

20MCA243 MOBILE APPLICATION DEVELOPMENT LAB

Lab Report Submitted By

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Reg. No.: AJC20MCA-2039

In Partial fulfillment for the Award of the Degree Of

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

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

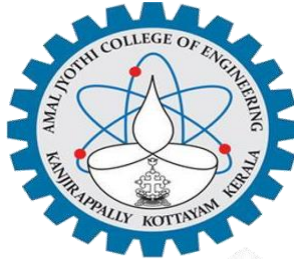


**AMAL JYOTHI COLLEGE OF ENGINEERING
KANJIRAPPALLY**

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686518]

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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 **GOPIKA DAS(Reg.No:AJC20MCA-2039)** 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: Program to develop the android mobile application which consist of GUI components for Login Page creation.

XML Code:

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

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical">

    <TextView
        android:id="@+id/l1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:gravity="center"
        android:text="Login"
        android:textColor="#630DFB"
        android:textSize="50dp"
        tools:layout_editor_absoluteX="31dp"
        tools:layout_editor_absoluteY="39dp" />

    <EditText
        android:id="@+id/e1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
```

```

        android:inputType="textPersonName"
        android:minHeight="48dp"
        android:text="User Name" />
    <EditText
        android:id="@+id/e2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPassword"
        android:minHeight="48dp"
        android:text="Password" />
    <Button
        android:id="@+id/b1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="right"
        android:text="Login" />
</LinearLayout>

```

Java Code:

```

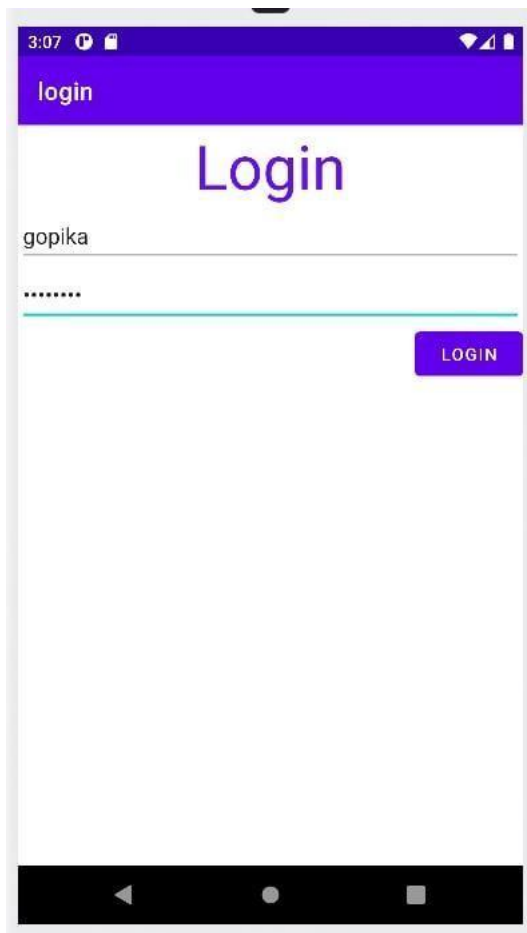
package com.example.login;

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

public class MainActivity extends AppCompatActivity {

```

```
private TextView l;  
private EditText e1;  
private EditText e2;  
private Button b1;  
  
@Override  
protected void onCreate(Bundle savedInstanceState) {  
    super.onCreate(savedInstanceState);  
    setContentView(R.layout.activity_main);  
    b1=findViewById(R.id.b1);  
    e1=findViewById(R.id.e1);  
    e2=findViewById(R.id.e2);  
}  
}
```

OUTPUT

Program no:2

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

XML Code:

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

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

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    tools:context=".MainActivity"

    android:orientation="vertical"

    android:background="#DFF6C4">

    <EditText

        android:id="@+id/text1"

        android:layout_width="261dp"

        android:layout_height="78dp"

        android:background="@color/teal_700"

        android:hint="Write here!"

        android:textSize="25dp"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintLeft_toLeftOf="parent"

        app:layout_constraintRight_toRightOf="parent"

        app:layout_constraintTop_toTopOf="parent" />

    <Button

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

```

    android:layout_width="match_parent"
    android:layout_height="71dp"
    android:gravity="center"
    android:text="Print" />
<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
</LinearLayout>

```

Java Code:

```

package com.example.textview;

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 {

    private EditText t1;

    private TextView t2;

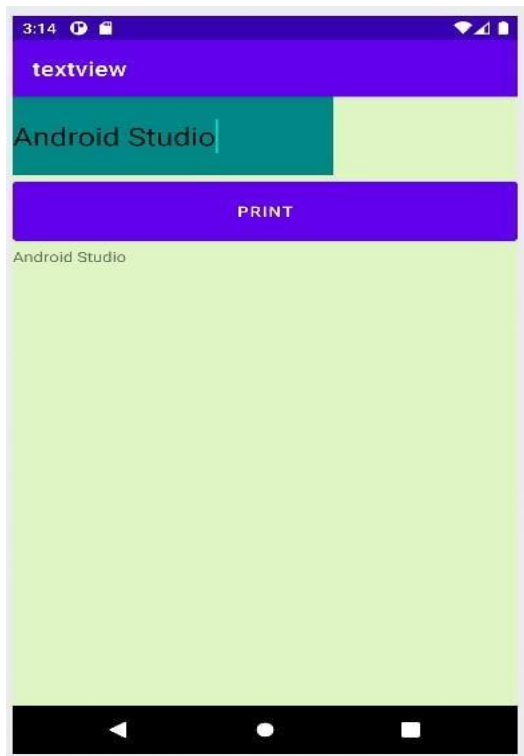
    private Button b1;

    @Override

```

```
protected void onCreate(Bundle savedInstanceState) {  
    super.onCreate(savedInstanceState);  
    setContentView(R.layout.activity_main);  
    t1=findViewById(R.id.text1);  
    t2=findViewById(R.id.textView2);  
    b1=findViewById(R.id.button);  
    b1.setOnClickListener(new View.OnClickListener() {  
        @Override  
        public void onClick(View v) {  
            String value = t1.getText().toString();  
            t2.setText(String.valueOf(value));  
        }  
    });  
}
```

OUTPUT



Program no:3

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

XML Code:

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

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

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

    tools:context=".MainActivity"

    android:orientation="vertical"

    android:background="#000">

    <androidx.cardview.widget.CardView

        android:layout_margin="64dp"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        card_view:cardCornerRadius="8dp"

        card_view:cardElevation="8dp"

        android:background="#fff">

        <LinearLayout

            android:layout_width="match_parent"

            android:layout_height="wrap_content"

            android:orientation="vertical"
```

```
android:padding="24dp">
```

```
<TextView
```

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

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

```
    android:text="Login"
```

```
    android:textSize="36sp"
```

```
    android:textAlignment="center"
```

```
    android:layout_gravity="center_horizontal" />
```

```
<TextView
```

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

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

```
    android:textSize="22sp"
```

```
    android:text="username"
```

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

```
<EditText
```

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

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

```
    android:inputType="text"
```

```
    android:id="@+id/activity_main_usernameEditText" />
```

```
<TextView
```

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

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

```

        android:textSize="22sp"
        android:text="password"
        android:textColor="@color/black"/>

```

```

<EditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:inputType="textPassword"
    android:id="@+id/activity_main_passwordEditText" />

```

```

<Button
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:id="@+id/activity_main_loginButton"
    android:text="login"
    android:textSize="22sp"/>

```

```

</LinearLayout>

```

```

</androidx.cardview.widget.CardView>

```

```

</LinearLayout>

```

Java Code:

```

package com.example.androidloginform;

import androidx.appcompat.app.AppCompatActivity;

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 {
```

```
    private EditText usernameEditText;
```

```
    private EditText passwordEditText;
```

```
    private Button loginButton;
```

```
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState) {
```

```
        super.onCreate(savedInstanceState);
```

```
        setContentView(R.layout.activity_main);
```

```
        usernameEditText = findViewById(R.id.activity_main_usernameEditText);
```

```
        passwordEditText = findViewById(R.id.activity_main_passwordEditText);
```

```
        loginButton = findViewById(R.id.activity_main_loginButton);
```

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

```
            @Override
```

```
            public void onClick(View v) {
```

```
                if (usernameEditText.getText().length() > 0 &&  
passwordEditText.getText().length() > 0) {
```

```
                    String toastMessage = "Username: " + usernameEditText.getText().toString()  
+ ", Password: " + passwordEditText.getText().toString();
```

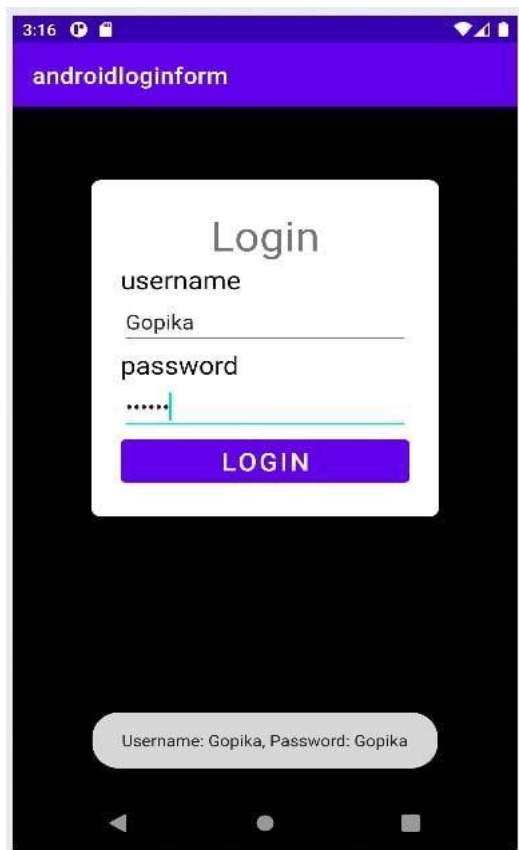
```
                    Toast.makeText(getApplicationContext(), toastMessage,  
Toast.LENGTH_SHORT).show();
```

```
                } else {
```

```
                    String toastMessage = "Username or Password are not populated";
```

```
        Toast.makeText(getApplicationContext(), toastMessage,  
        Toast.LENGTH_SHORT).show();  
    }  
}  
});  
}  
}
```

OUTPUT



Program no:4

Aim: Implementing basic arithmetic operations of a simple calculator

XML Code:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:padding="20dp"
    android:orientation="vertical"
    android:background="@color/pastel">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="CALCULATOR"
        android:textSize="25sp"
        android:layout_marginBottom="16dp"
        android:textColor="@android:color/black" />

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:layout_marginBottom="20dp">

        <EditText
            android:id="@+id/first_no"
            android:layout_width="102dp"
            android:layout_height="59dp"
```

```
android:ems="10"  
android:layout_marginHorizontal="50dp"  
android:hint="Enter" />
```

```
<EditText  
android:id="@+id/second_no"  
android:layout_width="102dp"  
android:layout_height="59dp"  
android:ems="10"  
android:hint="Enter" />
```

```
</LinearLayout>
```

```
<LinearLayout  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:orientation="horizontal"  
android:layout_marginBottom="20dp">
```

```
<TextView  
android:textSize="35sp"  
android:id="@+id/answer"  
android:layout_width="102dp"  
android:layout_height="59dp"  
android:layout_marginHorizontal="50dp"  
android:hint="ans" />
```

```
</LinearLayout>
```

```
<LinearLayout  
android:orientation="vertical"  
android:layout_marginLeft="250dp"  
android:layout_width="wrap_content"
```

```
android:layout_height="wrap_content"  
android:layout_marginBottom="30dp">
```

```
<Button  
android:id="@+id/sub"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:text="-"  
android:textSize="25sp"  
android:layout_marginBottom="16dp" />
```

```
<Button  
android:id="@+id/add"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:layout_marginBottom="16dp"  
android:text="+"  
android:textSize="25sp"  
tools:ignore="OnClick" />
```

```
<Button  
android:id="@+id/div"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:text="/"   
android:textSize="25sp"  
android:layout_marginBottom="16dp" />
```

```
<Button  
android:id="@+id/mul"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:layout_marginBottom="16dp"
```

```

android:text="X"
android:textSize="25sp"/>

<Button
android:id="@+id/equals"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginBottom="16dp"
android:text="="
android:textSize="35sp"/>
</LinearLayout>

```

```

</LinearLayout>

```

Java Code:

```

package com.example.calculator;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.TextView;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    EditText no1 , no2;

    Button add ,mul ,div , sub,equal;

    TextView answer;

    double ans = 0;

    @Override

```

```

protected void onCreate(Bundle savedInstanceState) {

    super.onCreate(savedInstanceState);

    setContentView(R.layout.activity_main);

    // for text views

    no1 = findViewById(R.id.first_no);
    no2 = findViewById(R.id.second_no);


    // for button with operations

    add = findViewById(R.id.add);
    mul = findViewById(R.id.mul);
    div = findViewById(R.id.div);
    sub = findViewById(R.id.sub);

    // for equal to button

    equal = findViewById(R.id.equals);

    // for answer field

    answer = findViewById(R.id.answer);

    add.setOnClickListener(new View.OnClickListener() {

        @Override

        public void onClick(View v) {

            String num1 = no1.getText().toString();

            String num2 = no2.getText().toString();

            if (num1.isEmpty() || num2.isEmpty()) {

                Toast.makeText(getApplicationContext(),"Enter
Numbers",Toast.LENGTH_SHORT).show();

            }

            else {

                double a = Double.parseDouble(no1.getText().toString());

```

```

        double b = Double.parseDouble(no2.getText().toString());

        ans = a + b;

    }

}

});

sub.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        String num1 = no1.getText().toString();

        String num2 = no2.getText().toString();

        if (num1.isEmpty() || num2.isEmpty()) {

            Toast.makeText(getApplicationContext(),"Enter
Numbers",Toast.LENGTH_SHORT).show();

        }

        else {

            double a = Double.parseDouble(no1.getText().toString());

            double b = Double.parseDouble(no2.getText().toString());

            ans = a - b;

        }

    }

});

```

```

mul.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        String num1 = no1.getText().toString();

        String num2 = no2.getText().toString();

```

```

        if (num1.isEmpty() || num2.isEmpty()) {
            Toast.makeText(getApplicationContext(), "Enter
Numbers", Toast.LENGTH_SHORT).show();
        }
        else {
            double a = Double.parseDouble(no1.getText().toString());
            double b = Double.parseDouble(no2.getText().toString());
            ans = a * b;
        }
    }
});

div.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String num1 = no1.getText().toString();
        String num2 = no2.getText().toString();

        if (num1.isEmpty() || num2.isEmpty()) {
            Toast.makeText(getApplicationContext(), "Enter Numbers",
Toast.LENGTH_SHORT).show();
        } else {
            double a = Double.parseDouble(no1.getText().toString());
            double b = Double.parseDouble(no2.getText().toString());
            if (b != 0)
                ans = a / b;
        }
    }
});

```

```
        else

            Toast.makeText(getApplicationContext(), "Enter Valid Numbers",
Toast.LENGTH_SHORT).show();

        }

    }

});

equal.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        String ans1 = String.valueOf(ans);

        answer.setText(ans1);

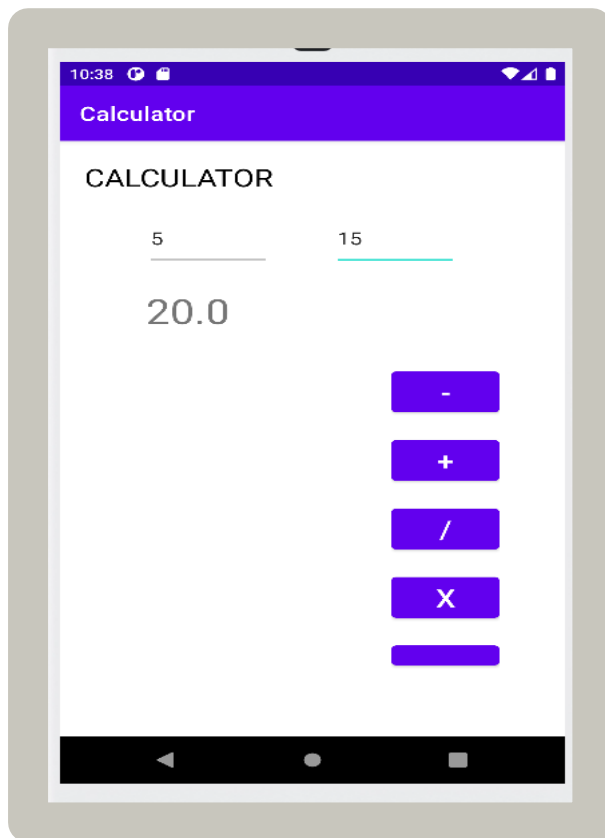
        ans= 0;

    }

});

}

}
```


OUTPUT

Program no:5

Aim: Implement validations on various UI controls

XML Code:

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

<LinearLayout

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:orientation="vertical"

    tools:context=".MainActivity"

    tools:ignore="HardcodedText">

    <EditText

        android:id="@+id/firstName"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:layout_marginStart="16dp"

        android:layout_marginTop="16dp"

        android:layout_marginEnd="16dp"

        android:hint="First Name"

        android:inputType="text" />

    <EditText

        android:id="@+id/lastName"

        android:layout_width="match_parent"
```

```
android:layout_height="wrap_content"
android:layout_marginStart="16dp"
android:layout_marginTop="16dp"
android:layout_marginEnd="16dp"
android:hint="Last Name"
android:inputType="text" />
```

```
<EditText
```

```
    android:id="@+id/email"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginTop="16dp"
    android:layout_marginEnd="16dp"
    android:hint="Email"
    android:inputType="textEmailAddress" />
```

```
<EditText
```

```
    android:id="@+id/password"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginTop="16dp"
    android:layout_marginEnd="16dp"
    android:hint="Password"
    android:inputType="textPassword" />
```

<LinearLayout

```
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="8dp"
    android:gravity="end"
    android:orientation="horizontal">
```

<Button

```
    android:id="@+id/cancelButton"
    style="@style/Widget.AppCompat.Button.Borderless"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="4dp"
    android:text="CANCEL"
    android:textColor="@color/white" />
```

<Button

```
    android:id="@+id/proceedButton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="16dp"
    android:backgroundTint="@color/black"
    android:text="PROCEED"
    android:textColor="@android:color/white"
    tools:ignore="ButtonStyle" />
```

```
</LinearLayout>
```

```
</LinearLayout>
```

Java Code:

```
package com.example.validation;

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 {

    // 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_main);


// 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(MainActivity.this, MainActivity2.class);

```

```

        startActivity(i);
    }
}
});

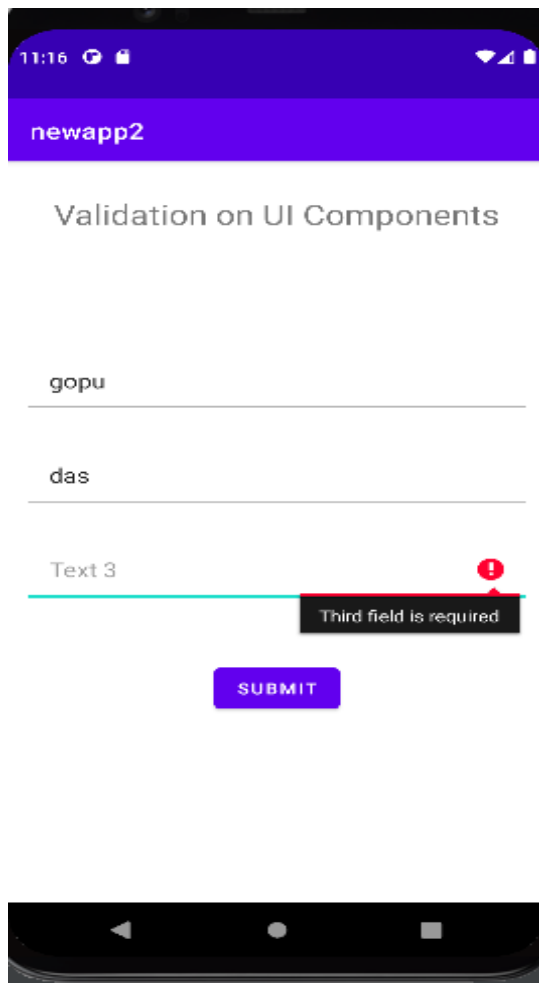
// if user presses the cancel button then close the
// application or the particular activity.
bCancel.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        MainActivity.this.finish();
        System.exit(0);
    }
});
}

// function which checks all the text fields
// are filled or not by the user.
// when user clicks on the PROCEED button
// this function is triggered.
private boolean CheckAllFields() {
    if (etFirstName.length() == 0) {
        etFirstName.setError("This field is required");
        return false;
    }
}

```

```
if (etLastName.length() == 0) {  
    etLastName.setError("This field is required");  
    return false;  
}  
  
if (etEmail.length() == 0) {  
    etEmail.setError("Email is required");  
    return false;  
}  
  
if (etPassword.length() == 0) {  
    etPassword.setError("Password is required");  
    return false;  
} else if (etPassword.length() < 8) {  
    etPassword.setError("Password must be minimum 8 characters");  
    return false;  
}  
  
// after all validation return true.  
return true;  
}  
}
```


OUTPUT



Program no:6

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

XML Code:

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

<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    tools:context=".explicit_intent">

    <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>

```

Display

```

<?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=".display">

```

<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>
```

Java Code:

```

package com.example.sharedpreference;

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;

import android.widget.TextView;

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,display.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();

    }

});

}

}

```

Display

```

package com.example.sharedpreference;

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 display extends AppCompatActivity {

    @Override

    protected void onCreate(Bundle savedInstanceState) {

```

```
super.onCreate(savedInstanceState);

setContentView(R.layout.activity_display);

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","");

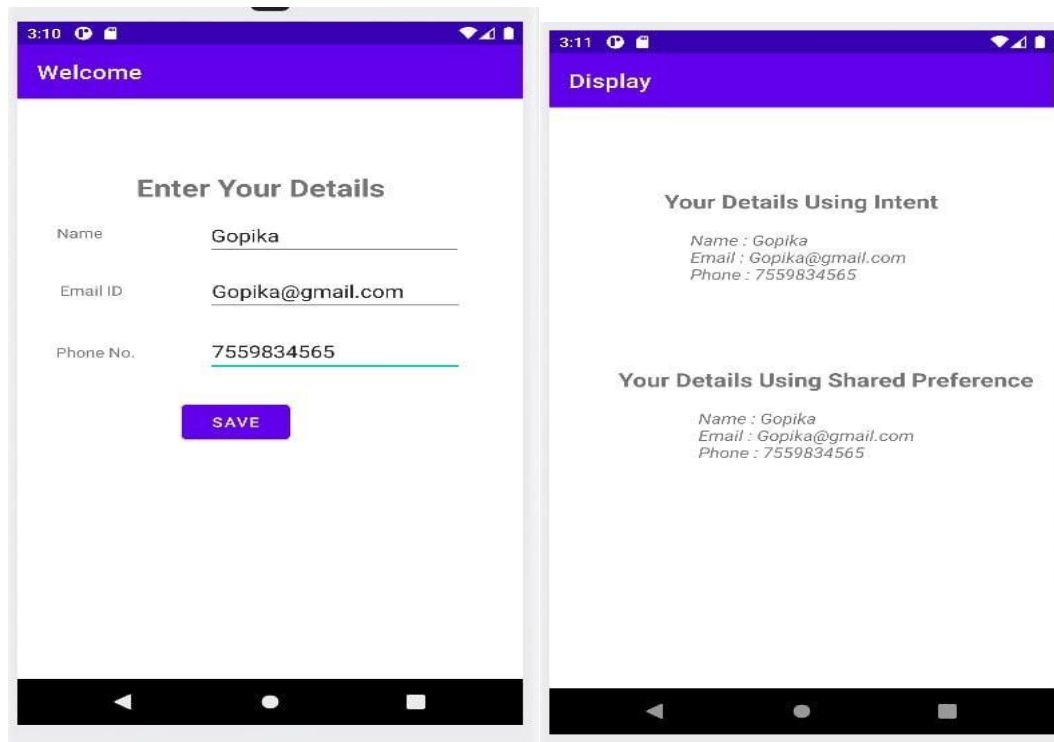
String Phone=sharedPreferences.getString("phone","");

diss1.setText("Name : "+Name+"\nEmail : "+Email+"\nPhone : "+Phone);

}

}
```

OUTPUT



Program no: 07

Aim: Design a simple Calculator using GridLayout and Cascaded LinearLayout

XML Code:

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

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#323030"
    android:layout_gravity="bottom"
    android:gravity="bottom"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <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="9+10"  
    android:textAlignment="textEnd"  
    android:textColor="@color/white"  
    android:textSize="40dp" />
```

```
<TextView  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:layout_marginEnd="20dp"  
    android:text="=19"  
    android:textAlignment="textEnd"  
    android:textColor="@color/white"  
    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="wrap_content"
    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="wrap_content"
    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="wrap_content"

    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="wrap_content"

    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="wrap_content"
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="wrap_content"
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_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="#F86605"
    android:text="/"
    android:textColor="@color/white"
    android:textSize="25dp" />
```

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

```
<Button
    android:id="@+id/b2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
```

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

<Button

```
android:id="@+id/b1"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:layout_margin="10dp"  
android:background="@drawable/bg_button"  
android:text="1"  
android:textColor="@color/white"  
android:textSize="25dp" />
```

<Button

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

<Button

```
    android:id="@+id/b0"
    android:layout_width="wrap_content"
    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="wrap_content"
    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="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
```

```

        android:background="@drawable/bg_button"

        android:text=""

        android:textColor="@color/white"

        android:textSize="25dp" />

```

```
<Button
```

```

        android:id="@+id/bplus"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_margin="10dp"

        android:background="#F86605"

        android:text="+"

        android:textColor="@color/white"

        android:textSize="25dp" />

```

```
</GridLayout>
```

```
</LinearLayout>
```

```
</LinearLayout>
```

Java Code:

```

package com.example.grid_layout;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

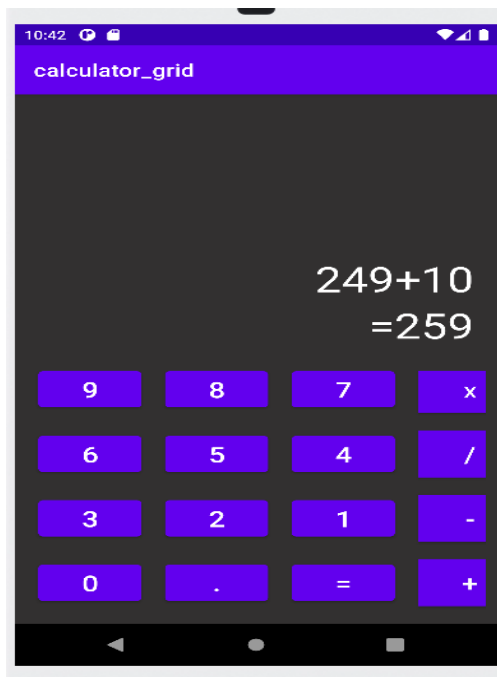
    @Override

    protected void onCreate(Bundle savedInstanceState) {

```

```
super.onCreate(savedInstanceState);  
setContentView(R.layout.activity_main);  
}
```

OUTPUT



Program no: 08

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

XML Code:

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

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

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:background="@color/white"

    tools:context=".MainActivity">

    <LinearLayout

        android:layout_width="match_parent"

        android:layout_height="match_parent"

        android:background="#29487D"

        android:gravity="center|top"

        android:orientation="vertical">

        <LinearLayout

            android:layout_width="wrap_content"

            android:layout_height="wrap_content"

            android:layout_marginTop="70dp"

            android:layout_marginBottom="100dp"

            android:orientation="vertical">
```

```
<TextView  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:fontFamily="@font/fb"  
    android:text="facebook"  
    android:textSize="36dp"  
    android:padding="10dp"  
    android:textColor="@color/white" />
```

```
</LinearLayout>
```

```
<LinearLayout  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:padding="15dp"  
    android:orientation="vertical"  
    android:layout_margin="20dp">  
    <EditText  
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:hint="Email or Phone"  
        android:layout_marginBottom="30dp"  
        android:textColorHint="#594F4F"  
        android:background="@drawable/bg_box"/>
```

```
<EditText  
    android:layout_width="match_parent"
```



```
android:layout_height="wrap_content"  
android:layout_marginBottom="30dp"  
android:background="@drawable/bg_box"  
android:hint="password"  
android:textColorHint="#594F4F"/>
```

```
<Button
```

```
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:text="Log In"  
    android:background="@color/design_default_color_primary"  
    android:textAllCaps="false"/>
```

```
</LinearLayout>
```

```
<LinearLayout
```

```
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:orientation="horizontal"  
    android:layout_marginTop="180dp"  
    android:layout_gravity="bottom"  
    android:gravity="center">
```

```
<TextView
```

```
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:gravity="end"  
    android:textStyle="bold"
```

```

        android:textColor="@color/white"
        android:layout_marginRight="75dp"
        android:layout_weight="50"
        android:text="SignUp for Facebook"/>

```

```

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:gravity="end"
    android:textColor="@color/white"
    android:layout_marginEnd="50dp"
    android:layout_weight="1"
    android:textStyle="bold"
    android:text="?"/>

```

```
</LinearLayout>
```

```
</LinearLayout>
```

```
</LinearLayout>
```

Java Code:

```

package com.example.facebook;

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

public class MainActivity extends AppCompatActivity {

    @Override

    protected void onCreate(Bundle savedInstanceState) {

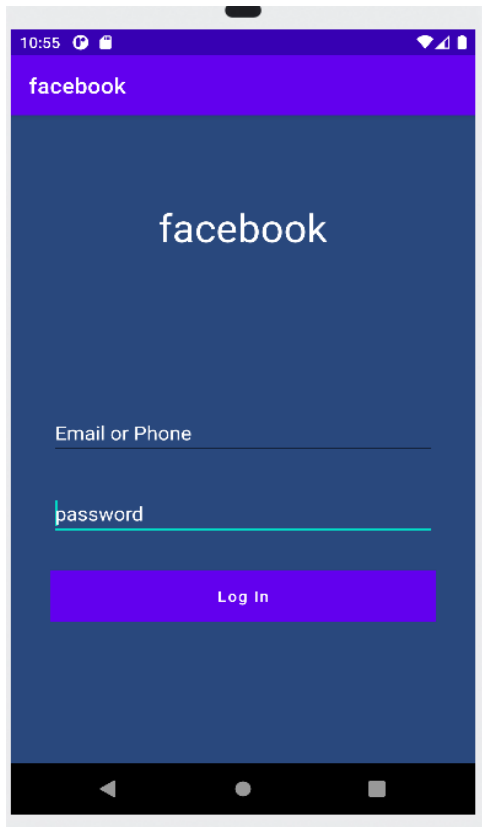
        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);
    }
}

```

```
getSupportActionBar().hide();  
}  
}
```

OUTPUT



Program no: 9

Aim: Develop an application that toggles image using FrameLayout

XML Code:

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

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:layout_gravity="center"

    android:background="@color/teal_700"

    tools:context=".MainActivity">

    <ImageView

        android:id="@+id/image2"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_gravity="center"

        android:src="@drawable/image2"

        android:visibility="gone"/>

    <ImageView

        android:id="@+id/image1"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_gravity="center"

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

</FrameLayout>
```

Java Code:

```
package com.example.frame_layout;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ImageView;

public class MainActivity extends AppCompatActivity implements View.OnClickListener
{
    ImageView img1,img2;

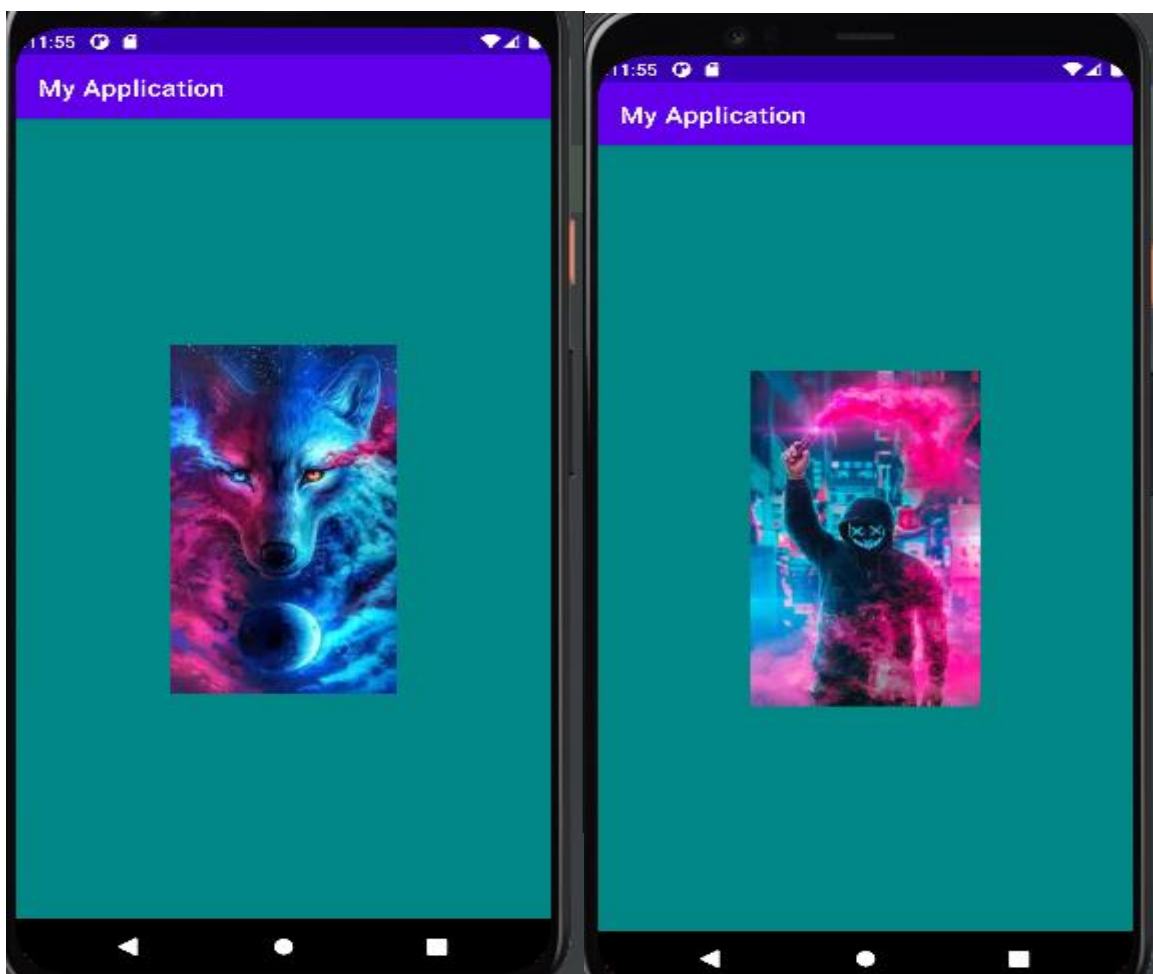
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        img1 =findViewById(R.id.image1);
        img2 =findViewById(R.id.image2);
        img1.setOnClickListener(this);
        img2.setOnClickListener(this);
    }

    public void onClick(View v)
    {
        int id=v.getId();
        switch (id){
            case R.id.image1:
                img1.setVisibility(View.GONE);
                img2.setVisibility(View.VISIBLE);
                break;
```

```
case R.id.image2:  
    img1.setVisibility(View.VISIBLE);  
    img2.setVisibility(View.GONE);  
    break;  
}  
}  
}
```

OUTPUT



Program no: 10**Aim:** Implement Adapters and perform exception handling**XML Code:**

```

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

<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"

    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

        <ListView
            android:layout_width="409dp"
            android:layout_height="354dp"
            tools:layout_editor_absoluteX="1dp"
            tools:layout_editor_absoluteY="1dp"
            android:id="@+id/list1"/>

    </androidx.constraintlayout.widget.ConstraintLayout>

```

Java Code:

```

package com.example.myadapter;

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.ListView;

```

```

import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity implements
    AdapterView.OnItemClickListener {

    ListView
    l1;
    @Override
    e

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

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

        try {

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

            l1.setAdapter(adapter);
            l1.setOnItemClickListener(this);

        }
        catch (Exception e)

        {

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

        }

    }

    @Override

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

```

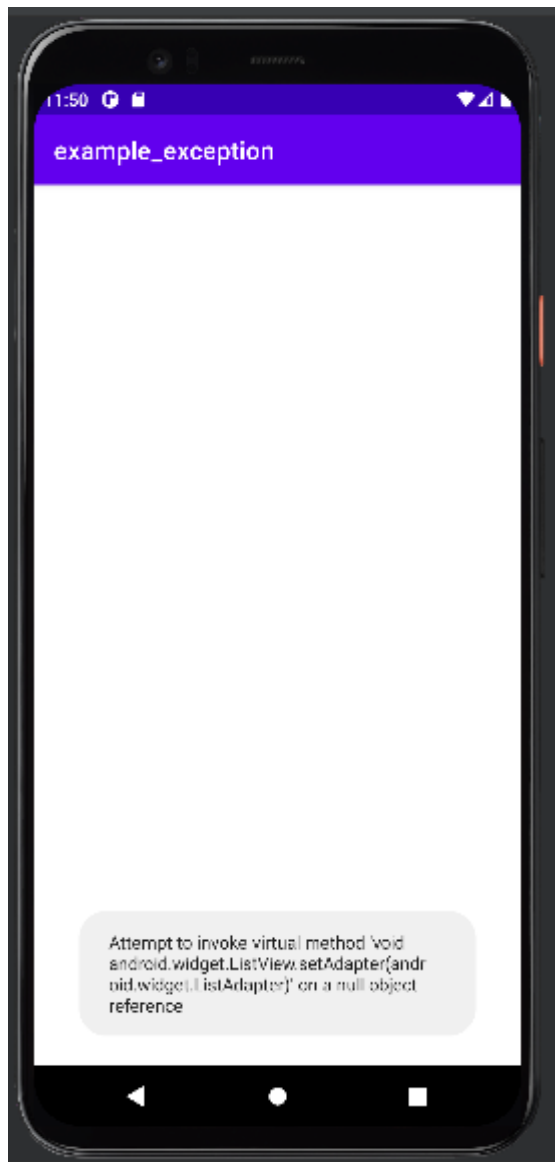


```
TextView tem=(TextView) view;
```

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

```
}
```

OUTPUT



Program no: 11**Aim:** Implement Intent to navigate between multiple activities**XML Code:**

```

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

<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"    android:onClick="callActivity"
    tools:context=".MainActivity">

    <EditText

        android:id="@+id/name"

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"        android:hint="Name"

        android:inputType="textPersonName"

        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.437"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.148" />

    <EditText

        android:id="@+id/address"

        android:layout_width="wrap_content"

```

```

android:layout_height="wrap_content"    android:ems="10"
android:hint="Address"
android:inputType="textPersonName"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.437"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.313" />
    <EditText    android:id="@+id/email"
android:layout_width="wrap_content"
android:layout_height="wrap_content"    android:ems="10"
android:hint="Email"
android:inputType="textPersonName"
android:onClick="callActivity"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.437"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.475" />
    <Button
        android:id="@+id/button"    android:layout_width="wrap_content"
android:layout_height="wrap_content"    android:text="Submit"
        app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.454"
app:layout_constraintStart_toStartOf="parent"

```

```

app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.609" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Activity2 xml code:

```

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

<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"    android:layout_width="match_parent"
android:layout_height="match_parent"

    tools:context=".MainActivity2">

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

app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.459"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.398" />

    <TextView        android:id="@+id/view1"
android:layout_width="189dp"
android:layout_height="36dp"
android:textAlignment="center"

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

```

```

app:layout_constraintHorizontal_bias="0.459"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.22" />

<TextView
    android:id="@+id/view2"    android:layout_width="189dp"
    android:layout_height="36dp"    android:textAlignment="center"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.459"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.306" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Java Code:

```

package com.example.co_q3;

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 b1;

    @Override    protected void onCreate(Bundle
savedInstanceState) {        super.onCreate(savedInstanceState);

```

```

setContentView(R.layout.activity_main);    b1 =
findViewById(R.id.button);

    b1.setOnClickListener(new View.OnClickListener() {

        @Override

        public void onClick(View view) {
callActivity(view);

        }

    });

}

    public void callActivity(View view) {

        Intent i = new Intent(MainActivity.this, MainActivity2.class);    final
EditText editText1 = (EditText)findViewById(R.id.name);    String msg =
editText1.getText().toString();

        final EditText editText2 = (EditText)findViewById(R.id.address);    String add
= editText2.getText().toString();

        final EditText editText3 = (EditText)findViewById(R.id.email);    String em =
editText3.getText().toString();

        i.putExtra("Value1", msg);

        i.putExtra("Value2", add);

i.putExtra("Value3", em); startActivity(i); }}

```

Activity2 Java code:

```

package com.example.co_q3;

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

public class MainActivity2 extends AppCompatActivity {

```

```

    TextView view1;    TextView
view2;    TextView view3;

    @Override

    protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main2);    view1 =
(TextView) findViewById(R.id.view1);    view2 =
(TextView) findViewById(R.id.view2);    view3 =
(TextView) findViewById(R.id.view3);    Bundle extras =
getIntent().getExtras();

        String value1 = extras.getString("Value1");    String
value2 = extras.getString("Value2");    String value3 =
extras.getString("Value3");    view1.setText(value1);
view2.setText(value2);    view3.setText(value3);
    }
}

```

OUTPUT

The image displays two side-by-side screenshots of a mobile application interface, likely for a login or registration form. Both screenshots show a purple header bar with the text 'co_q3' and a status bar at the top indicating the time (3:19 on the left, 3:18 on the right) and battery level. The main content area is white. In the left screenshot, the text 'Gopika', 'MCA A', and 'gopika@gmail.com' is displayed. In the right screenshot, the same text is displayed, but each line has a horizontal input line. A green underline is visible under the email address 'gopika@gmail.com'. A purple button labeled 'SUBMIT' is located below the email input field. The bottom of both screenshots shows a black navigation bar with three icons: a back arrow, a home circle, and a recent apps square.

Program no: 12**Aim:** Develop an application that works with explicit intents

XML Code:

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

```
<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="visit"
    android:layout_marginTop="172dp"
    android:layout_marginRight="8dp"
    android:layout_marginLeft="156dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.561"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.72" />
```

```
<EditText
    android:id="@+id/editText1"
```

```

    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="8dp"
    android:layout_marginStart="8dp"
    android:layout_marginTop="60dp"
    android:ems="10"
    android:inputType="textPersonName"
    android:minHeight="48dp"
    android:hint="link"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

```

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

Java Code:

```

package com.example.myapplication2;

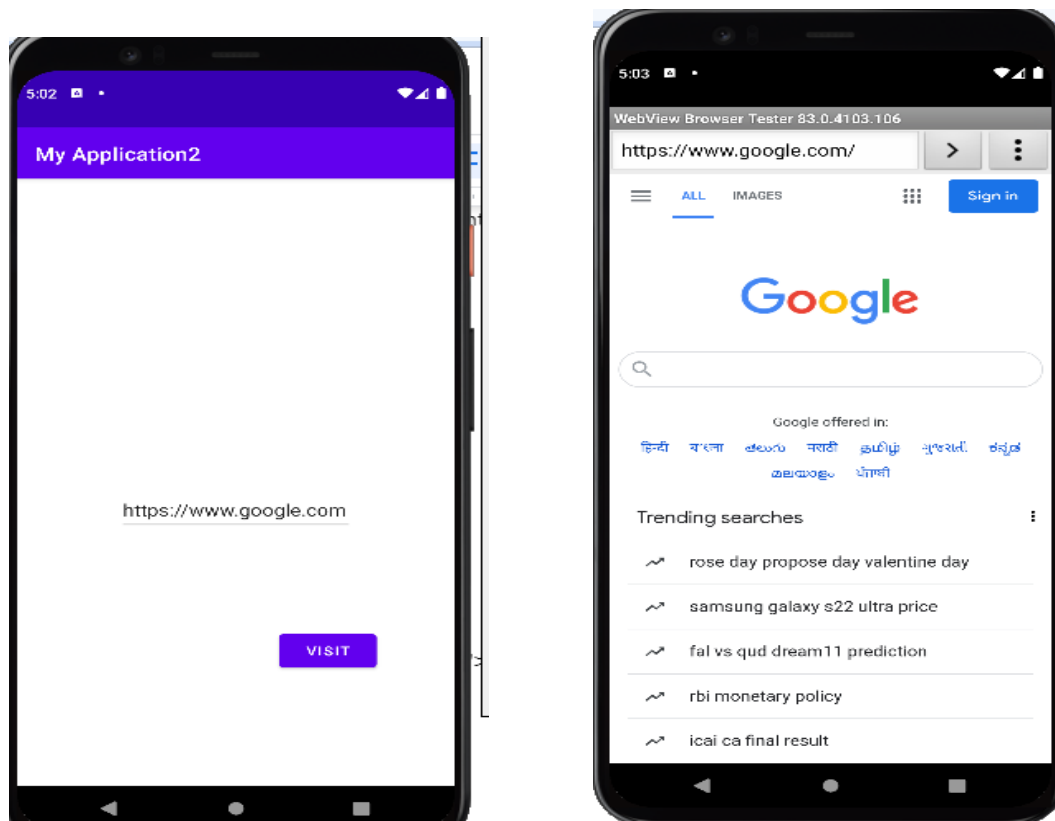
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {
    Button button;
    EditText editText1;

```

```
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    button = findViewById(R.id.button);
    editText1 = findViewById(R.id.editText1);

    button.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            String url=editText1.getText().toString();
            Intent intent=new Intent(Intent.ACTION_VIEW, Uri.parse(url));
            startActivity(intent);
        }
    });
}
```

OUTPUT

Program no: 13**Aim:** Implement Options Menu to navigate to activities**XML Code:**

```

<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
<item android:id="@+id/item1" android:title="Home"/>
<item android:id="@+id/item2" android:title="Settings"/>
<item android:id="@+id/item3" android:title="About"/>
<item android:id="@+id/item4" android:title="Help"/>
<item android:id="@+id/item5" android:title="LogOut"/>
</menu>

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent" android:layout_height="match_parent"
tools:context=".menu_bar">
<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content" android:text="Welcome Home..!"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Java Code:

```

package com.example.vaidyakare;

import androidx.appcompat.app.AppCompatActivity;

import android.annotation.SuppressLint;

import android.os.Bundle;

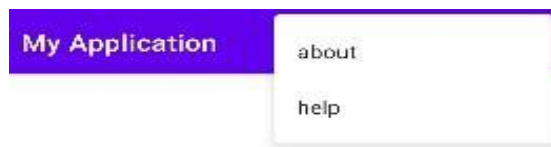
import android.view.Menu;

```

```
import android.view.MenuItem;
import android.widget.Toast;
public class menu_bar extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_menu_bar);
    }
    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        getMenuInflater().inflate(R.menu.menu_list, menu);
        return true;
    }
    @Override
    public boolean onOptionsItemSelected(MenuItem item) {
        switch (item.getItemId()) {
            case R.id.item1:
                Toast.makeText(getApplicationContext(), "Home clicked",
                    Toast.LENGTH_SHORT).show();
                return true;
            case R.id.item2:
                Toast.makeText(getApplicationContext(), "Settings clicked",
                    Toast.LENGTH_SHORT).show();
                return true;
            case R.id.item3:
                Toast.makeText(getApplicationContext(), "About clicked",
                    Toast.LENGTH_SHORT).show();
                return true;
            case R.id.item4:
                Toast.makeText(getApplicationContext(), "Help clicked",
                    Toast.LENGTH_SHORT).show();
                return true;
            case R.id.item5:
```

```
Toast.makeText(getApplicationContext(), "Logout clicked",  
Toast.LENGTH_SHORT).show();  
  
return true;  
  
default:  
return super.onOptionsItemSelected(item);  
}  
}  
}
```

OUTPUT



Hello World!

Program 14:

Aim: Develop an application that uses ArrayAdapter with ListView

XML Code:

```
<?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">
    <ListView
        android:id="@+id/mobile_list"    android:layout_width="match_parent"
        android:layout_height="wrap_content" >
    </ListView>
</androidx.constraintlayout.widget.ConstraintLayout>
```

Java Code:

```
package com.example.adapter;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle; import android.view.View;

import android.widget.AdapterView; import
android.widget.ArrayAdapter; import
android.widget.ListView; import
android.widget.TextView; import
android.widget.Toast;
```



```

public class MainActivity extends AppCompatActivity implements
AdapterView.OnItemClickListener {

    ListView l;

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

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

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

        l.setAdapter(adapter);

        l.setOnItemClickListener(this);

    }

    @Override

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

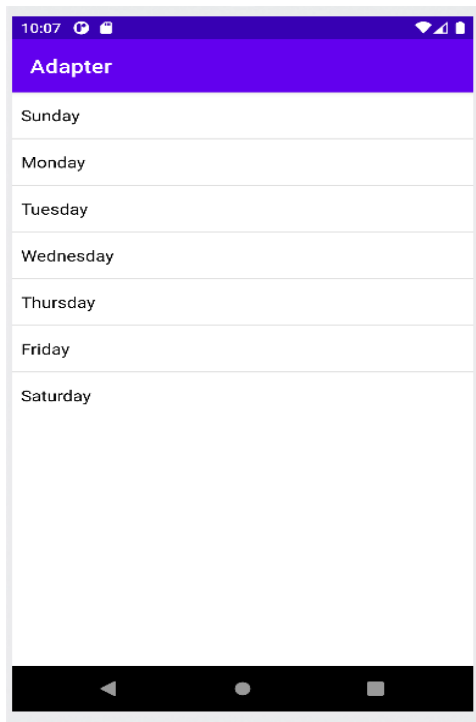
        TextView temp=(TextView) view;

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

    } }

```

OUTPUT



Program 15:

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

XML Code

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

<androidx.constraintlayout.widget.ConstraintLayout

xmlns:android="http://schemas.android.com/apk/res/android" xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">

<!-- android:numColumns=2 is the number of columns
for Grid View android:horizontalSpacing is the space
between horizontal grid items.--> <GridView
android:id="@+id/idGVcourses"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:horizontalSpacing="6dp"
android:numColumns="2" android:verticalSpacing="6dp"
/>

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

Java Code:

```
package com.example.myapp;

import androidx.annotation.NonNull;

import androidx.appcompat.app.AlertDialog;

import androidx.appcompat.app.AppCompatActivity;

import android.content.DialogInterface;

import android.content.Intent;

import android.os.Bundle;

import android.view.Menu;

import android.view.MenuItem;

import android.view.View;

import android.widget.Button;

import android.widget.ImageView;

import android.widget.TextView;

import android.widget.Toast;

public class MainActivity3 extends
AppCompatActivity

    ImageView i;

    AlertDialog.Builder builder;

    AlertDialog alertDialog;

    Button b;

    //option

    menu
```

```

@Override public boolean
onCreateOptionsMenu(Menu menu) {

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

    //return super.onCreateOptionsMenu(menu);

}

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

    item.setIcon(R.drawable.about);

    //i=findViewById(R.id.imageView);

    TextView t=findViewById(R.id.textView4);

    //handle item
    selection switch
    (item.getItemId())

    { case R.id.it3:

        builder=new AlertDialog.Builder(MainActivity3.this);

        builder.setMessage("Do you want to
        close?").setTitle("AlertDialog").setPositiveButton("OK",
        new

        DialogInterface.OnClickListener() {

            @Override public void
            onClick(DialogInterface dialog, int which)

            { finish();

```

```

    }

    }).setNegativeButton("Cancel", new DialogInterface.OnClickListener()
    {

        @Override

        public void onClick(DialogInterface dialog, int which) {

            dialog.dismiss();

        }

    });

    alertDialog=builder.

    create();

    alertDialog.show();

    return true; case

    R.id.it4:

    builder=new AlertDialog.Builder(MainActivity3.this);

    View

    popupView=getLayoutInflater().inflate(R.layout.popup1

    ,null); builder.setView(popupView);

    alertDialog=builder.create();

    alertDialog.s

    how(); return

    true; default:

    return super.onOptionsItemSelected(item);

    }

```

```

}

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

}}

```

Popup.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">

<ImageView android:id="@+id/imageView2"

android:layout_width="wrap_content" a

ndroid:layout_height="wrap_content"

android:layout_weight="1"

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

<TextView

android:id="@+id/textView3"

android:layout_width="wrap_co

```

```

ntent"

android:layout_height="wrap_c

ontent"

android:layout_weight="1"

android:text="help" />

</LinearLayout>

```

Menu.xml

```

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

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

<item

android:id="@+id/i3"

android:title="Alert" />

<item

android:id="@+id/it

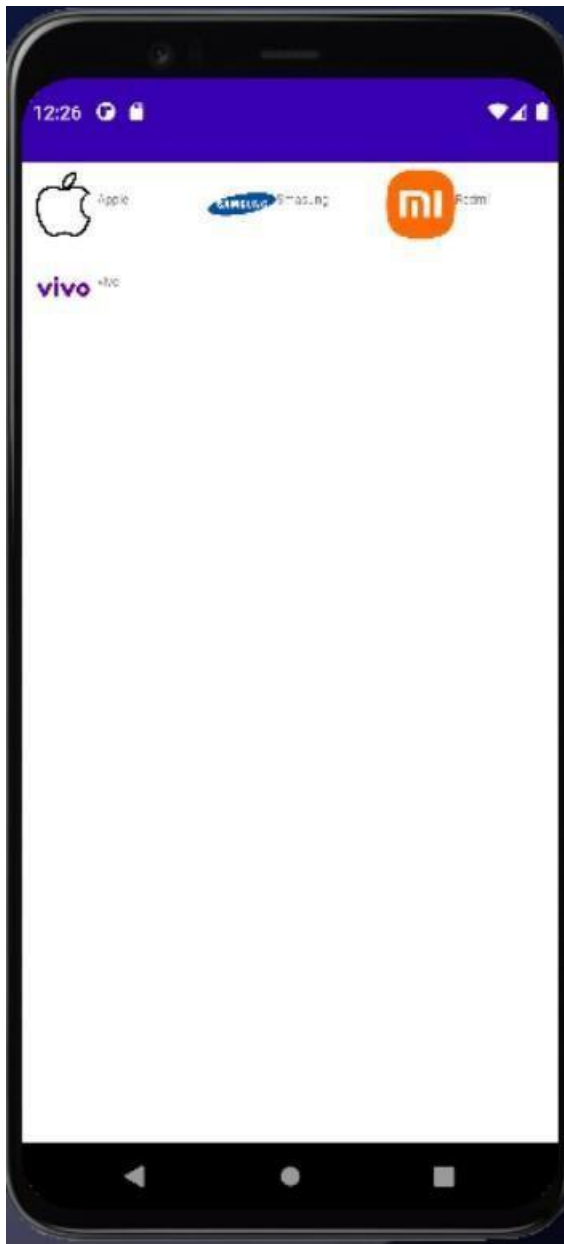
4" android:title="Pop

Up" />

</menu>

```


OUTPUT



Program 16:

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

XML Code:

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

<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <Spinner
        android:id="@+id/spinner"
        android:layout_width="149dp"
        android:layout_height="40dp"
        android:layout_marginBottom="8dp"
        android:layout_marginEnd="8dp"
        android:layout_marginStart="8dp"
        android:layout_marginTop="8dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.502"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.498" />

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

Java Code:

```

package com.example.spinner;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView.OnItemClickListener;
import android.widget.ArrayAdapter;
import android.widget.Spinner;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity implements
    AdapterView.OnItemClickListener {
    String[] Countries = { "Srilanka", "India", "USA", "Canada", "UK" };

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

        Spinner spin = (Spinner) findViewById(R.id.spinner);
        spin.setOnItemSelectedListener(this);

        ArrayAdapter aa = new
        ArrayAdapter(this, android.R.layout.simple_spinner_item, Countries);
        aa.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);

        spin.setAdapter(aa);
    }
}

```

```
@Override  
public void onItemSelected(AdapterView<?> arg0, View arg1, int position, long id) {  
    Toast.makeText(getApplicationContext(),Countries[position] ,  
    Toast.LENGTH_LONG).show();  
}  
@Override  
public void onNothingSelected(AdapterView<?> arg0) {  
}  
}
```

OUTPUT



Program 17:

AIM: Program to apply themes via code from manifest file

XML Code:

```
<?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="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        android:minHeight="48dp"
        android:text="avani"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

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

Java Code:

```
package com.example.themes;
import androidx.appcompat.app.AppCompatActivity;
```

```
import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

    }

}
```

#colors.xml

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

<resources>

    <color name="colorPrimary">#006064</color>

    <color name="color_primary_dark">#00838F</color>

    <color name="color_accent">#B2DFDB</color>

    <color name="color_text_color_primary">#03A9F4</color>

</resources>
```

#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/color_text_color_primary</item>

        <item name="android:textSize">40dp</item>

    </style>

</resources>
```

#values\themes.xml

```
<resources xmlns:tools="http://schemas.android.com/tools">
```

```

<!-- Base application theme. -->
<style name="Theme.Themes"
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/color_text_color_primary</item>
    <item name="android:textSize">40dp</item>
</style>
</resources>

```

#AndroidManifest.xml

```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.themes" >
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportRtl="true"
        android:theme="@style/Theme.new_style">
        <activity
            android:name=".MainActivity"
            android:exported="true" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>

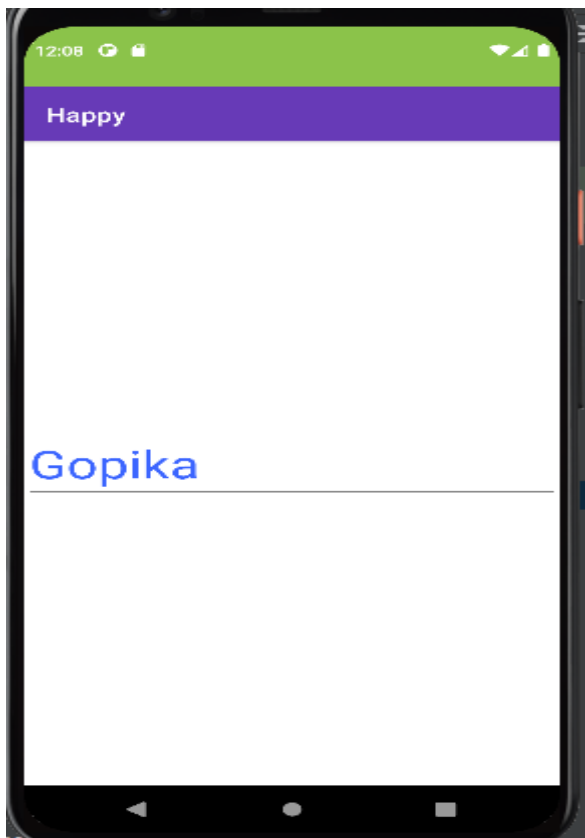
```

#night\themes.xml

```
<resources xmlns:tools="http://schemas.android.com/tools">
    <!-- Base application theme. -->
    <style name="Theme.Themes"
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/color_text_color_primary</item>
        <item name="android:textSize">40sp</item>
    </style>
</resources>
```

OUTPUT



Program 18:

AIM: Program to develop application using fragments

XML: 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">

    <Button
        android:id="@+id/firstFragment"
        android:layout_width="match_parent"
        android:layout_height="101dp"
        android:background="@color/design_default_color_primary_variant"
        android:insetLeft="8dp"
        android:insetTop="5dp"
        android:insetRight="8dp"
        android:insetBottom="10dp"
        android:text="First Fragment"
        android:textColor="@color/white"
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.231" />
    <Button
        android:id="@+id/secondFragment"
        android:layout_width="418dp"
        android:layout_height="101dp"
        android:background="@color/design_default_color_primary_variant"
        android:insetLeft="8dp"
        android:insetTop="5dp"
        android:insetRight="8dp"
        android:insetBottom="10dp"
        android:text="Second Fragment"
        android:textColor="@color/white"
        android:textSize="20sp"
```

```

app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.45" />

```

```

<FrameLayout
    android:id="@+id/frameLayout"
    android:layout_width="match_parent"
    android:layout_height="530dp"
    app:layout_constraintTop_toBottomOf="parent"
    tools:layout_editor_absoluteX="-68dp">

```

```

</FrameLayout>

```

```

</LinearLayout>

```

JAVA:MainActivity.java

```

package com.example.fragment;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.app.Fragment;
import android.app.FragmentManager;
import android.app.FragmentTransaction;
import android.view.View;
import android.widget.Button;

public class MainActivity extends AppCompatActivity {

    Button firstFragment, secondFragment;

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

```

```

firstFragment.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        loadFragment(new FirstFragment());
    }
});
secondFragment.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {

        loadFragment(new SecondFragment());
    }
});

}

private void loadFragment(Fragment fragment) {

    FragmentManager fm = getFragmentManager();

    FragmentTransaction fragmentTransaction = fm.beginTransaction();

    fragmentTransaction.replace(R.id.frameLayout, fragment);
    fragmentTransaction.commit(); // save the changes
}
}

```

FirstFragment.java

```

package com.example.fragment;
import android.app.Fragment;
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.Toast;

public class FirstFragment extends Fragment {

    View view;
    Button firstButton;

```

```

@Override
public View onCreateView(LayoutInflater inflater, ViewGroup container,
Bundle savedInstanceState) {
    view = inflater.inflate(R.layout.fragment_first, container, false);
    firstButton = (Button) view.findViewById(R.id.firstButton);
    firstButton.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Toast.makeText(getActivity(), "First Fragment", Toast.LENGTH_LONG).show();
        }
    });
    return view;
}
}

```

fragment_first.xml

```

<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"
tools:context="com.example.fragment.FirstFragment">

```

```

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="100dp"
    android:text="First Fragment"
    android:textColor="@color/black"
    android:textSize="25sp" />

```

```

<Button
    android:id="@+id/firstButton"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:layout_centerInParent="true"
    android:layout_marginLeft="20dp"
    android:layout_marginRight="20dp"
    android:background="@color/design_default_color_primary_variant"
    android:text="First Fragment"

```

```

android:textColor="@color/black"
android:textSize="20sp"
android:textStyle="bold" />
</RelativeLayout>

```

SecondFragment.java

```

package com.example.fragment;
import android.app.Fragment;
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.Toast;

public class SecondFragment extends Fragment {

    View view;
    Button secondButton;

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
        Bundle savedInstanceState) {
        view = inflater.inflate(R.layout.fragment_second, container, false);
        secondButton = (Button) view.findViewById(R.id.secondButton);
        secondButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Toast.makeText(getActivity(), "Second Fragment",
                    Toast.LENGTH_LONG).show();
            }
        });
        return view;
    }
}

```

fragment_second.xml

```
<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"
    tools:context="com.example.fragment.SecondFragment">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="100dp"
        android:text="Second Fragment"
        android:textColor="@color/black"
        android:textSize="25sp" />

    <Button
        android:id="@+id/secondButton"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:layout_marginLeft="20dp"
        android:layout_marginRight="20dp"
        android:background="@color/design_default_color_primary_variant"
        android:text="Second Fragment"
        android:textColor="@color/white"
        android:textSize="20sp"
        android:textStyle="bold" />

</RelativeLayout>
```

OUTPUT



Program 19:**Aim:** Program to implement Navigation drawer**Xml code**

```

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

<androidx.drawerlayout.widget.DrawerLayout xmlns:android="http://schemas.android.com/apk/res/android"

    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:id="@+id/drawer">

    <LinearLayout

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

        <TextView

            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Hello World!"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintLeft_toLeftOf="parent"
            app:layout_constraintRight_toRightOf="parent"
            app:layout_constraintTop_toTopOf="parent" />

        </LinearLayout>

        <com.google.android.material.navigation.NavigationView

            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:id="@+id/navigation_view"
            app:menu="@menu/navigation_menu"

```



```
android:layout_gravity="start"/>
```

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

Java Code:

```
package com.example.drawernavigation;
import androidx.annotation.NonNull;
import androidx.appcompat.app.ActionBarDrawerToggle;
import androidx.appcompat.app.AppCompatActivity;
import androidx.drawerlayout.widget.DrawerLayout;
import android.app.ActionBar;
import android.os.Bundle;
import android.view.MenuItem;
import android.widget.Toast;
import com.google.android.material.navigation.NavigationView;
public class MainActivity extends AppCompatActivity implements
NavigationView.OnNavigationItemSelectedListener {
    public DrawerLayout drawerLayout;
    public ActionBarDrawerToggle actionBarDrawerToggle;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        drawerLayout = findViewById(R.id.drawer);
        actionBarDrawerToggle = new ActionBarDrawerToggle(this, drawerLayout,
R.string.nav_open, R.string.nav_close);
        drawerLayout.addDrawerListener(actionBarDrawerToggle);
        actionBarDrawerToggle.syncState();
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
        NavigationView navigationView = findViewById(R.id.navigation_view);
        navigationView.setNavigationItemSelectedListener(this);
    }
}
```

@Override

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

@Override

```
public boolean onOptionsItemSelected(@NonNull MenuItem item) {
    int id = item.getItemId();
    if (id == R.id.nav_account) {
        Toast.makeText(this, "home", Toast.LENGTH_SHORT).show();
    }
    if (id == R.id.nav_settings) {
        Toast.makeText(this, "settings", Toast.LENGTH_SHORT).show();
    }
    if (id == R.id.nav_logout) {
        Toast.makeText(this, "logout", Toast.LENGTH_SHORT).show();
    }
    return false;
}
}
```

#navigation_menu.xml

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
<item
    android:id="@+id/nav_account"
    android:title="MY Account"/>
<item
    android:id="@+id/nav_settings"
    android:title="Settings"/>
```

```

    <item
        android:id="@+id/nav_logout"
        android:title="logout"/>
</menu>

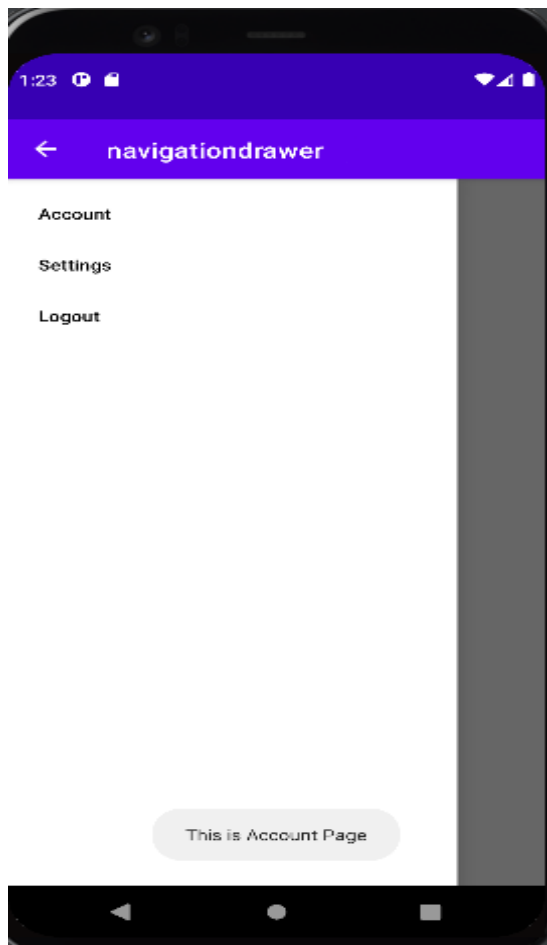
#strings.xml
<resources>
    <string name="app_name">drawernavigation</string>
    <string name="nav_open">Open</string>
    <string name="nav_close">Close</string>
</resources>

#build.gradle(:app)
plugins {
    id 'com.android.application'
}
android {
    compileSdk 31
    defaultConfig {
        applicationId "com.example.drawernavigation"
        minSdk 21
        targetSdk 31
        versionCode 1
        versionName "1.0"
        testInstrumentationRunner "androidx.test.runner.AndroidJUnitRunner"
    }
    buildTypes {
        release {
            minifyEnabled false
            proguardFiles getDefaultProguardFile('proguard-android-optimize.txt'), 'proguard-rules.pro'
        }
    }
    compileOptions {

```

```
        sourceCompatibility JavaVersion.VERSION_1_8
        targetCompatibility JavaVersion.VERSION_1_8
    }}
dependencies {
    implementation 'androidx.appcompat:appcompat:1.4.1'
    implementation 'com.google.android.material:material:1.5.0'
    implementation 'androidx.constraintlayout:constraintlayout:2.1.3'
    implementation 'androidx.drawerlayout:drawerlayout:1.1.1'
    testImplementation 'junit:junit:4.+'
    androidTestImplementation 'androidx.test.ext:junit:1.1.3'
    androidTestImplementation 'androidx.test.espresso:espresso-core:3.4.0'
    implementation "com.google.android.material:material:1.4.1"
}
```

OUTPUT



Program 20:**Aim:** Program to implement activity life cycle**Xml Code:**

```

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

<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    tools:context=".MainActivity">

    <TextView

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="Hello World!"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintLeft_toLeftOf="parent"

        app:layout_constraintRight_toRightOf="parent"

        app:layout_constraintTop_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

Java code:

```

package com.example.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

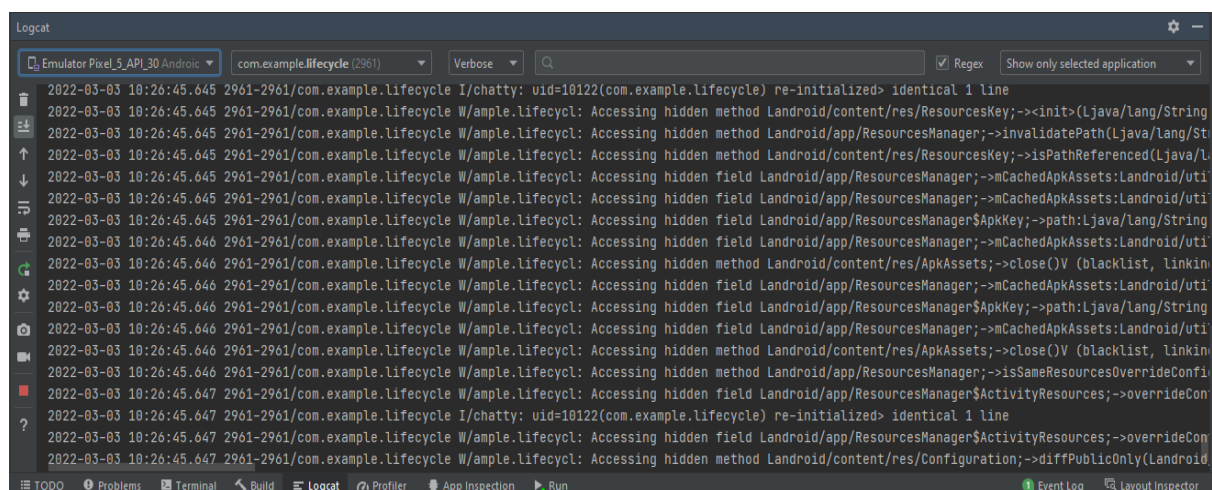
protected void onDestroy() {

    super.onDestroy();

    Log.d("lifecycle", "onDestroy invoked");
}
}

```

OUTPUT



Program 21:

Aim: Program to implement various SQLite operations

(INSERT, UPDATE ,DELETE ,SELECT)

XML code

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

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

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:padding="10dp"

    tools:context=".MainActivity">

    <TextView

        android:id="@+id/texttitle"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_marginTop="20dp"

        android:text="Please enter the details below"

        android:textSize="24dp" />

    <EditText

        android:id="@+id/name"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"
```

```
        android:hint="Name"

        android:textSize="24dp"

        android:layout_below="@+id/texttitle"

        android:inputType="textPersonName"

    />

<EditText

    android:id="@+id/contact"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:hint="Contact"

    android:textSize="24dp"

    android:layout_below="@+id/name"

    android:inputType="number"

    />

<EditText

    android:id="@+id/dob"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:hint="Date of birth"

    android:textSize="24dp"

    android:layout_below="@+id/contact"

    android:inputType="number"

    />

<Button

    android:id="@+id/buttonInsert"

    android:layout_width="match_parent"
```

```
android:layout_height="wrap_content"
android:textSize="24dp"
android:text="Insert new Data"
android:layout_marginTop="30dp"
android:layout_below="@+id/dob"
/>
```

<Button

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

<Button

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

<Button

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

```

        android:textSize="24dp"

        android:text="View data"

        android:layout_below="@+id/buttondelete"

    />

```

```
</RelativeLayout>
```

Java code

```

package com.example.sqlite_app;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {

    EditText name, contact, dob;

    Button insert, update, delete, view;

    DBHelper DB;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

```

```

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);

name=findViewById(R.id.name);

contact=findViewById(R.id.contact);

dob=findViewById(R.id.dob);

insert=findViewById(R.id.buttonInsert);

update=findViewById(R.id.buttonUpdate);

delete=findViewById(R.id.buttondelete);

view=findViewById(R.id.buttonView);

DB=new DBHelper(this);

insert.setOnClickListener(new View.OnClickListener(){

    @Override

    public void onClick(View v) {

        String nameTXT=name.getText().toString();

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

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

        Boolean checkinsertdata=DB.insertuserdata(nameTXT,contactTXT,dobTXT);

        if(checkinsertdata==true)

            Toast.makeText(MainActivity.this, "New Entry Inserted",
Toast.LENGTH_SHORT).show();

        else

            Toast.makeText(MainActivity.this, "unable to insert",
Toast.LENGTH_SHORT).show();

    }

});

```

```

update.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        String nameTXT=name.getText().toString();

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

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


        Boolean checkupdatedata=DB.updateuserdata(nameTXT,contactTXT,dobTXT);

        if(checkupdatedata==true)

            Toast.makeText(MainActivity.this, "Entry updated",
Toast.LENGTH_SHORT).show();

        else

            Toast.makeText(MainActivity.this, "Not updated",
Toast.LENGTH_SHORT).show();

    }

});

delete.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        String nameTXT=name.getText().toString();


        Boolean checkdeletedata=DB.deletedata(nameTXT);

        if(checkdeletedata==true)

            Toast.makeText(MainActivity.this, "Entry deleted",
Toast.LENGTH_SHORT).show();

        else

            Toast.makeText(MainActivity.this, "Not deleted",
Toast.LENGTH_SHORT).show();

```

```

    }
});

view.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        Cursor res=DB.getdata();

        if(res.getCount()==0){

            Toast.makeText(MainActivity.this, "No entry exists",
Toast.LENGTH_SHORT).show();

            return;

        }

        StringBuffer buffer=new StringBuffer();

        while(res.moveToNext()){

            buffer.append("Name:"+res.getString(0)+"\n");

            buffer.append("Contact:"+res.getString(1)+"\n");

            buffer.append("Date of Birth:"+res.getString(2)+"\n");

        }

        AlertDialog.Builder builder=new AlertDialog.Builder(MainActivity.this);

        builder.setCancelable(true);

        builder.setTitle("User Entries");

        builder.setMessage(buffer.toString());

        builder.show(); }

}); }}

```

DBHelper.java

```

package com.example.sqlite_app;

import android.content.ContentValues;

```

```

import android.content.Context;

import android.database.Cursor;

import android.database.sqlite.SQLiteDatabase;

import android.database.sqlite.SQLiteOpenHelper;


import androidx.annotation.Nullable;


public class DBHelper extends SQLiteOpenHelper {

    public DBHelper(Context context) {

        super(context, "Userdata", null, 1);

    }


    @Override

    public void onCreate(SQLiteDatabase DB) {

        DB.execSQL("create Table Userdetails(name TEXT primary key, contact TEXT, dob TEXT)");

    }


    @Override

    public void onUpgrade(SQLiteDatabase DB, int oldVersion, int newVersion) {

        DB.execSQL("drop Table if exists Userdetails");

    }

    public Boolean insertuserdata(String name, String contact, String dob){

        SQLiteDatabase DB=this.getWritableDatabase();

        ContentValues contentValues=new ContentValues();

```



```

++contentValues.put("name",name);

        contentValues.put("contact",contact);

        contentValues.put("dob",dob);

        long result=DB.insert("Userdetails", null, contentValues);

        if(result==-1){

            return false;

        }else{

            return true;

        }

    }

}

public Boolean updateuserdata(String name, String contact, String dob){

    SQLiteDatabase DB=this.getWritableDatabase();

    ContentValues contentValues=new ContentValues();

    contentValues.put("contact",contact);

    contentValues.put("dob",dob);

    Cursor cursor=DB.rawQuery("Select * from Userdetails where name=?", new
String[]{name});

    if(cursor.getCount()>0) {

        long result = DB.update("Userdetails", contentValues, "name=?", new
String[]{name});

        if (result == -1) {

            return false;

        } else {

            return true;

        }

    }else{

        return false;
    }
}

```

```

    }
}

public Boolean deletedata(String name){

    SQLiteDatabase DB=this.getWritableDatabase();

    Cursor cursor=DB.rawQuery("Select * from Userdetails where name=?", new
String[]{name});

    if(cursor.getCount()>0) {

        long result = DB.delete("Userdetails", "name=?", new String[]{name});

        if (result == -1) {

            return false;

        } else {

            return true;

        }

    }else{

        return false;

    }

}

public Cursor getdata (){

    SQLiteDatabase DB=this.getWritableDatabase();

    Cursor cursor=DB.rawQuery("Select * from Userdetails",null);

    return cursor;

}

}

```

OUTPUT

