

# **20MCA243 MOBILE APPLICATION DEVELOPMENT LAB**

*Lab Report Submitted By*

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**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**



**AMAL JYOTHI COLLEGE OF ENGINEERING  
KANJIRAPPALLY**

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**CERTIFICATE**

This is to certify that the lab report, “**20MCA243 MOBILE APPLICATION DEVELOPMENT LAB**” is the bonafide work of **AMAL VIJAYAN (Reg.No:AJC20MCA-2011)** 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.

### 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"
    android:gravity="center"
    tools:context=".MainActivity">
```

```
<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="login"
    android:textSize="60dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintHorizontal_bias="0.434"
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.324" />
```

```
<EditText
    android:id="@+id/editText1"
    android:layout_width="200dp"
    android:layout_height="wrap_content"
    android:text="username"
    tools:layout_editor_absoluteX="82dp"
    tools:layout_editor_absoluteY="334dp" />
```

```
<EditText
    android:id="@+id/editText2"
    android:layout_width="200dp"
    android:layout_height="wrap_content"
    android:text="password"
    tools:layout_editor_absoluteX="92dp"
    tools:layout_editor_absoluteY="427dp" />
```

```
<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="login"
```

```
tools:layout_editor_absoluteX="141dp"
tools:layout_editor_absoluteY="514dp" />
```

```
</LinearLayout>
```

### **MainActivity.java**

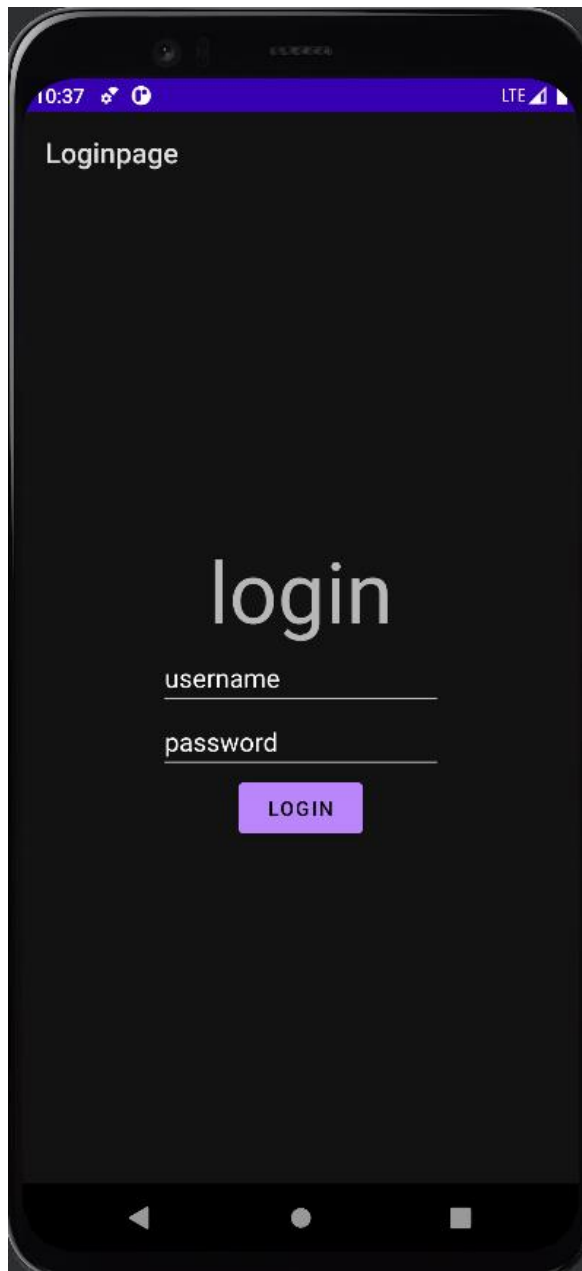
```
package com.example.login;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
    Button b1;
    TextView t1;
    EditText e1;
    EditText e2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        b1=findViewById(R.id.button);
        t1=findViewById(R.id.textView);
        e1=findViewById(R.id.editText1);
        e2=findViewById(R.id.editText2);

        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String val1 = e1.getText().toString();
                String val2 = e2.getText().toString();
            }

        });
    }
}
```

## Output



## Program No:2

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

### Activity.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:orientation="vertical"
    android:gravity="center"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/editText"
        android:layout_width="200dp"
        android:layout_height="wrap_content" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Button"
        app:layout_constraintBottom_toTopOf="@+id/textView"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/editText" />

    <TextView
        android:id="@+id/textView"
        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"
        app:layout_constraintVertical_bias="0.592" />

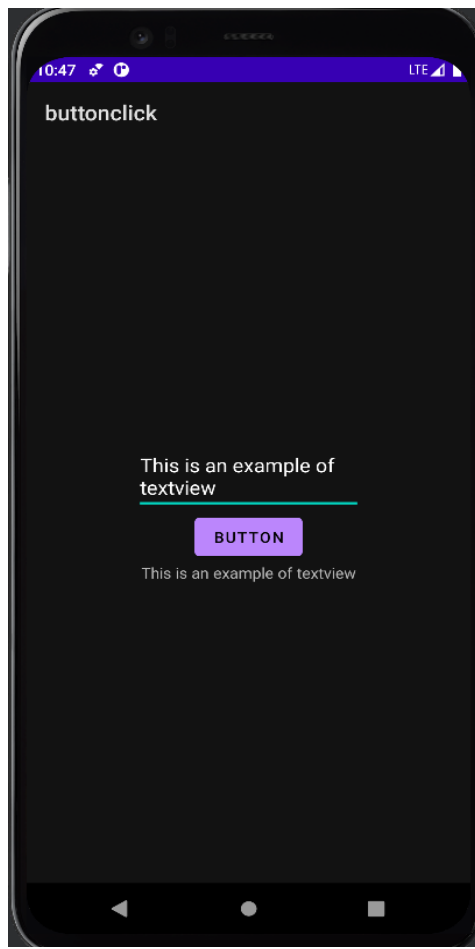
</LinearLayout>
```



**MainActivity.java**

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

public class MainActivity extends AppCompatActivity {
    Button b1;
    TextView t1;
    EditText e2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        b1=findViewById(R.id.button);
        t1=findViewById(R.id.textView);
        e2=findViewById(R.id.editText);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String val1 = e2.getText().toString();
                t1.setText(val1);
            }
        });
    }
}
```

**Output:**

### Program No:3

**Aim:** Design login form with username and password using linear layout and toast valid credentials.

#### activity\_main.xml

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

```

### **MainActivity.java**

```

package com.example.loginwithcredentials;
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() {

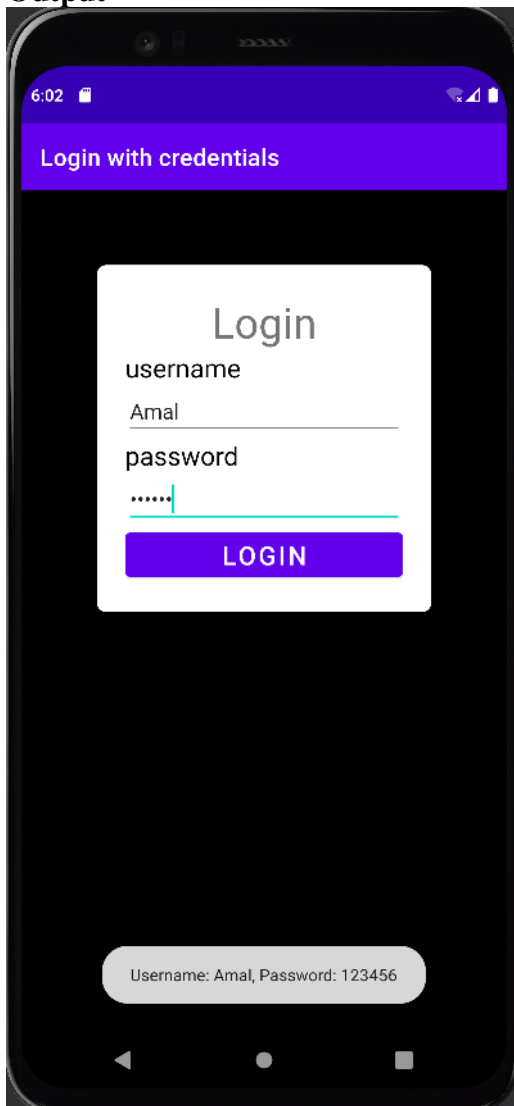
```

```

@Override
public void onClick(View v) {
    if(usernameEditText.getText().length()>0&&passwordEditText.getText().length() > 0)
    {
        StringtoastMessage="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.

**activity\_main.xml**

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

```

### **MainActivity.java**

```

package com.example.basiccalculator;
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);
        no1 = findViewById(R.id.first_no);
        no2 = findViewById(R.id.second_no);

        add = findViewById(R.id.add);
        mul = findViewById(R.id.mul);
        div = findViewById(R.id.div);
        sub = findViewById(R.id.sub);
        equal = findViewById(R.id.equals);
        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",

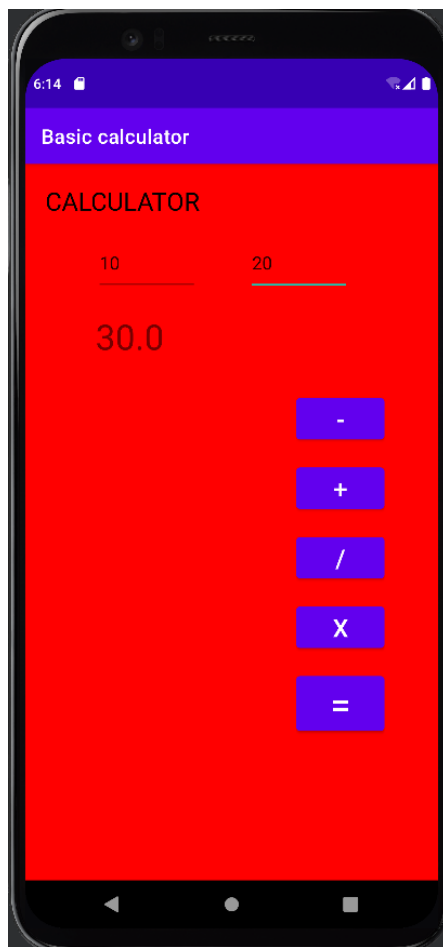
```

```

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.

### activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".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>

```

### MainActivity.java

```

package com.example.uicontrolvalidation;
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 bCancel, bProceed;

    EditText etFirstName, etLastName, etEmail, etPassword;

```

```

boolean isAllFieldsChecked = false;

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

    bProceed = findViewById(R.id.proceedButton);
    bCancel = findViewById(R.id.cancelButton);

    etFirstName = findViewById(R.id.firstName);
    etLastName = findViewById(R.id.lastName);
    etEmail = findViewById(R.id.email);
    etPassword = findViewById(R.id.password);
    bProceed.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {

            isAllFieldsChecked = CheckAllFields();

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

    bCancel.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            MainActivity.this.finish();
            System.exit(0);
        }
    });

    private boolean CheckAllFields() {
        if (etFirstName.length() == 0) {
            etFirstName.setError("This field is required");
            return false;
        }

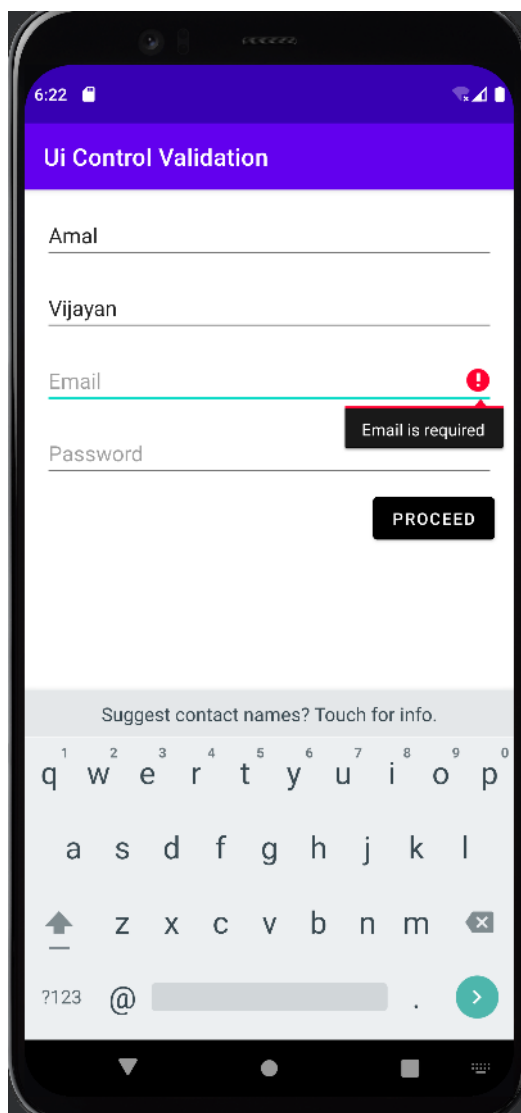
        if (etLastName.length() == 0) {
            etLastName.setError("This field is required");
            return false;
        }

        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;
}
return true;
}
}
```

**Output:**

## Program No:6

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

### activity\_main.xml

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

```
<TextView
android:id="@+id/t1"
android:layout_width="202dp"
android:layout_height="42dp"
android:text="Enter the Name"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.497"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.28" />
```

```
<EditText
android:id="@+id/et1"
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="0.497"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.381" />
```

```
<Button
android:id="@+id/b1"
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="0.498"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.828" />

```

```

<EditText
    android:id="@+id/et5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textPersonName"
    android:text="Name"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

### **activity\_shared.xml**

```

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

```

```

    <TextView
        android:id="@+id/textView2"
        android:layout_width="155dp"
        android:layout_height="42dp"
        android:text="TextView"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

```

```

    <TextView
        android:id="@+id/textView3"
        android:layout_width="172dp"
        android:layout_height="63dp"
        android:text="TextView"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.441"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.623" />

```



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

### **MainActivity.java**

```
package com.example.sharedpreference;

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 {
    TextView t1;
    EditText e1,e2;
    Button b1;
    SharedPreferences sp;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        e1=findViewById(R.id.et1);
        e2=findViewById(R.id.et5);
        b1=findViewById(R.id.b1);
        sp= getSharedPreferences("Share",MODE_PRIVATE);//session start

        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String val=e1.getText().toString();
                String valu=e2.getText().toString();
                sp.edit().putString("mykey",val).commit();//saving we use commit
                sp.edit().putString("mykeyy",valu).commit();
                Intent i=new Intent(MainActivity.this , shared.class);//shared is nex activity
                startActivity(i);
            }
        });
    }
}
```

### **shared.java**

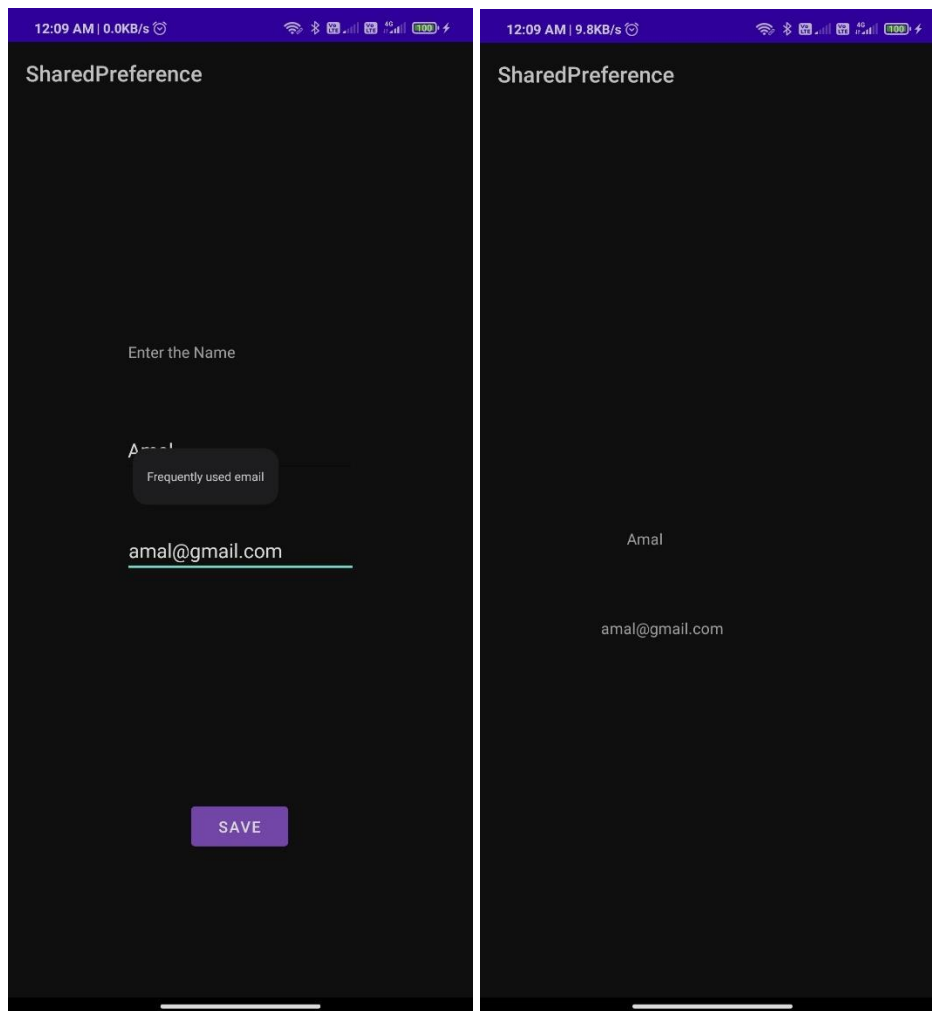
```
package com.example.sharedpreference;
import androidx.appcompat.app.AppCompatActivity;
import android.content.SharedPreferences;
import android.os.Bundle;
```

```

import android.widget.TextView;
public class shared extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_shared);
        SharedPreferences sp=getSharedPreferences("Share",MODE_PRIVATE);
        TextView t1=findViewById(R.id.textView2);
        TextView t2=findViewById(R.id.textView3);
        String sesval= sp.getString("mykey","no data found");
        String sesvall= sp.getString("mykeyy","no data found");
        t1.setText(sesval);
        t2.setText(sesvall);
    }
}

```

### Output:



**Program No:7**

**Aim:** Design a simple Calculator using GridLayout and Cascaded LinearLayout.

**activity\_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#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:layout_gravity="bottom"
android:rowCount="4">
<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/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/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/bmul"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:background="@drawable/bg_button"
android:text="X"
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/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/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/bdiv"
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/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/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/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/bpls"
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/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/bpt"
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/beq"
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/bdiff"
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"/>
</GridLayout>
</LinearLayout>

```

</LinearLayout>

### MainActivity.java

```
package com.example.mycalculator;  
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:8

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

### Activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@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"/>

```

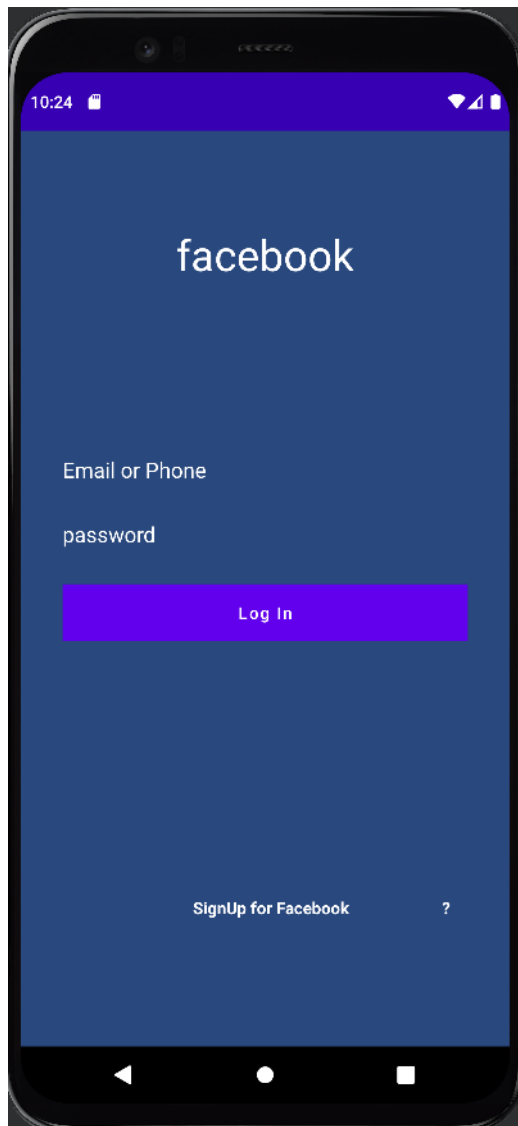
```

    <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>

```

**MainActivity.java**

```
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.

**activity\_main.xml**

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

<FrameLayout
android:layout_width="409dp"
android:layout_height="354dp"
tools:layout_editor_absoluteX="1dp"
tools:layout_editor_absoluteY="131dp"
tools:ignore="MissingConstraints">

<ImageView
android:id="@+id/f2"
android:layout_width="match_parent"
android:layout_height="match_parent"
app:srcCompat="@drawable/f1" />

<ImageView
android:id="@+id/f1"
android:layout_width="match_parent"
android:layout_height="match_parent"
app:srcCompat="@drawable/f2" />
</FrameLayout>

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

**MainActivity.java**

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

public class MainActivity extends AppCompatActivity {

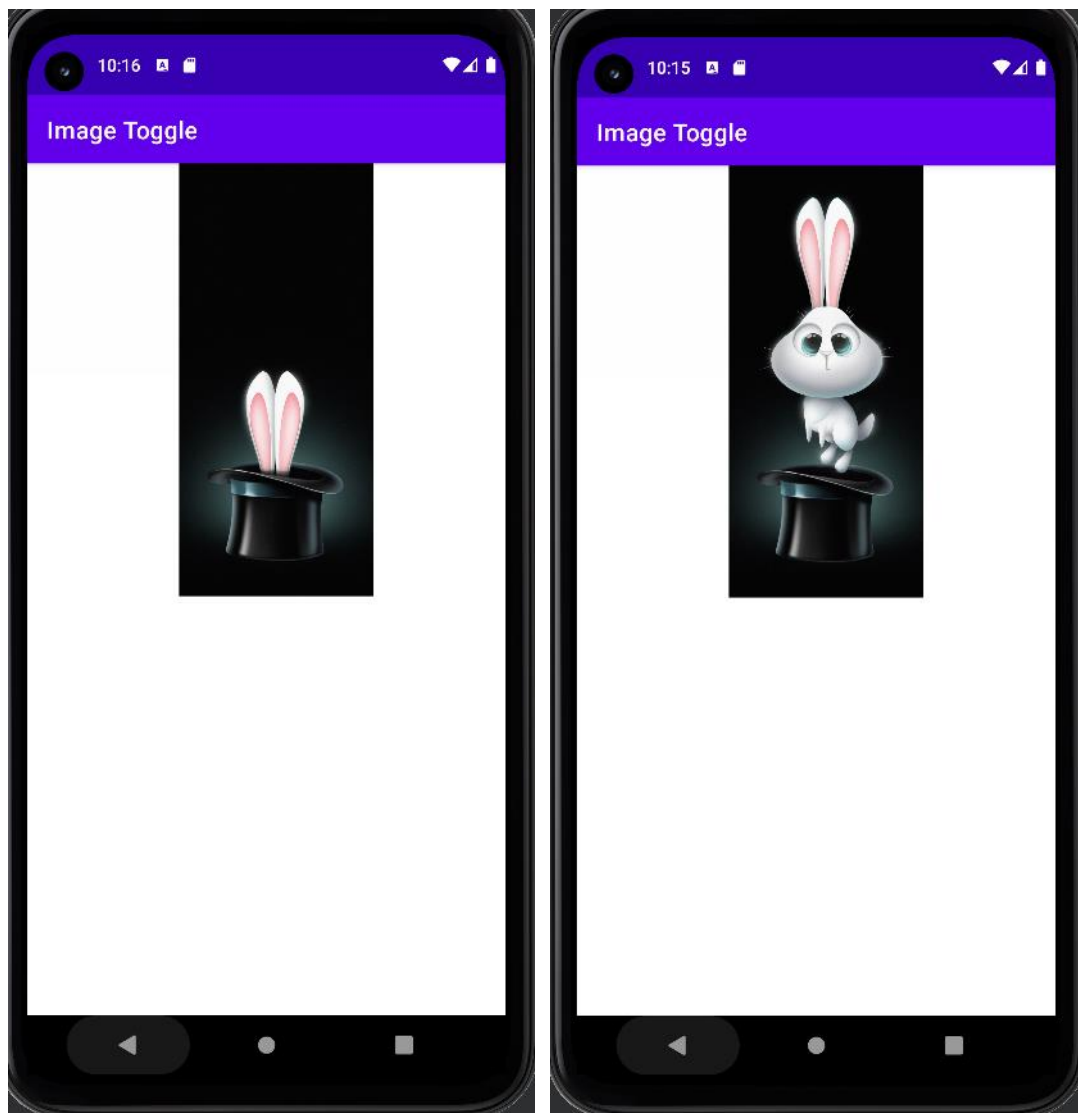
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
```

```

setContentView(R.layout.activity_main);
final ImageView first_image = (ImageView)this.findViewById(R.id.f1);
final ImageView second_image = (ImageView)this.findViewById(R.id.f2);
first_image.setOnClickListener(new View.OnClickListener(){
    public void onClick(View view) {
        first_image.setVisibility(View.VISIBLE);
        view.setVisibility(View.GONE);
    } });
second_image.setOnClickListener(new View.OnClickListener(){
    public void onClick(View view) {
        second_image.setVisibility(View.VISIBLE);
        view.setVisibility(View.GONE);
    } });
}
}

```

**Output:**



## Program No:10

**Aim:** Implement Adapters and perform exception handlings.

### activity\_main.xml

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

<TextView
android:id="@+id/textView"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="TextView"
tools:layout_editor_absoluteX="181dp"
tools:layout_editor_absoluteY="363dp"
tools:ignore="MissingConstraints" />

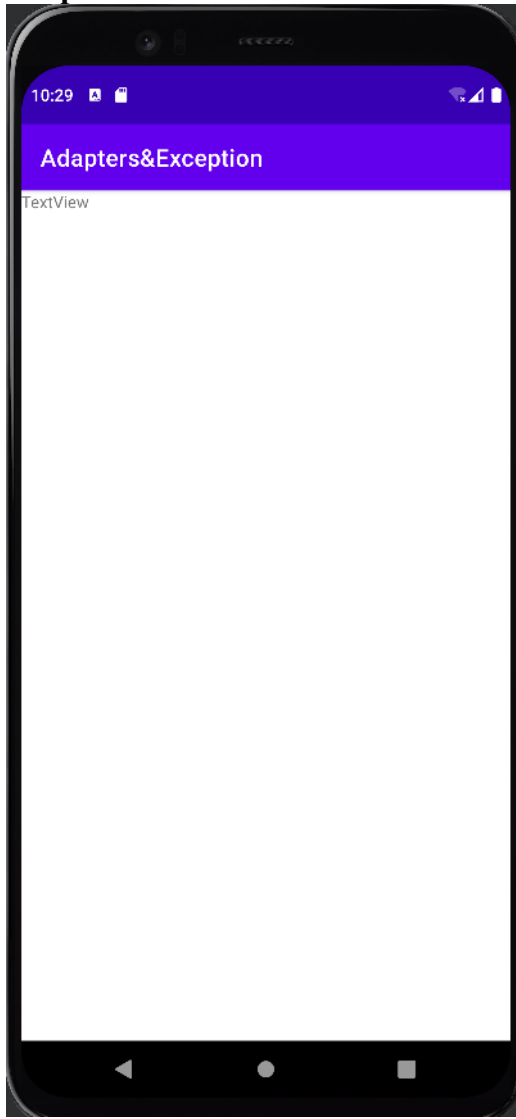
</androidx.constraintlayout.widget.ConstraintLayout>
```

### MainActivity.java

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

public class MainActivity extends AppCompatActivity {
    TextView textView;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        try {
            textView.setText("Welcome");
        }
        catch (Exception e)
        {
            Toast.makeText(this,e.getMessage(),Toast.LENGTH_SHORT).show();
        }
    }
}
```

**Output:**



## Program No:11

**Aim:** Implement Intent to navigate between multiple activities.

### activity\_main.xml

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

```

### **activity\_main2.xml**

```

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

```

### **MainActivity.java**

```

package com.example.implicitintents;

```

```

import androidx.appcompat.app.AppCompatActivity;

```

```

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

```

```

public class MainActivity extends AppCompatActivity {

```

```

    @Override

```

```

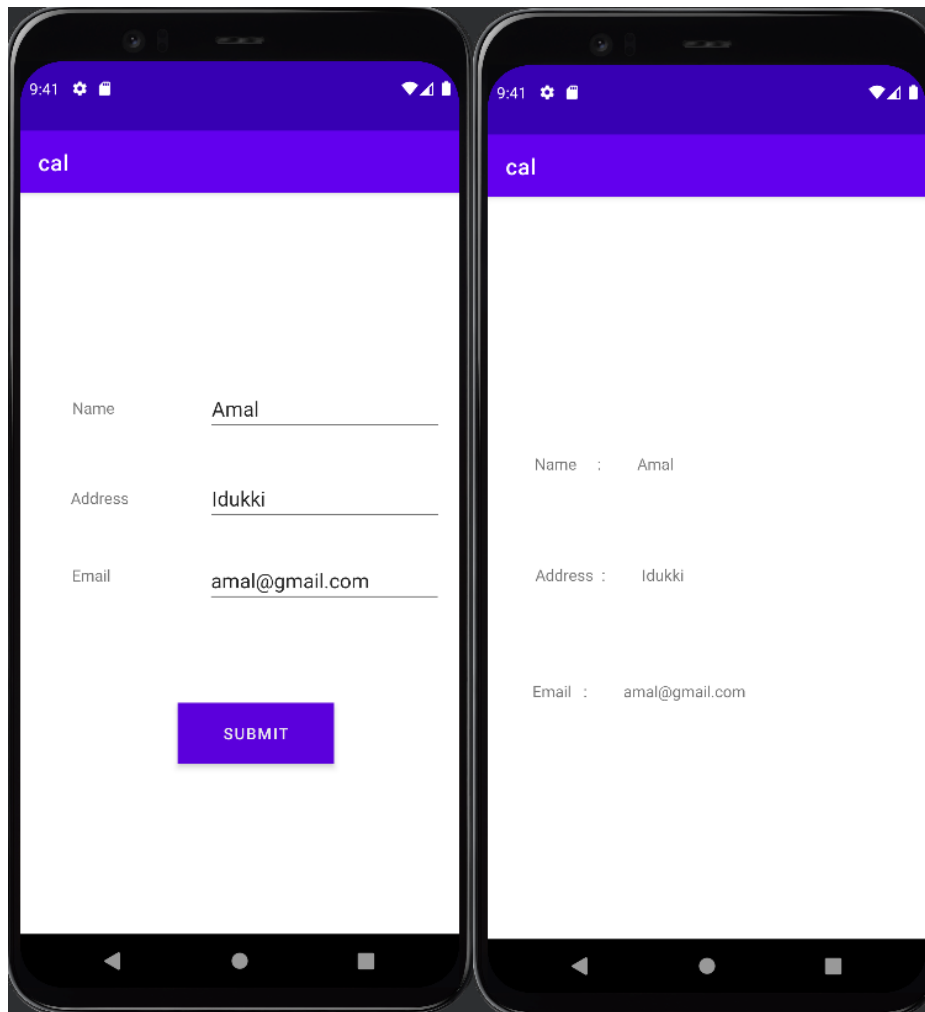
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    public void callActivity(View view) {
        Intent i = new Intent(getApplicationContext(), MainActivity2.class);
        final EditText editText1 = (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);
    }
}

```

```
}  
}
```

### **MainActivity2.java**

```
package com.example.implicitintents;  
  
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:**

## Program No:12

**Aim:** Develop an application that works with explicit intents.

### activity\_main.xml

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

    <Button
        android:id="@+id/cm"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="CLICK ME"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

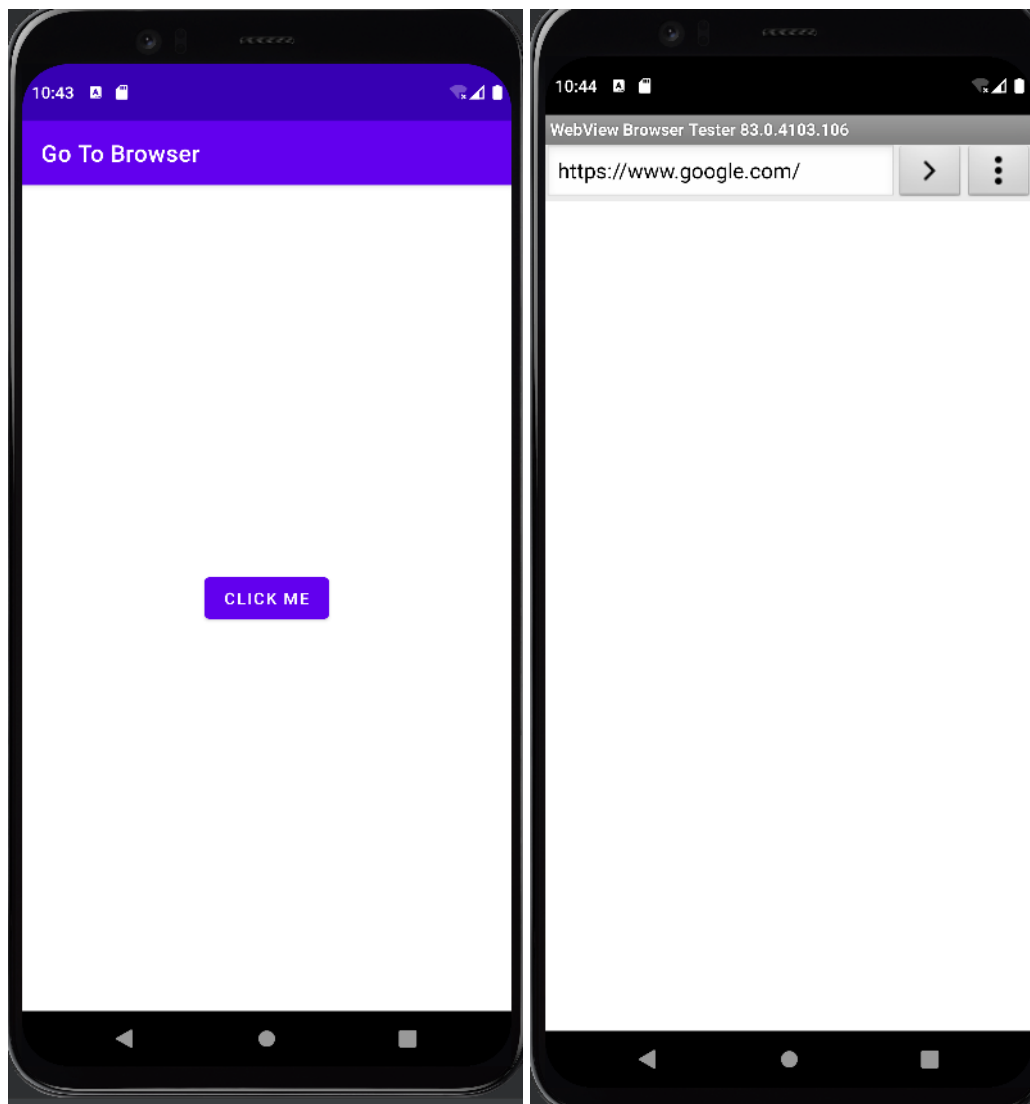
### MainActivity.java

```
package com.example.explicitintents;
import androidx.appcompat.app.ActionBar;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.net.Uri;
import android.net.UrlQuerySanitizer;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ActionBar b=getSupportActionBar();
        b.setTitle("Go To Browser");
    }
}
```

```
Button click=findViewById(R.id.cm);
click.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Intent j=new Intent(Intent.ACTION_VIEW, Uri.parse("https://www.google.com/"));
        startActivity(j);
    }
});
}
```

**Output:**

### Program No:13

**Aim:** Implement Options Menu to navigate to activities.

#### activity\_main.xml

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

    <TextView
        android: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>
```

#### menu.xml

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item android:id="@+id/item1" android:title="about"
        android:icon="@drawable/download"/>
    <item android:id="@+id/item2" android:title="help"/>
</menu>
```

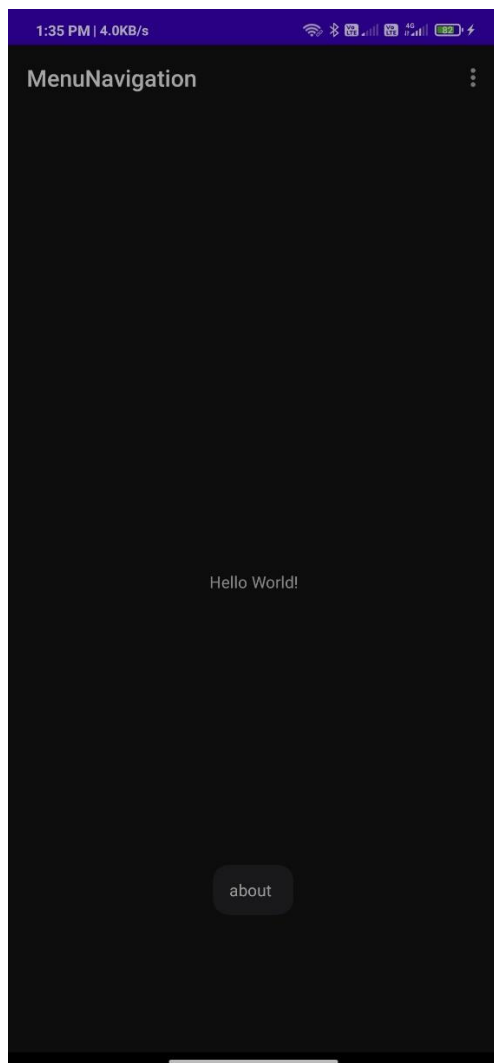
#### MainActivity.java

```
package com.example.menunavigation;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.widget.Toast;

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

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

@Override
public boolean onOptionsItemSelected(MenuItem item){
    switch (item.getItemId()){
        case R.id.item1:
            Toast.makeText(getApplicationContext(), "about", Toast.LENGTH_SHORT).show();
            return true;
        case R.id.item2:
            Toast.makeText(getApplicationContext(), "help", Toast.LENGTH_SHORT).show();
            return true;
        default:
            return super.onOptionsItemSelected(item);
    }
}
}
```

**Output:**

## Program No:14

**Aim:** Develop an application that uses ArrayAdapter with ListView.

### activity\_main.xml

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

<ListView
android:id="@+id/List1"
android:layout_width="409dp"
android:layout_height="729dp"
tools:layout_editor_absoluteX="1dp"
tools:layout_editor_absoluteY="1dp" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

### MainActivity.java

```
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.Toast;

public class MainActivity extends AppCompatActivity {

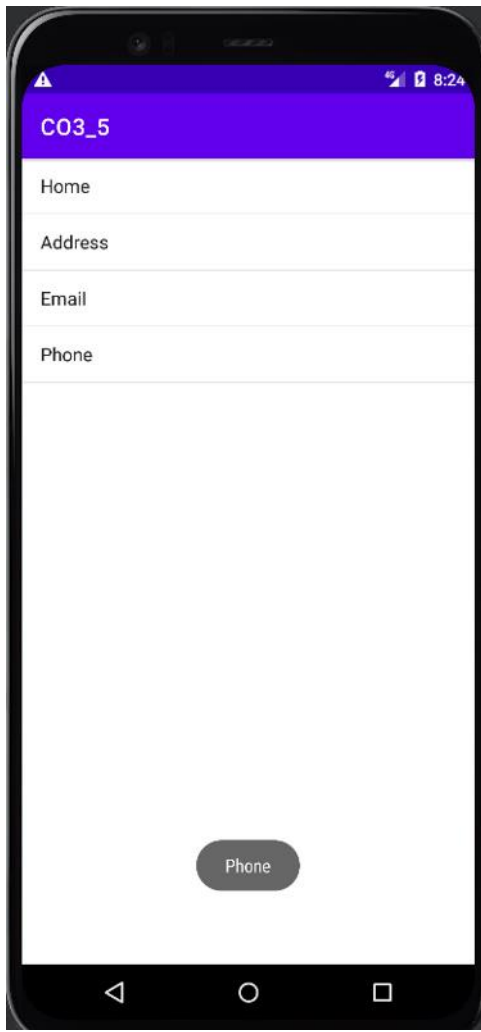
    ListView l1;
    String[] listItems = {"Home","Address","Email","Phone"};

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        l1 = (ListView) findViewById(R.id.List1);
        ArrayAdapter<String> myAdapter=new ArrayAdapter<String>(MainActivity.this,
        android.R.layout.simple_list_item_1,listItems);
        l1.setAdapter(myAdapter);
        l1.setOnItemClickListener(new AdapterView.OnItemClickListener() {
```



```
@Override
public void onItemClick(AdapterView<?> parent, View view, int position, long id) {
    String item_name=listItems[position];
    Toast.makeText(MainActivity.this,item_name, Toast.LENGTH_SHORT).show();
}
});
}
```

**Output:**



**Program no: 15**

**Aim:** Develop an application that use GridView with images and display Alert box on selection

**activity\_main.xml:**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#B5A830"
    tools:context=".MainActivity">

    <GridView
        android:id="@+id/gridView"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:footerDividersEnabled="false"
        android:numColumns="3"
        android:padding="1dp" />
</LinearLayout>
```

**MainActivity.java:**

```
package com.example.co4_q1;

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

import android.app.Dialog;
import android.content.Context;
import android.content.DialogInterface;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView.OnItemClickListener;
import android.widget.ArrayAdapter;
import android.widget.GridView;
import android.widget.ListAdapter;
import android.widget.SimpleAdapter;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    GridView gd;
    int logos[] = {R.drawable.cl1, R.drawable.cl2, R.drawable.cl3, R.drawable.cl4};
```

```

String[] names = {"BMW", "addidas", "Be", "S", "Smile", "Github", };
final Context context = this;
AlertDialog.Builder builder;

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    GridView gv = (GridView) findViewById(R.id.gridView);
    gv.setAdapter(new ImageAdapter(this));
    builder = new AlertDialog.Builder(this);

    gv.setOnItemClickListener(new AdapterView.OnItemClickListener() {
        public void onItemClick(AdapterView<?> parent, View v, int position, long id) {

            builder.setMessage("Name : "+String.valueOf(names[position]))
                .setCancelable(false)
                .setPositiveButton("Ok", new DialogInterface.OnClickListener() {
                    public void onClick(DialogInterface dialog, int id) {
                    }
                });

            AlertDialog alert = builder.create();

            alert.setTitle("Info Alert");
            alert.show();
        }
    });
}

```

### **ImageAdapter.java**

```

package com.example.co4_q1;
import android.content.Context;
import android.view.View;
import android.view.ViewGroup;
import android.widget.BaseAdapter;
import android.widget.GridView;
import android.widget.ImageView;

public class ImageAdapter extends BaseAdapter {
    private Context mContext;
    public ImageAdapter(Context c) {
        mContext = c;
    }
    public int getCount() {

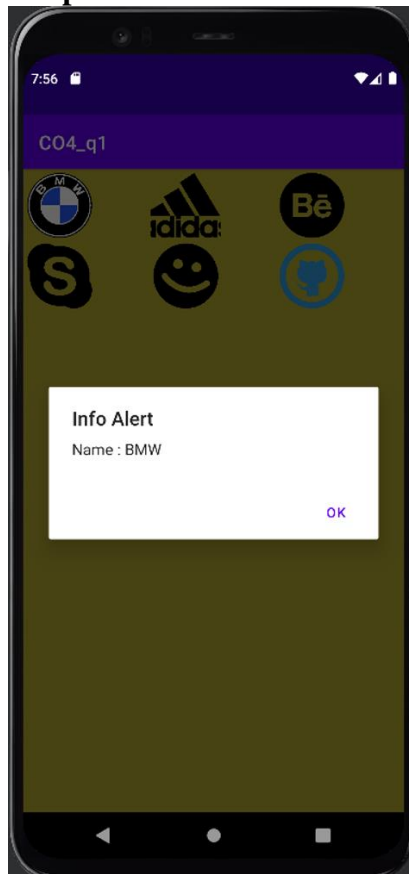
```

```

return thumbImages.length;
}
public Object getItem(int position) {
return null;
}
public long getItemId(int position) {
return 0;
}
public View getView(int position, View convertView, ViewGroup parent) {
ImageView imageView = new ImageView(mContext);
imageView.setLayoutParams(new GridView.LayoutParams(200, 200));
imageView.setScaleType(ImageView.ScaleType.CENTER_CROP);
imageView.setPadding(8, 8, 8, 8);
imageView.setImageResource(thumbImages[position]);
return imageView;
}
public Integer[] thumbImages = {
R.drawable.cl1,
R.drawable.cl2,
R.drawable.cl3,
R.drawable.cl4,
R.drawable.cl5,
R.drawable.cl6
};
}
}

```

### Output:



**Program no:16**

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

**Activity\_main.xml:**

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

<Spinner
android:id="@+id/spinner"
android:layout_height="50dp"
android:layout_width="160dp"
android:layout_marginEnd="10dp"
android:layout_marginStart="10dp"
android:layout_marginBottom="10dp"
android:layout_marginTop="10dp"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"/>

</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[] country = { "India", "USA", "China", "Japan", "Other"};

@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
//Getting the instance of Spinner and applying OnItemSelectedListener on it
Spinner spin = (Spinner) findViewById(R.id.spinner);
spin.setOnItemSelectedListener(this);
```

```

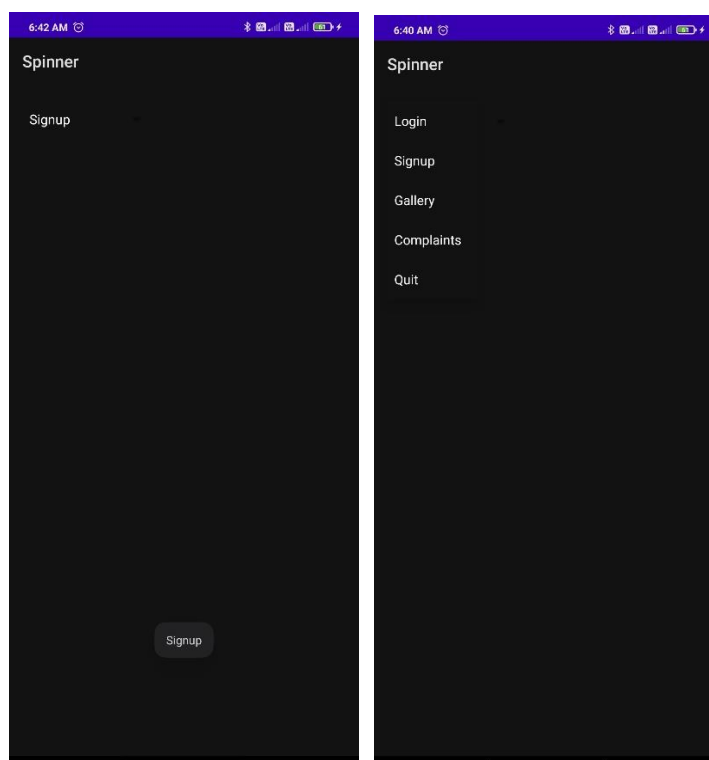
//Creating the ArrayAdapter instance having the country list
ArrayAdapter aa = new
ArrayAdapter(this,android.R.layout.simple_spinner_item,country);
aa.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
//Setting the ArrayAdapter data on the Spinner
spin.setAdapter(aa);

}

//Performing action onItemSelected and onNothing selected
@Override
public void onItemSelected(AdapterView<?> arg0, View arg1, int position, long id) {
    Toast.makeText(getApplicationContext(),country[position] ,
    Toast.LENGTH_LONG).show();
}
@Override
public void onNothingSelected(AdapterView<?> arg0) {
    // TODO Auto-generated method stub
}
}

```

### Output:



**Program no:17**

**Aim:** Apply themes via code and manifest file

**activity\_main.xml**

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

<EditText
android:id="@+id/editTextTextPersonName"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:inputType="textPersonName"
android:text="Name"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintTop_toTopOf="parent"
tools:layout_editor_absoluteX="100dp" />
</androidx.constraintlayout.widget.ConstraintLayout>

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

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

```

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

<color name="teal">#FF018786</color>
<color name="black">#FF000000</color>
<color name="yellow">#EC971B</color>
<color name="red">#F80F0F</color>
</resources>

<resources xmlns:tools="http://schemas.android.com/tools">
<!-- Base application theme. -->
<style name="Theme.newstyle" parent="Theme.MaterialComponents.
DayNight.DarkActionBar">
<item name="colorPrimary">@color/black</item>
<item name="colorPrimaryDark">@color/yellow</item>
<item name="colorAccent">@color/teal</item>
<item name="android:textColorPrimary">@color/red</item>
</style>
</resources>

```

### **MainActivity.java:**

```

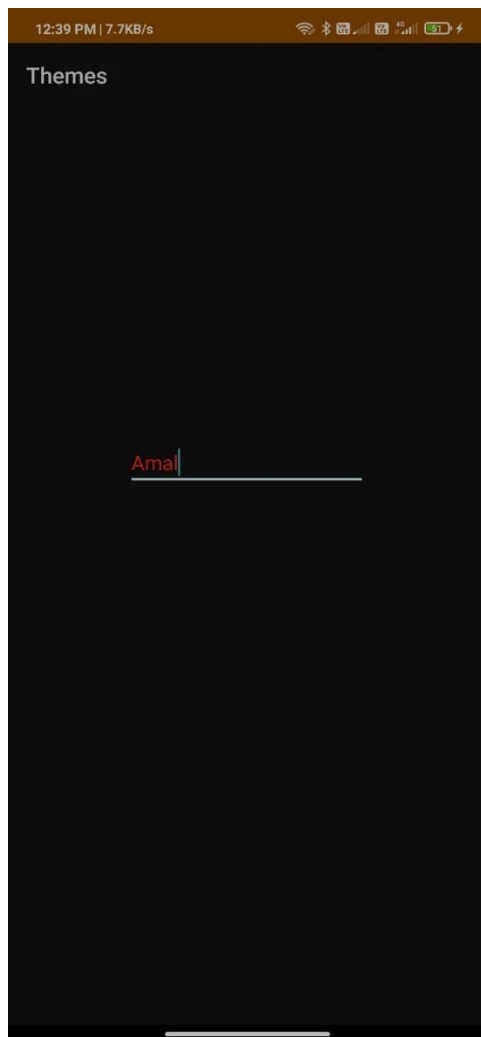
package com.example.themes;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}

```



**Output:**

**Program no:18****Aim:** Develop application using Fragments**activity\_main:**

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

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

```
<Button
    android:id="@+id/b1"
    android:layout_width="160dp"
    android:layout_height="50dp"
    android:layout_alignParentBottom="true"
    android:layout_marginStart="30dp"
    android:layout_marginBottom="30dp"
    android:backgroundTint="#2196F3"
    android:text="Fragment1" />
```

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

```
</RelativeLayout>
```

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

</LinearLayout>

### **Fragment1.xml:**

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@color/teal_200"
    tools:context=".Fragment1">

    <!-- TODO: Update blank fragment layout -->
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:background="#FFEB3B"
        android:text="Fragment1"
        android:textSize="30dp" />

</RelativeLayout>
```

### **Fragment2.xml:**

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#FFEB3B"
    tools:context=".Fragment2">

    <!-- TODO: Update blank fragment layout -->
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:background="#FAA3C1"
        android:text="Fragment2"
        android:textSize="30dp" />

</RelativeLayout>
```

**Java Code:**

```

package com.example.fragment;

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

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

public class MainActivity extends AppCompatActivity {
    Button b1,b2;

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

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

        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                replaceFragment(new Fragment1());
            }
        });
        b2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                replaceFragment(new Fragment2());
            }
        });
    }

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

package com.example.fragment;
import android.os.Bundle;
import androidx.fragment.app.Fragment;
import android.view.LayoutInflater;

```

```
import android.view.View;
import android.view.ViewGroup;

public class Fragment1 extends Fragment {

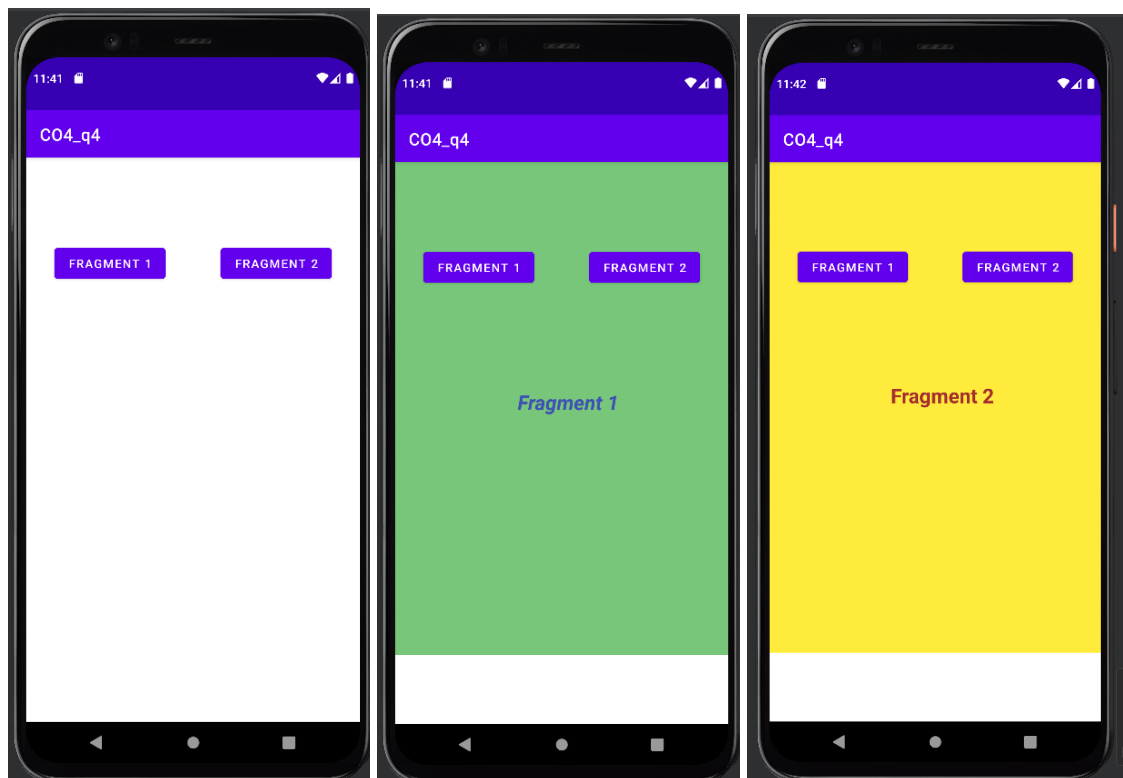
    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
        Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.fragment_1, container, false);
    }
}

package com.example.fragment;

import android.os.Bundle;
import androidx.fragment.app.Fragment;

import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
public class Fragment2 extends Fragment {

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
        Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.fragment_2, container, false);
    }
}
```

**Output:**

**Program no:19****Aim:** Implement Navigation drawer**Activity\_main.xml:**

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.drawerlayout.widget.DrawerLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity"
android:id="@+id/drawer">
<LinearLayout
android:layout_width="match_parent"
android:layout_height="match_parent">
<TextView
android:layout_width="match_parent"
android:layout_height="match_parent"
android:text="Welcome"
android:textSize="30dp">
</TextView>
</LinearLayout>
<com.google.android.material.navigation.NavigationView
android:layout_width="match_parent"
android:layout_height="match_parent"
app:menu="@menu/menu"
android:id="@+id/navigation_view"
android:layout_gravity="start">
</com.google.android.material.navigation.NavigationView>
</androidx.drawerlayout.widget.DrawerLayout>

```

**Menu.xml:**

```

<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
<item
android:id="@+id/account"
android:title="My account"/>
<item
android:id="@+id/profile"
android:title="My profile"/>
<item
android:id="@+id/logout"
android:title="log out"/>
</menu>

```

**MainActivity.java:**

```

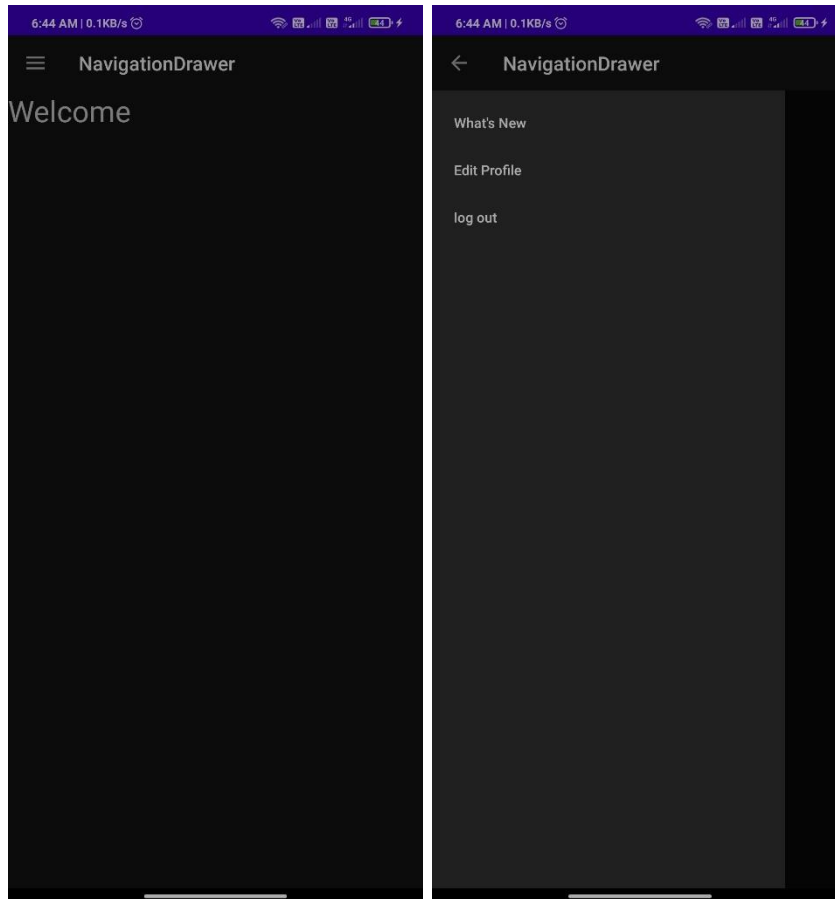
package com.example.navigation;

import androidx.annotation.NonNull;
import androidx.appcompat.app.ActionBarDrawerToggle;
import androidx.appcompat.app.AppCompatActivity;
import androidx.drawerlayout.widget.DrawerLayout;
import android.os.Bundle;
import android.view.MenuItem;
import android.widget.Toast;
import com.google.android.material.navigation.NavigationView;
public class 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 onNavigationItemSelected(@NonNull MenuItem item) {
        int id=item.getItemId();
        if(id == R.id.account){
            Toast.makeText(this, "Home Page", Toast.LENGTH_SHORT).show();
        }
        if(id == R.id.profile){
            Toast.makeText(this, "Settings Page",
            Toast.LENGTH_SHORT).show();
        }
        if(id == R.id.logout){
            Toast.makeText(this, "Logout", Toast.LENGTH_SHORT).show();
        }
    }
}

```



```
}  
return false;  
}  
}
```

**Output:**

**Program no:20**

**Aim:** Program to implement activity life cycle

**activity\_main.xml:**

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

<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Welcome"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent" />

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

**MainActivity.Java:**

```
package com.example.lifecycle;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.i("State","onCreate");
    }
}
```

```
@Override
protected void onStart() {
    super.onStart();
    Log.i("State","onStart");
}
```

```
@Override
protected void onResume() {
    super.onResume();
    Log.i("State","onResume");
}
```

```
@Override
protected void onPause() {
    super.onPause();
    Log.i("State","onCreate");
}
```

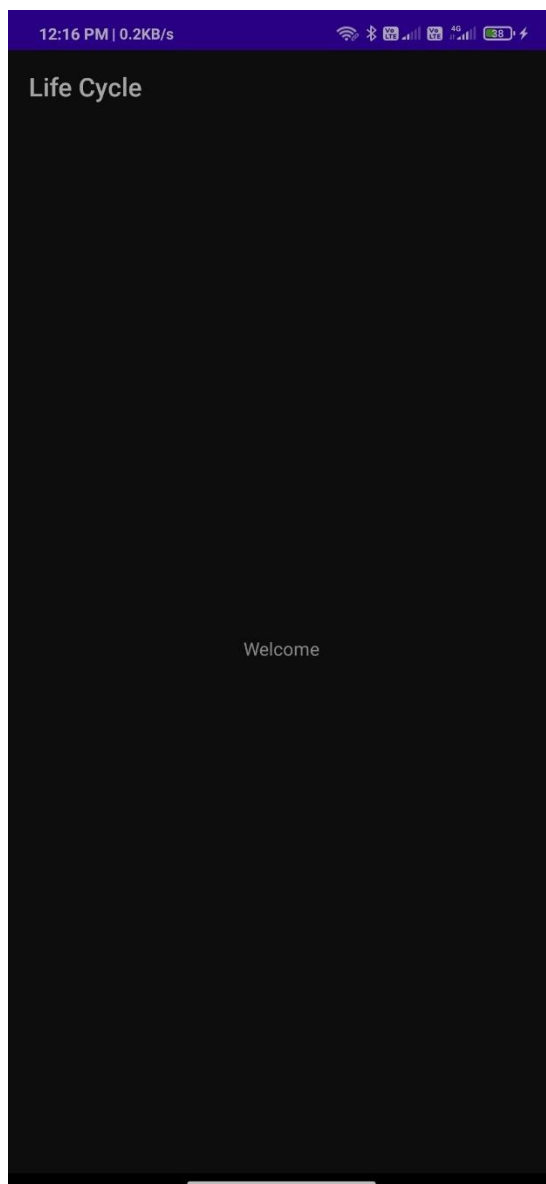
```
@Override
protected void onRestart() {
    super.onRestart();
    Log.i("State","onRestart");
}
```

```
@Override
protected void onStop() {
    super.onStop();
    Log.i("State","onStop");
}
```

```
@Override
protected void onDestroy() {
    super.onDestroy();
    Log.i("State","onDestroy");
}
}
```

**Output:**

```
2022-02-26 12:12:02.730 5490-5490/com.example.lifecycle W/ActivityThread: S
2022-02-26 12:12:02.733 5490-5490/com.example.lifecycle I/State: onCreate
2022-02-26 12:12:02.792 5490-5490/com.example.lifecycle I/State: onStop
2022-02-26 12:12:07.536 5490-5490/com.example.lifecycle I/State: onRestart
2022-02-26 12:12:07.547 5490-5490/com.example.lifecycle I/State: onStart
2022-02-26 12:12:07.556 5490-5490/com.example.lifecycle I/State: onResume
2022-02-26 12:12:13.827 5490-5490/com.example.lifecycle W/ActivityThread: S
2022-02-26 12:12:13.828 5490-5490/com.example.lifecycle I/State: onCreate
2022-02-26 12:12:13.878 5490-5490/com.example.lifecycle I/State: onStop
2022-02-26 12:12:16.326 5490-5490/com.example.lifecycle I/State: onDestroy
```



**Program no:21**

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

**activity\_main.xml:**

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

```
<TextView
android:id="@+id/textView"
android:layout_width="162dp"
android:layout_height="40dp"
android:text="DB Operations"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.082" />
```

```
<EditText
android:hint="Name"
android:id="@+id/name"
android:layout_width="278dp"
android:layout_height="56dp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.496"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.254" />
```

```
<EditText
android:hint="Place"
android:id="@+id/place"
android:layout_width="278dp"
android:layout_height="56dp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.496"
```

```

app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.357" />

```

```

<EditText
    android:hint="Email"
    android:id="@+id/email"
    android:layout_width="278dp"
    android:layout_height="56dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.496"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.46" />

```

```

<EditText
    android:hint="Mobile"
    android:id="@+id/mobile"
    android:layout_width="278dp"
    android:layout_height="56dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.496"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.568" />

```

```

<Button
    android:id="@+id/btnins"
    android:layout_width="267dp"
    android:layout_height="46dp"
    android:text="Insert"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.705" />

```

```

<Button
    android:id="@+id/btnupdt"
    android:layout_width="267dp"
    android:layout_height="46dp"
    android:text="Update"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.772" />

```

```

<Button
    android:id="@+id/btnview"
    android:layout_width="267dp"
    android:layout_height="46dp"
    android:text="View"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.839" />

<Button
    android:id="@+id/btnndel"
    android:layout_width="267dp"
    android:layout_height="46dp"
    android:text="Delete"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.906" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

### MainActivity.Java:

```

package com.example.databaseoperations;

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,place,email,mobile;
    Button btnins,btnupdt,btnview,btnndel;
    operations op;

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

        name = findViewById(R.id.name);

```

```

place = findViewById(R.id.place);
email = findViewById(R.id.email);
mobile = findViewById(R.id.mobile);

btnins = findViewById(R.id.btnins);
btnupdt = findViewById(R.id.btnupdt);
btnview = findViewById(R.id.btnview);
btndel = findViewById(R.id.btndel);
op=new operations(this);

btnins.setOnClickListener(new View.OnClickListener() {

@Override
public void onClick(View v) {
String Name = name.getText().toString();
String Place = place.getText().toString();
String Email = email.getText().toString();
String Mobile = mobile.getText().toString();

boolean insertion = op.onInsert(Name, Place, Email, Mobile);
if (insertion == true) {
Toast.makeText(MainActivity.this,"InsertionSucessfull",
Toast.LENGTH_SHORT).show();
} else {
Toast.makeText(MainActivity.this,"InsertionFailed",
Toast.LENGTH_SHORT).show();
}
}
});

btnupdt.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
String Name = name.getText().toString();
String Place = place.getText().toString();
String Email = email.getText().toString();
String Mobile = mobile.getText().toString();

boolean updation = op.onUpdate(Name, Place, Email, Mobile);
if (updation == true) {
Toast.makeText(MainActivity.this,"UpdatedSucessfully",
Toast.LENGTH_SHORT).show();
} else {
Toast.makeText(MainActivity.this,"UpdationFailed",
Toast.LENGTH_SHORT).show();
}
}
});

btnview.setOnClickListener(new View.OnClickListener() {

```



```

@Override
public void onClick(View v) {
    Cursor res=op.onView();
    if(res.getCount()==0){
        Toast.makeText(MainActivity.this,"Noentryexists", Toast.LENGTH_SHORT).show();
        return;
    }
    StringBuffer buffer=new StringBuffer();
    while(res.moveToNext()){
        buffer.append("Name:"+res.getString(0)+"\n");
        buffer.append("Place:"+res.getString(1)+"\n");
        buffer.append("Email:"+res.getString(2)+"\n");
        buffer.append("Mobile:"+res.getString(3)+"\n");
    }
    AlertDialog.Builder builder=new AlertDialog.Builder(MainActivity.this);
    builder.setCancelable(true);
    builder.setTitle("User Entries");
    builder.setMessage(buffer.toString());
    builder.show();
}
});

btndel.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
    String Name = name.getText().toString();
    boolean deletion = op.onDelete(Name);
    if (deletion == true) {
        Toast.makeText(MainActivity.this,"DeletionSucessfully",
        Toast.LENGTH_SHORT).show();
    } else {
        Toast.makeText(MainActivity.this,"DeletionFailed",
        Toast.LENGTH_SHORT).show();
    }
}
});
}
}

```

### **operations.java:**

```

package com.example.databaseoperations;

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 operations extends SQLiteOpenHelper {
    public operations(Context context) {
        super(context, "DBpersons", null, 1);
    }

    @Override
    public void onCreate(SQLiteDatabase db) {
        db.execSQL("create table tblpersons (Name varchar(20) primary key,Place
        varchar(30),Email varchar(20),Mobile varchar(10))");

    }

    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {
        db.execSQL("drop table if exists tblpersons");
    }

    public boolean onInsert(String Name,String Place,String Email,String Mobile){
        SQLiteDatabase sdb=this.getWritableDatabase();
        ContentValues cv=new ContentValues();
        cv.put("Name",Name);
        cv.put("Place",Place);
        cv.put("Email",Email);
        cv.put("Mobile",Mobile);
        long result = sdb.insert("tblpersons",null,cv);
        if(result==-1){
            return false;
        }
        else{
            return true;
        }
    }

    public boolean onUpdate(String Name,String Place,String Email,String Mobile){
        SQLiteDatabase sdb=this.getWritableDatabase();
        ContentValues cv=new ContentValues();
        cv.put("Place",Place);
        cv.put("Email",Email);
        cv.put("Mobile",Mobile);
        Cursor cr =sdb.rawQuery("select * from tblpersons where Name=?",new
        String[]{Name});
        if(cr.getCount()>0){
            long result = sdb.delete("tblpersons","Name=?", new String[]{Name});
            if(result==-1){
                return false;
            }
            else{
                return true;
            }
        }
    }
}

```

```
}
else{
return false;
}
}

public Cursor onView(){
    SQLiteDatabase sdb=this.getWritableDatabase();
    Cursor cursor=sdb.rawQuery("Select * from tblpersons",null);
    return cursor;
}

public boolean onDelete(String Name){
    SQLiteDatabase sdb=this.getWritableDatabase();
    Cursor cr =sdb.rawQuery("select * from tblpersons where Name=?",new
    String[]{Name});
    if(cr.getCount(>0){
    long result = sdb.delete("tblpersons","Name=?", new String[]{Name});
    if(result==-1){
    return false;
    }
    else{
    return true;
    }
    }
    else{
    return false;
    }
    }
    }
}
```

**Output:**