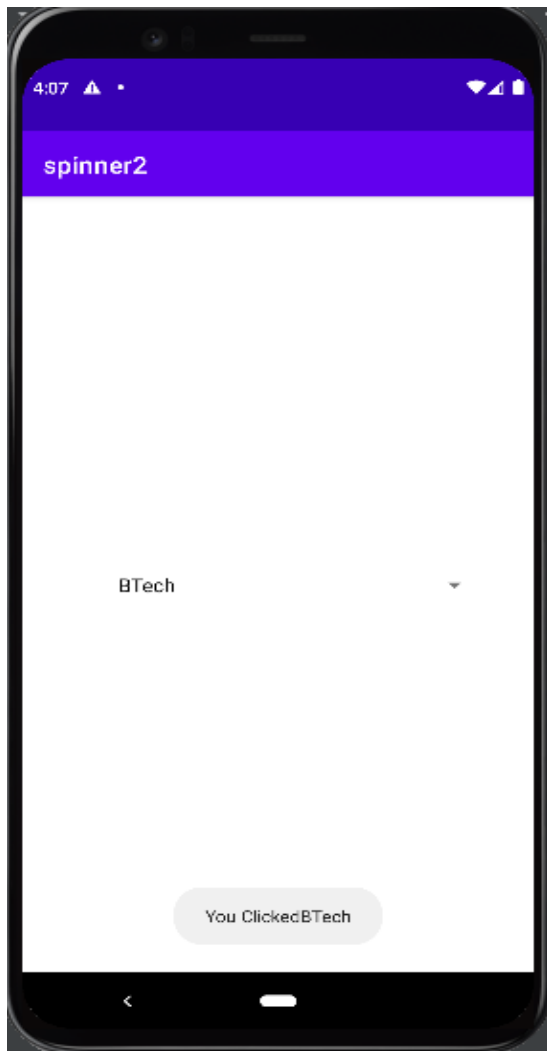
        ArrayAdapter arrayAdapter=new
        ArrayAdapter(this,R.layout.support_simple_spinner_dropdown_item,course);
        spinner.setAdapter(arrayAdapter);

        spinner.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> parent, View view, int position, long id)
        {
            Toast.makeText(getApplicationContext(), "You Clicked"+course[position],
            Toast.LENGTH_SHORT).show();
        }

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

```

Output:



Program no :16**Aim :**

Apply themes via code and manifest file .

activity_main.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=".MainActivity">

    <EditText
        android:id="@+id/editTextTextPersonName"
        android:layout_width="300dp"
        android:layout_height="90dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="Enter a Name"
        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="0.333" />

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

MainActivity.java :

```
package com.example.themes_c04;
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);
    }
}
```

new_style.xml :

```
<resources xmlns:tools="http://schemas.android.com/tools">
    <!-- Base application theme. -->
    <style name="Theme.new_style"
parent="Theme.MaterialComponents.DayNight.DarkActionBar">
        <item name="colorPrimary">@color/colorPrimary</item>
        <item name="colorPrimaryDark">@color/color_Primary_dark</item>
        <item name="colorAccent">@color/color_accent</item>
        <item name="android:textColorPrimary">@color/colo_txt</item>
        <item name="android:textSize">40dp</item>
    </style>
</resources>
```

colors.xml :

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="colorPrimary">#008040</color>
    <color name="color_Primary_dark">#ffccdd</color>
    <color name="color_accent">#004466</color>
    <color name="colo_txt">#ff1a75</color>
</resources>
```

Output

hemes_c04

Hai Iam Swarna



Program no :17**Aim :**

Develop application using Fragments.

activity_main.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:layout_width="match_parent"
        android:layout_height="0dp"
        android:layout_weight="4"
        android:background="@color/teal_700"
        android:id="@+id/frameLayout"/>

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="0dp"
        android:layout_weight="1">

        <Button
            android:layout_width="160dp"
            android:layout_height="50dp"
            android:id="@+id/f1"
            android:text="fragment1"
            android:layout_alignParentBottom="true"
            android:layout_marginStart="30dp"
            android:layout_marginBottom="30dp"/>
```

```

<Button
    android:layout_width="160dp"
    android:layout_height="50dp"
    android:id="@+id/f2"
    android:text="fragment2"
    android:layout_alignParentBottom="true"
    android:layout_alignParentRight="true"
    android:layout_marginRight="30dp"
    android:layout_marginBottom="30dp"/>
</RelativeLayout>
</LinearLayout>

```

MainActivity.java :

```

package com.example.fragmentapp;

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 {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button b1=findViewById(R.id.f1);
        Button b2=findViewById(R.id.f2);

        b1.setOnClickListener(new View.OnClickListener() {
            @Override

```



```

        public void onClick(View view) {
            replaceFragment(new fragment1());
        }
    });
    b2.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            replaceFragment(new fragment2());
        }
    });
}

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

```

fragment fragment1.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_200"
    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>
```

fragment1.java :

```

package com.example.fragmentapp;
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);
    }
}

```

fragment fragment2.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_200"
    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>
```

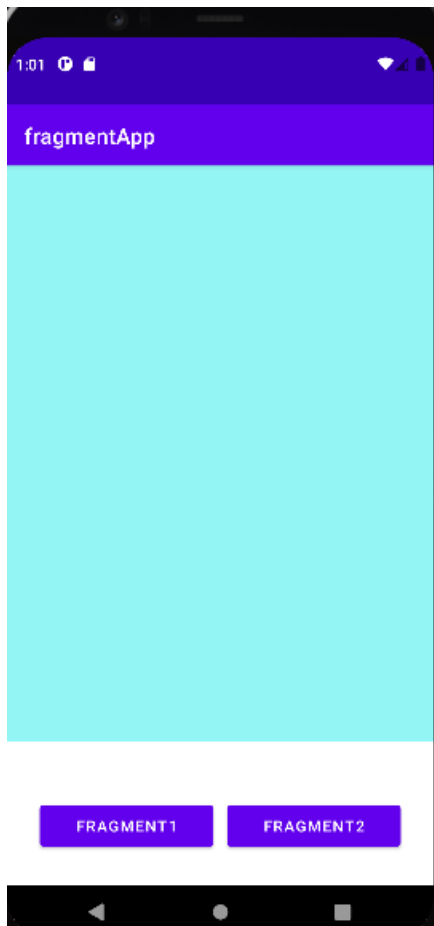
Fragment2.java :

```

package com.example.fragmentapp;
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

activity_main.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/nav_id"
    tools:context=".MainActivity">
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="vertical">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Navigation"
        android:textSize="20dp"
        android:textAlignment="center"
        android:layout_gravity="center"/>
</LinearLayout>
<com.google.android.material.navigation.NavigationView
    android:layout_width="wrap_content"
    android:layout_height="match_parent"
    android:layout_gravity="start"
    app:menu="@menu/nav"/>
</androidx.drawerlayout.widget.DrawerLayout>
```

MainActivity.java :

```
package com.example.navigationdr;
```

```

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;

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

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

        getSupportActionBar().setDisplayHomeAsUpEnabled(true);

    }

    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        if(actionBarDrawerToggle.onOptionsItemSelected(item))
        {

```

```

        return true;
    }
    return super.onOptionsItemSelected(item);
}
}

```

nav.xml:

```

<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
<item
    android:id="@+id/acc"
    android:title="My Account"
    android:icon="@drawable/img_3"/>
<item
    android:id="@+id/sett"
    android:title="Settings"
    android:icon="@drawable/img_1"/>
<item
    android:id="@+id/log"
    android:title="Logout"
    android:icon="@drawable/img_2"/>
</menu>

```

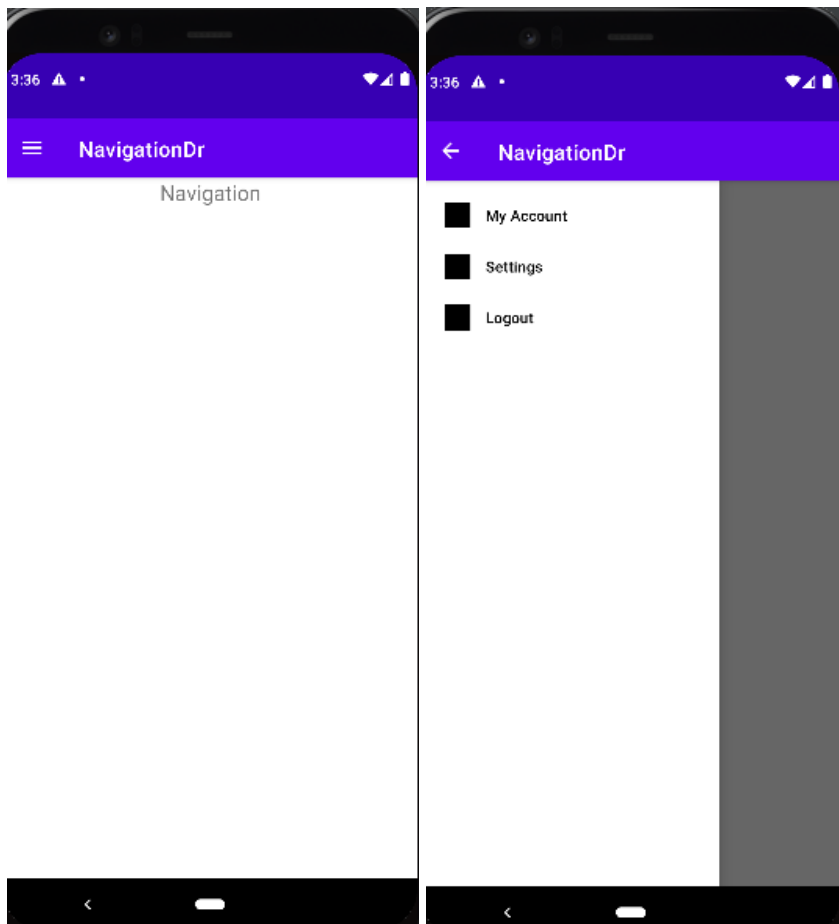
nav.xml:

```

<resources>
    <string name="app_name">NavigationDr</string>
    <string name="nav_open">Open</string>
    <string name="nav_close">Close</string>
</resources>

```

Output:



Program no :19**Aim :**

Create database using SQLite and perform INSERT and SELECT.

activity_main.xml :

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

    <TextView
        android:id="@+id/t11"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="34dp"
        android:layout_marginTop="49dp"
        android:layout_marginEnd="319dp"
        android:layout_marginBottom="18dp"
        android:text="NAME"
        app:layout_constraintBottom_toTopOf="@+id/e11"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <EditText
        android:id="@+id/e11"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="40dp"
        android:layout_marginTop="18dp"
```

```

    android:layout_marginEnd="161dp"
    android:layout_marginBottom="600dp"
    android:ems="10"
    android:inputType="textPersonName"
    android:text=""
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/t11" />

```

<TextView

```

    android:id="@+id/t22"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="40dp"
    android:layout_marginTop="37dp"
    android:layout_marginEnd="313dp"
    android:layout_marginBottom="534dp"
    android:text="ADDRESS"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/e11" />

```

<EditText

```

    android:id="@+id/e22"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="37dp"
    android:layout_marginTop="24dp"
    android:layout_marginEnd="164dp"
    android:layout_marginBottom="465dp"
    android:ems="10"
    android:inputType="textPersonName"

```

```

    android:text=""
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/t22" />

```

```
<Button
```

```

    android:id="@+id/b1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="153dp"
    android:layout_marginTop="107dp"
    android:layout_marginEnd="164dp"
    android:layout_marginBottom="310dp"
    android:text="SAVE"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/e22" />

```

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

MainActivity.java :

```
package com.example.database;
```

```
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 t1;
```

```

TextView t2;
EditText e1;
EditText e2;
Button b;
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    e1=findViewById(R.id.e11);
    e2=findViewById(R.id.e22);
    b=findViewById(R.id.b1);
    dbHelper db=new dbHelper(this);
    b.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String s1=e1.getText().toString();
            String s2=e2.getText().toString();
            db.insert(s1,s2);

        }
    });
}
}

```

dbHelper.java:

```

package com.example.database;

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

import androidx.annotation.Nullable;

```

```

public class dbHelper extends SQLiteOpenHelper {

    private static String dbName="student1";
    private static int dbVersion=2;

    SQLiteDatabase db;

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

    @Override
    public void onCreate(SQLiteDatabase db) {
        db.execSQL("create table tbl_student1(sid integer primary key autoincrement,sname
varchar(50),saddress varchar(50))");
    }

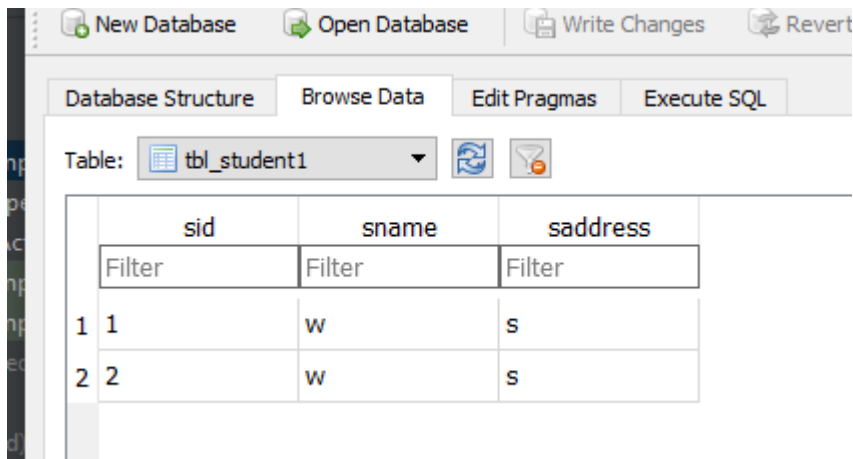
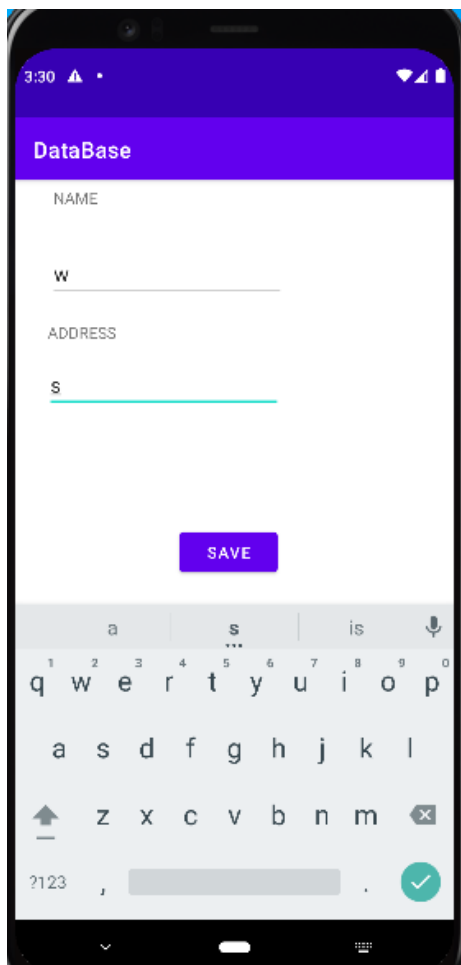
    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {

    }

    public void insert(String name,String address){
        db=getWritableDatabase();
        ContentValues data=new ContentValues();
        data.put("sname",name);
        data.put("saddress",address);
        db.insert("tbl_student1",null,data);
    }
}

```

Output:



Program no :20**Aim :**

Perform UPDATE and DELETE on SQLite database.

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: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>

```

MainActivity.java :

```

package com.example.dboperationcrud;

import androidx.appcompat.app.AppCompatActivity;
import androidx.appcompat.app.AlertDialog;
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, "Entry 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, "Entry 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("Details");
builder.setMessage(buffer.toString());
builder.show();
}
});
}
}

```

DBhelper.java:

```

package com.example.dboperationcrud;

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

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;
    }
}

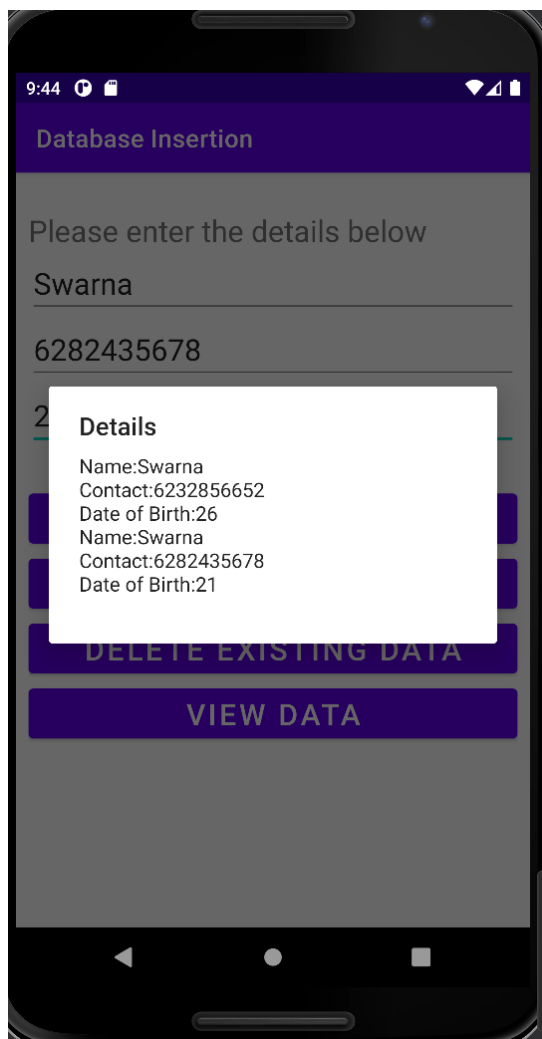
public Boolean deletedata(String name){
    SQLiteDatabase DB=this.getWritableDatabase();
    Cursor cursor=DB.rawQuery("Select * from Userdetails where name=?", new
String[]{name});
    if(cursor.getCount()>0) {
        long result = DB.delete("Userdetails", "name=?", new String[]{name});
        if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

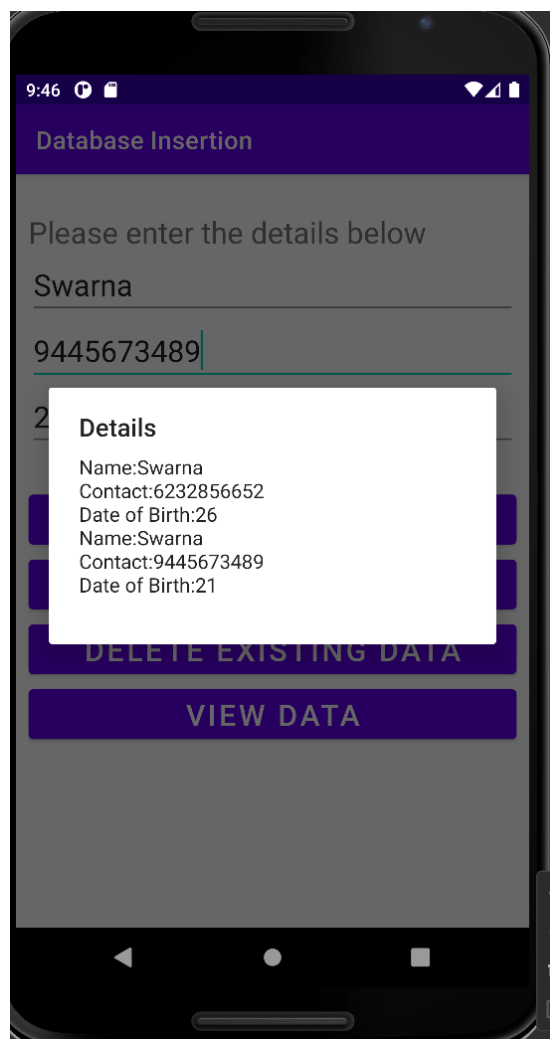
```

Output:

Insert-view



Update



Delete

