20MCA243 MOBILE APPLICATION DEVELOPMENT LAB

Lab Report SubmittedBy

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AMAL JYOTHI COLLEGE OF ENGINEERING
KANJIRAPPALLY

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DEPARTMENT OF COMPUTER APPLICATIONS

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CERTIFICATE

This is to certify that the lab report, "**20MCA243 MOBILE APPLICATION DEVELOPMENT LAB"** is the bonafide work of **ELIZABETH ANTONY (Reg.No:AJC20MCA-2036)** 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: 01

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

XML Code:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns: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/l"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10" android:gravity="center"
        android:text="Login"
        android:textColor="#2196F3"
        android:textSize="50dp"
        tools:layout_editor_absoluteX="31dp"
        tools:layout_editor_absoluteY="39dp"
        </TextView>
        <EditText
        android:id="@+id/e1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
```

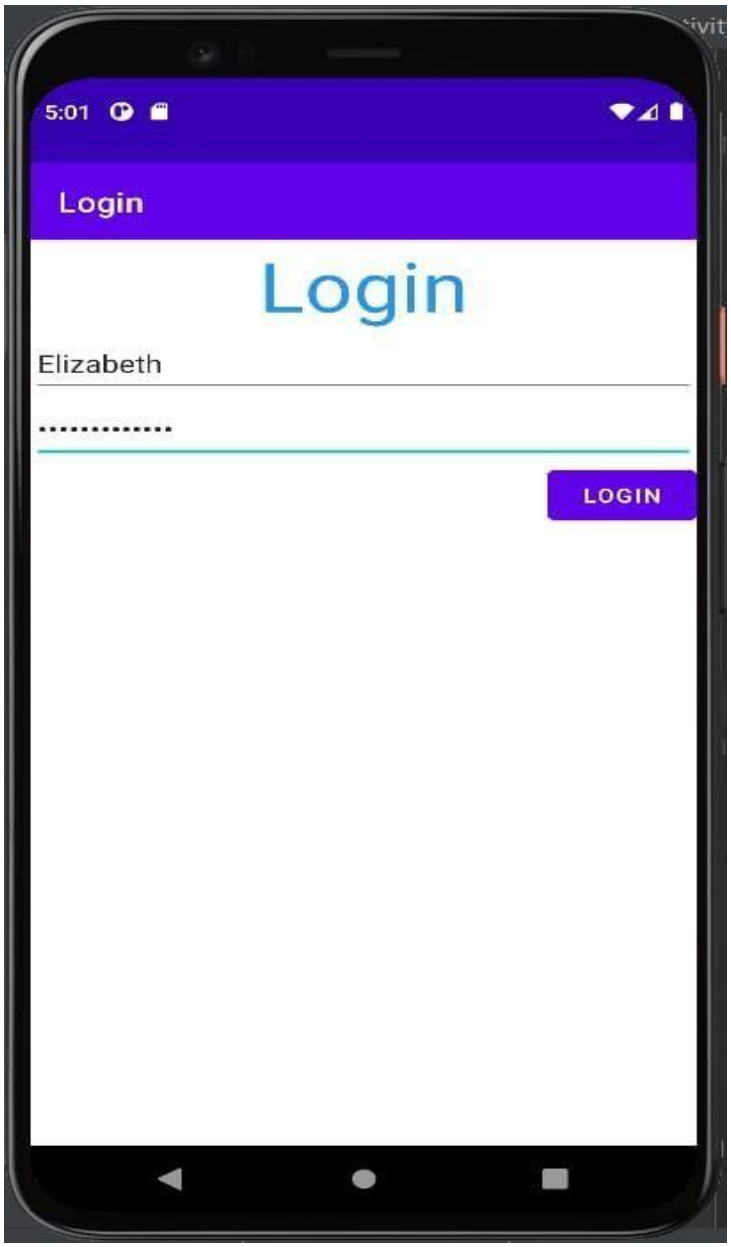
```
        android:inputType="textPersonName"
        android:minHeight="48dp"
        android:text="Username" />
    <EditText
        android:id="@+id/e2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPassword"
        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: 02

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

XML Code:

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#54E91E63"
    android:orientation="vertical" tools:context=".MainActivity">

    <EditText android:id="@+id/text1"
        android:layout_width="wrap_content"
        android:layout_height="78dp"
        android:background="@color/white"
        android:hint="Enter the Text"
        android:textColorHighlight="#E91E63"
        android:textColorLink="#A6E91E63"
        android:textSize="25dp"
```

```
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.693"
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.298" />

<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:gravity="center"
    android:text="Button"
    android:textColorHighlight="#E91E63"
    android:textColorLink="#E91E63"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.88"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.472" />
```

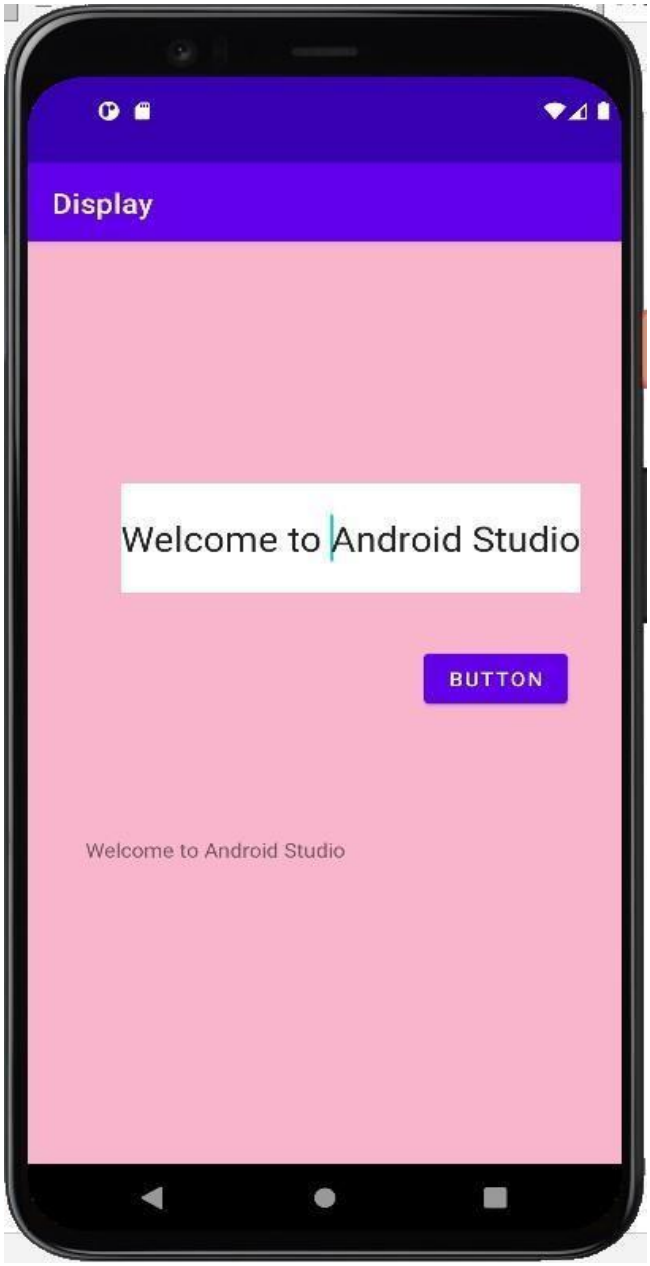
```
    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="70dp"
        android:layout_gravity="center"
        android:text="Entered Text "
        android:textColorHighlight="#B0E91E63"
        android:textColorLink="#D2E91E63"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.173"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.721" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Java Code:

```
package com.example.display;
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:


Display
Welcome to Android Studio
BUTTON
Welcome to Android Studio

Program no: 03

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

XML Code:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools" android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">
    <TextView
        android:id="@+id/l"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10" android:gravity="center"
        android:text="Login"
        android:textColor="#2196F3"
        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"
```

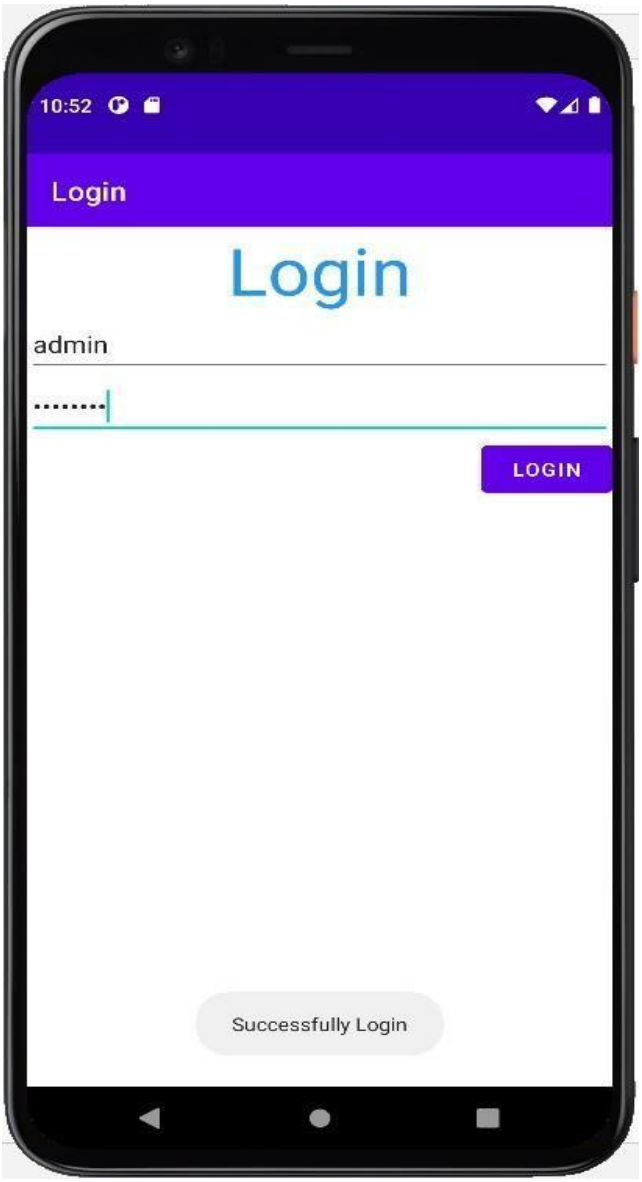
```
    android:hint="Username"
    android:inputType="textPersonName"
    android:minHeight="48dp" />

<EditText
    android:id="@+id/e2"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:ems="10" android:hint="Password"
    android:inputType="textPassword"
    android:minHeight="48dp" />
<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.view.View; import
android.widget.Button; import
android.widget.EditText; import
android.widget.TextView; import
android.widget.Toast;
```

```
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);
        b1.setOnClickListener(new
        View.OnClickListener()             {
        @Override
            public void onClick(View view) {

                String uname = e1.getText().toString(); String
                pass = e2.getText().toString();
                if (uname.equals( "admin") && pass.equals("admin123")) {

                    Toast.makeText(getApplicationContext(), "Successfully Login",
Toast.LENGTH_SHORT).show();
                  }
                 else {
                       Toast.makeText(getApplicationContext(), "Invalid Login",
Toast.LENGTH_SHORT).show();
                     }

            }
        });
```

Output:



Program no:4

Aim: Implementing basic arithmetic operations of a simple calculator

XML Code:

```
<?xmlversion="1.0"encoding="utf-8"?>
<LinearLayoutxmlns: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>

 <LinearLayoutandroid:orientation="ver
 tical"
 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:

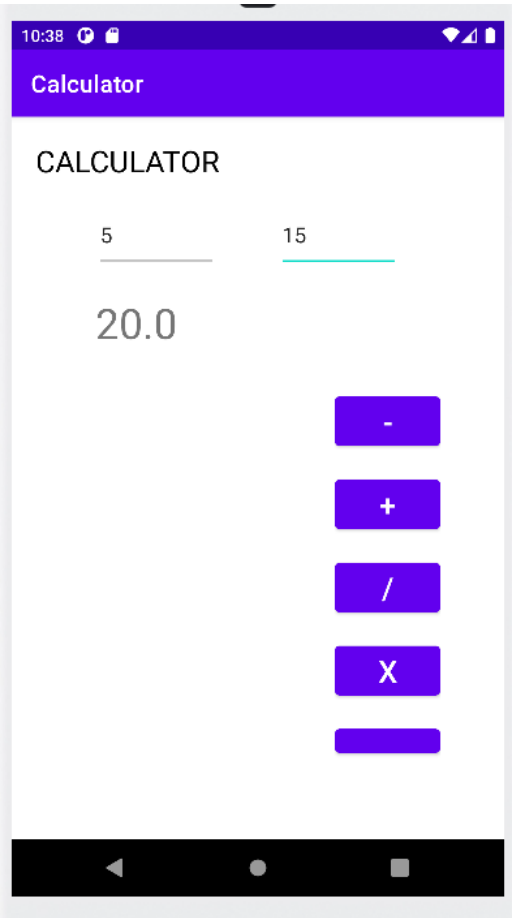
```
 package com.example.calculator;
 import androidx.appcompat.app.AppCompatActivity;
 import android.os.Bundle;
 import android.view.View;
 import android.widget.Button;
 import android.widget.EditText;
 import android.widget.TextView;
import android.widget.Toast;
 public class MainActivity extends 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);
 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

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:

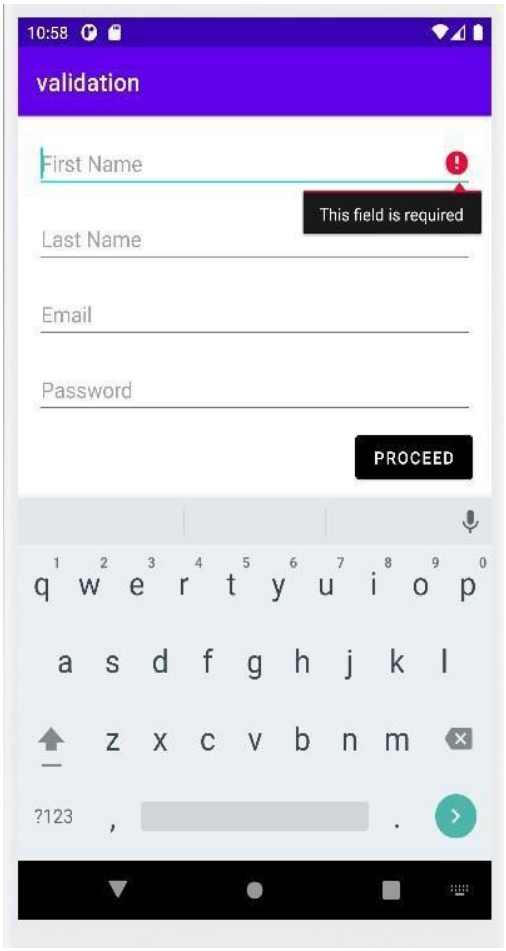
```
package com.example.validation;
import androidx.appcompat.app.AppCompatActivity; import
android.content.Intent;
import android.os.Bundle; import
```

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

public class MainActivity extends AppCompatActivity {

    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:


10:58
validation
First Name
This field is required
Last Name
Email
Password
PROCEED
?123

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/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 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=".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);
```

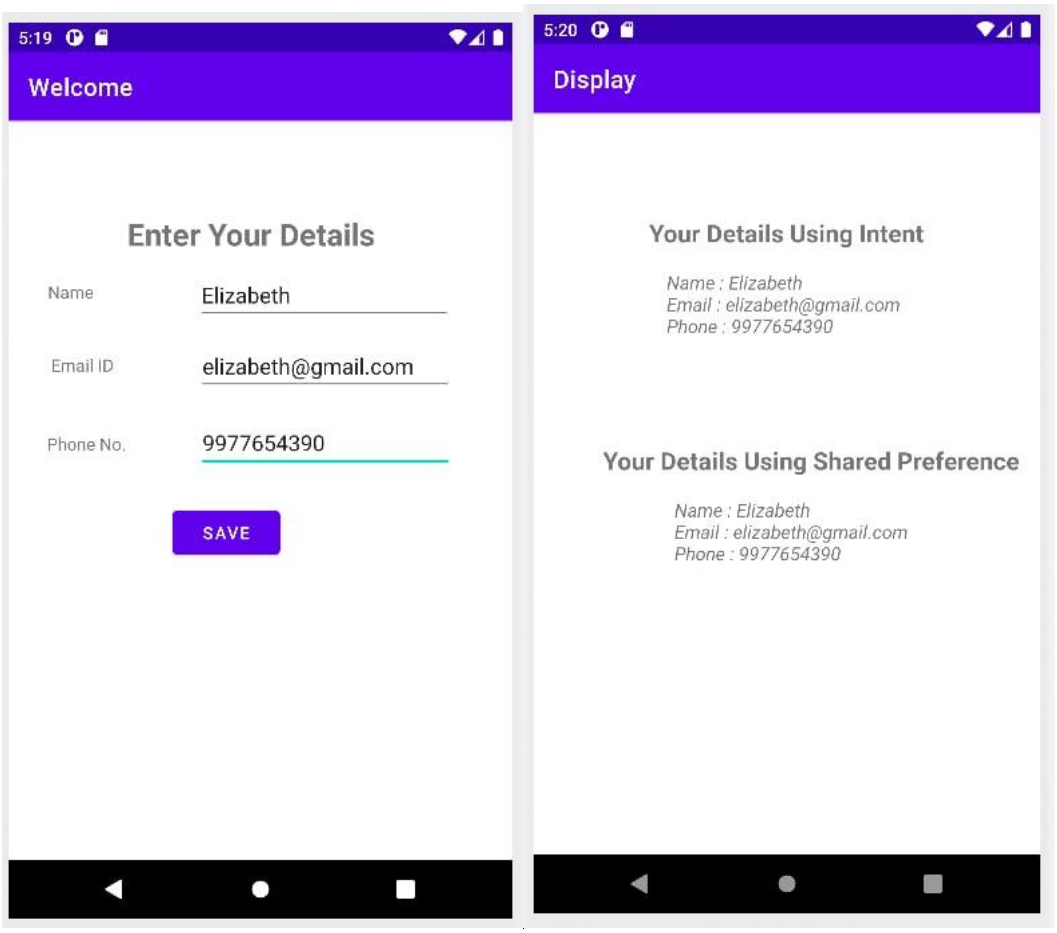
```
        EditText email=findViewById(R.id.em);
        EditText phone=findViewById(R.id.ph);
        sub.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {

                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 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.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:


5:19
Welcome
Enter Your Details
Name
Elizabeth
Email ID
elizabeth@gmail.com
Phone No.
9977654390
SAVE
5:20
Display
Your Details Using Intent
Name : Elizabeth
Email : elizabeth@gmail.com
Phone : 9977654390
Your Details Using Shared Preference
Name : Elizabeth
Email : elizabeth@gmail.com
Phone : 9977654390

Program no: 7

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: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: 8

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"
```

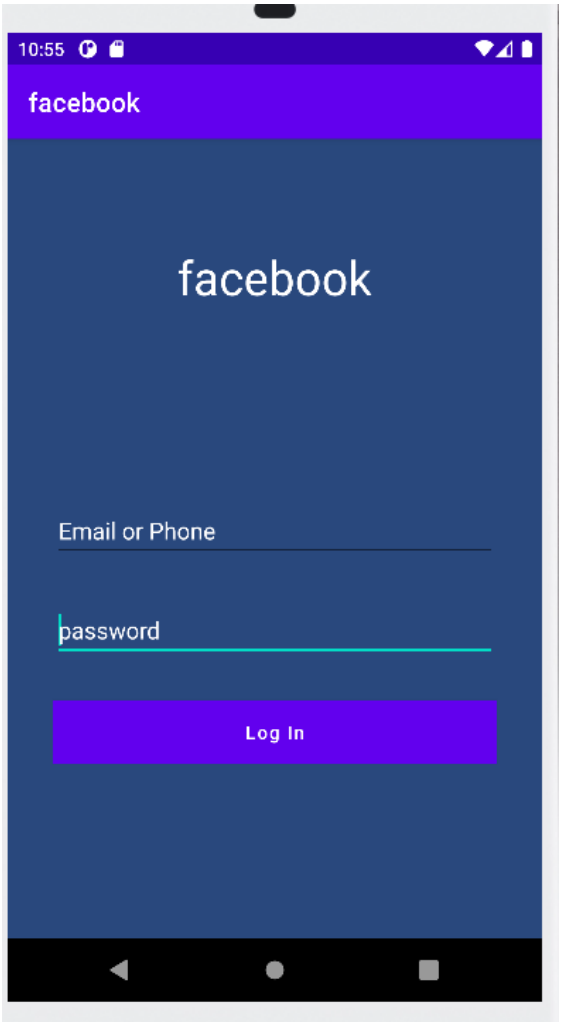
```
        android:layout_weight="1"
        android:textStyle="bold" android:text="?"/>
        android:gravity="end
        android:textStyle="bold"
        android:textColor="@color/white"
        android:layout_marginRight="75dp"
        android:layout_weight="50"
        android:text="SignUp for 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:

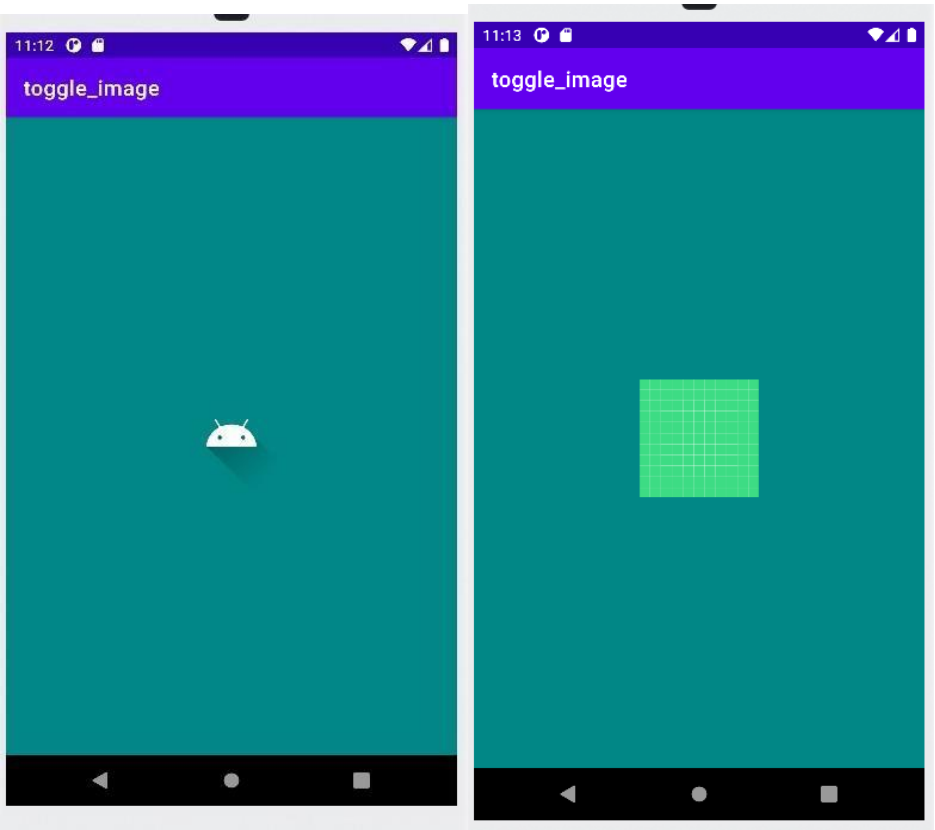
```
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"
 xmlns:tools="http://schemas.android.com/tools"
 android:layout_width="match_parent" android:layout_height="match_parent"
 android:layout_gravity="center"
 android:background="@color/teal_700"
 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>
```

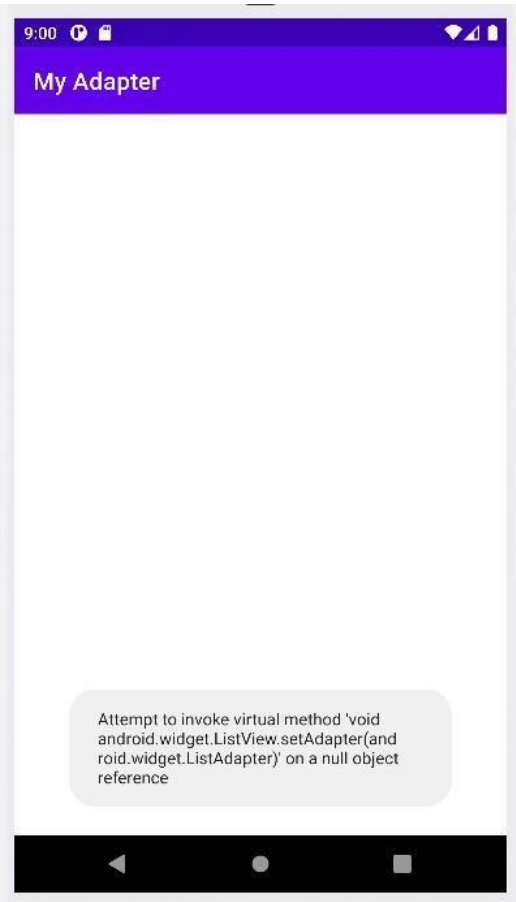
Java Code:

```
package com.example.myadapter;
import androidx.appcompat.app.AppCompatActivity; import
android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
 import android.widget.ArrayAdapter;
import android.widget.ListView;
```

```
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.ListView; import
android.widget.TextView; import
android.widget.Toast;
public class MainActivity extends AppCompatActivity implements
AdapterView.OnItemClickListener {
    ListView l1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        String[] cars = {"BMW", "BENZ", "AUDI"};
        try {
            ArrayAdapter<String> adapter = new ArrayAdapter<String>(this,
            R.layout.support_simple_spinner_dropdown_item, cars);
            l1.setAdapter(adapter);
            l1.setOnItemClickListener(this);
        }
        catch (Exception e)
        {
            Toast.makeText(this,e.getMessage(),Toast.LENGTH_SHORT).show();
        }
    }
    @Override
    public void onItemClick(AdapterView<?> adapterView, View view, int i, long l) {
        TextView tem=(TextView) view;
```

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

}
```

Output:


9:00
My Adapter
Attempt to invoke virtual method 'void android.widget.ListView.setAdapter(android.widget.ListAdapter)' on a null object reference

Program no: 11

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

XML Code:

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

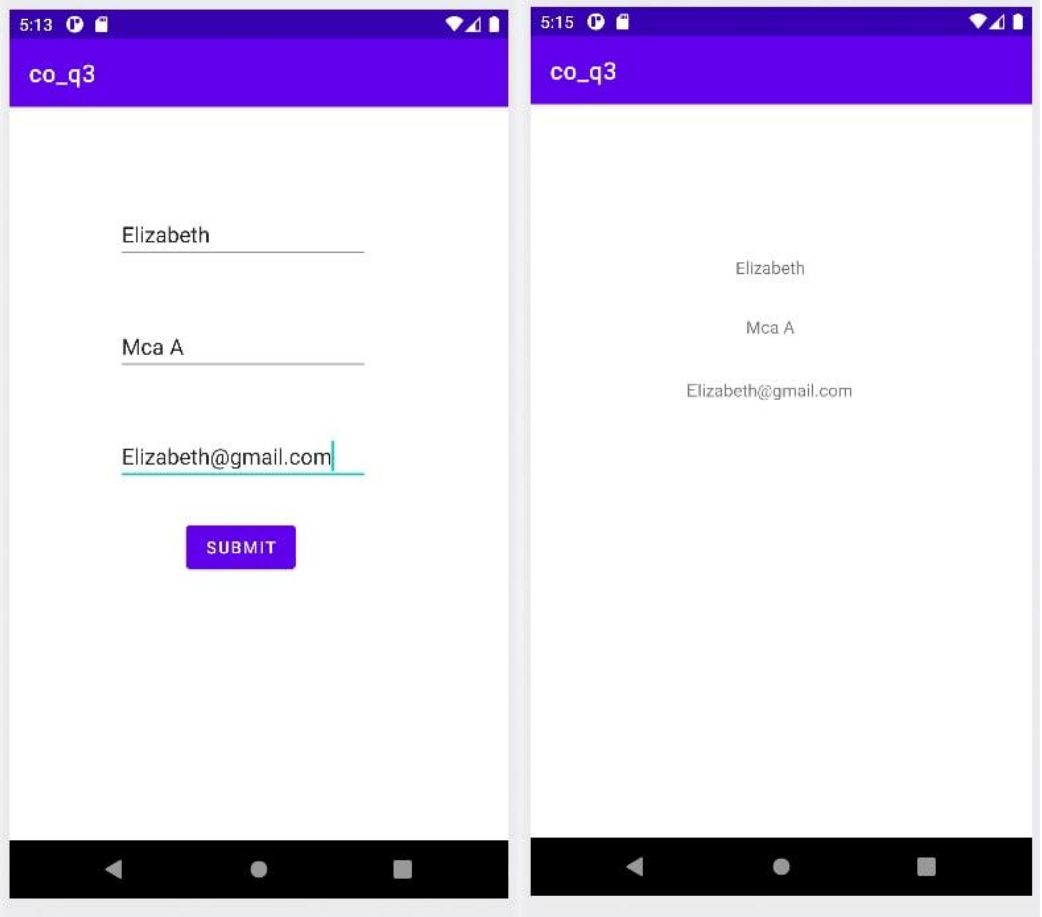
```
        i.putExtra("Value3", em);
        startActivity(i);
         }
        }
```

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:


5:13
co_q3
Elizabeth
Mca A
Elizabeth@gmail.com
SUBMIT
5:15
co_q3
Elizabeth
Mca A
Elizabeth@gmail.com

Program no: 12

Aim: Develop an application that works with implicit intents

XML Code:

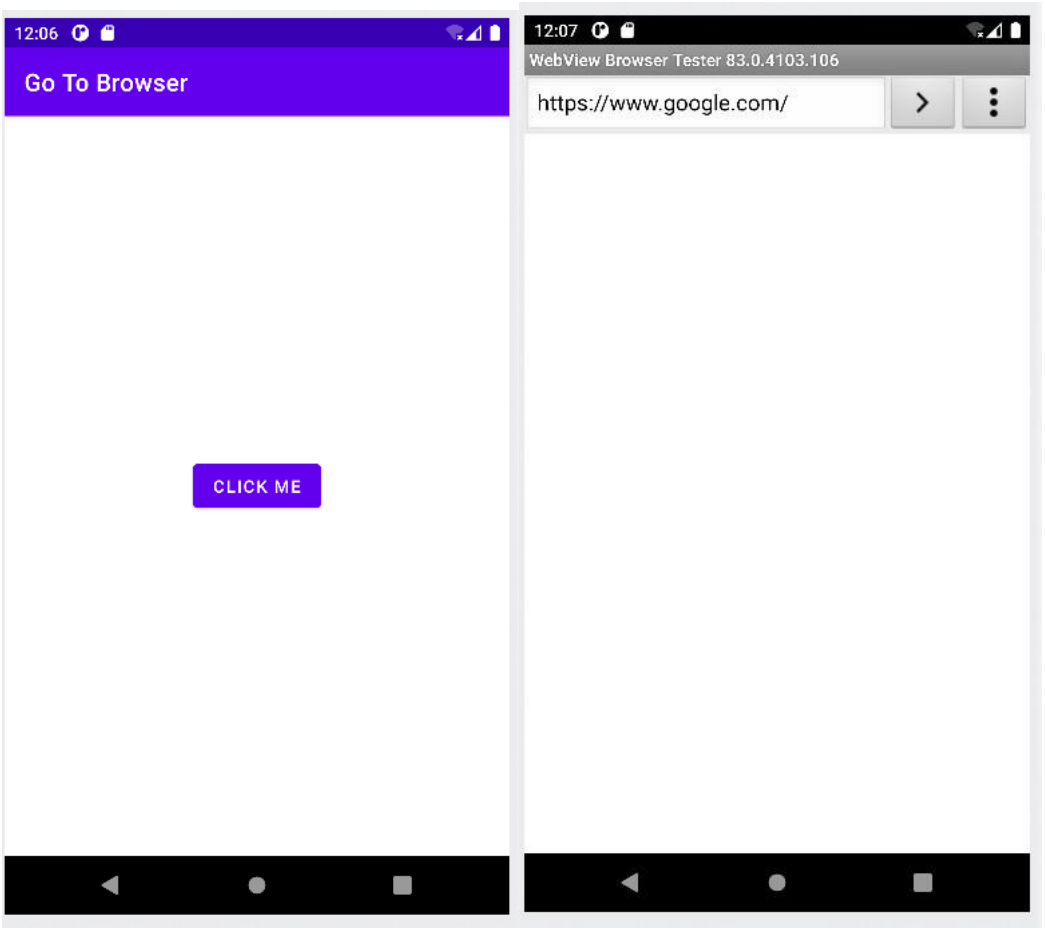
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
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

Java Code:

```
package com.example.myapplication;

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

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

public class 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:


12:06
Go To Browser
CLICK ME
12:07
WebView Browser Tester 83.0.4103.106
https://www.google.com/

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

Activitymain.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!"
```

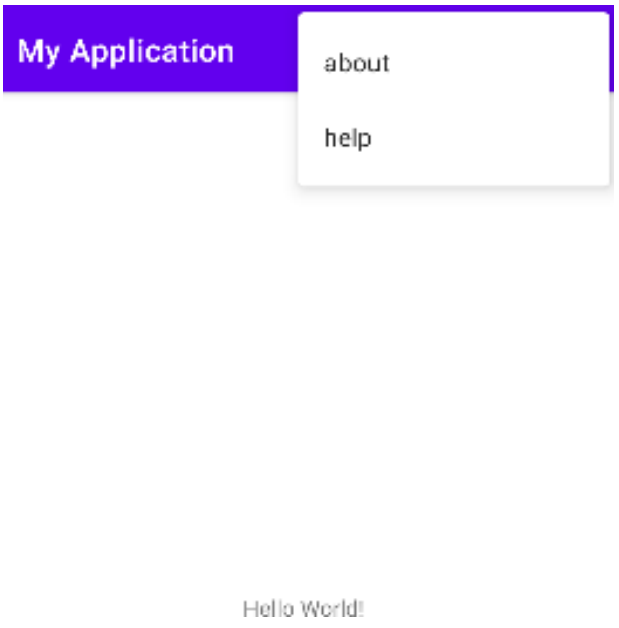
```
        android:layout_height="wrap_content"

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

public class 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.menuu, 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;
                 caseR.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

XML Code:

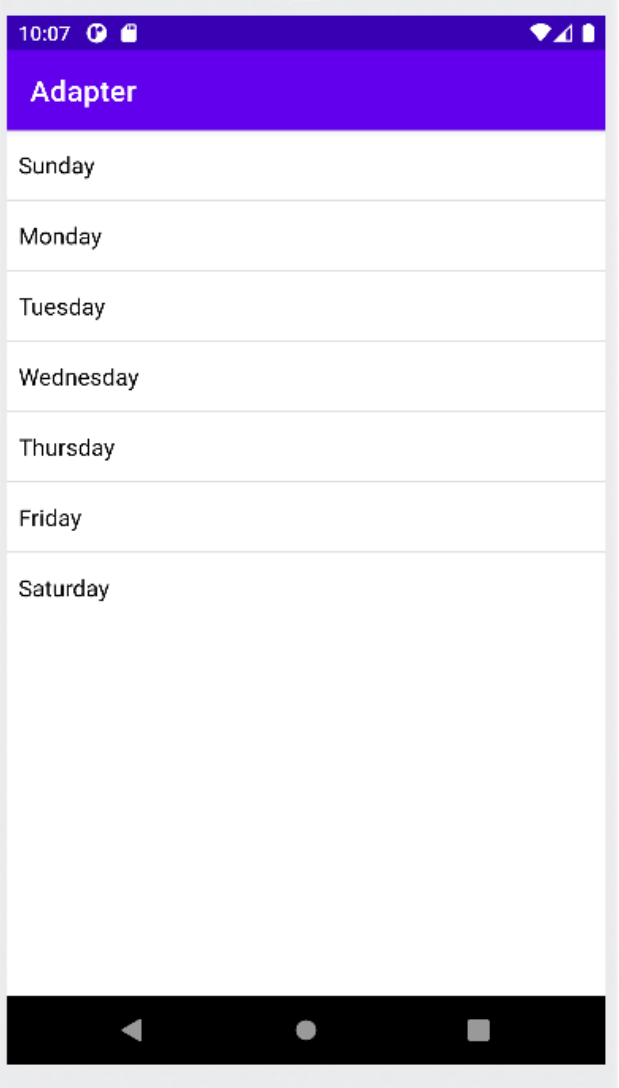
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:layout_width="match_parent"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

    @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:


10:07
Adapter
Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday

Program No:15

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

```
<?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.ConstraintLay
out>
```

Java Code:

```
package com.example.myapp;
import androidx.annotation.NonNull;
```

```
import androidx.appcompat.app.AlertDialog;
importandroidx.appcompat.app.AppCompatActiv
ity;
 import android.content.DialogInterface;
import android.content.Intent;
 import android.os.Bundle;
import android.view.Menu;
importandroid.view.MenuItem;
import android.view.View;
import android.widget.Button;
 importandroid.widget.ImageView;
importandroid.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.creat
e(); 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.show(
); 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"
```

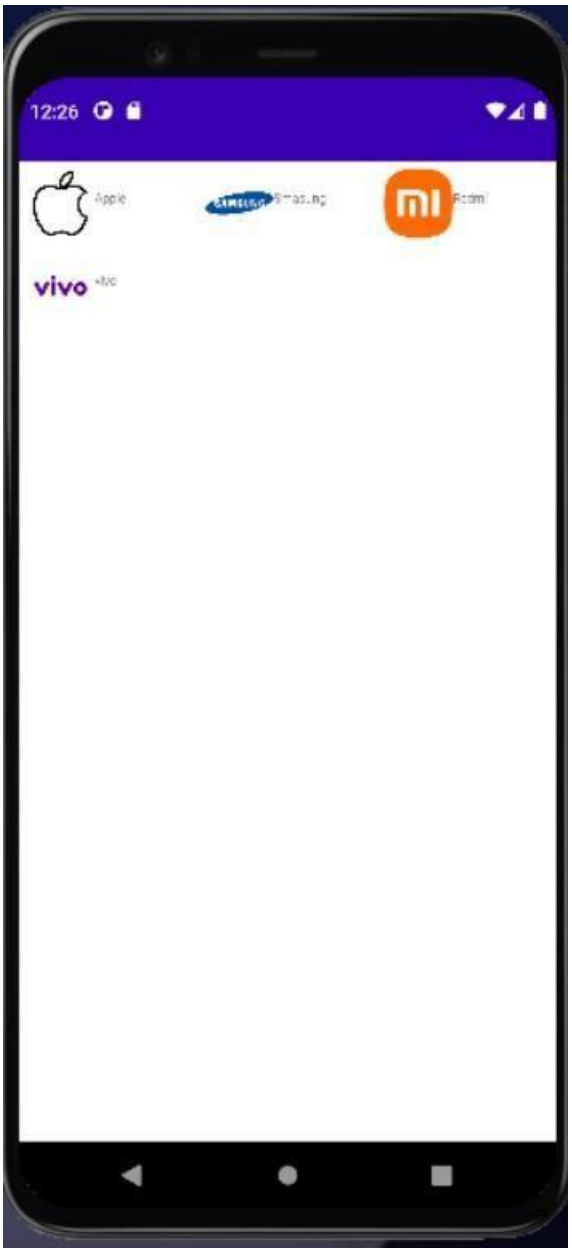
```
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:orientation="vertical">
<ImageView
android:id="@+id/imageView2"
android:layout_width="wrap_content" a
ndroid:layout_height="wrap_content"
android:layout_weight="1"
android:src="@drawable/help" />
<TextView
android:id="@+id/textView3"
android:layout_width="wrap_contet"
android:layout_height="wrap_contet
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/it4"
android:title="Pop Up" />
</menu>
```

Output:



Program no: 16

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

activity_main.xml

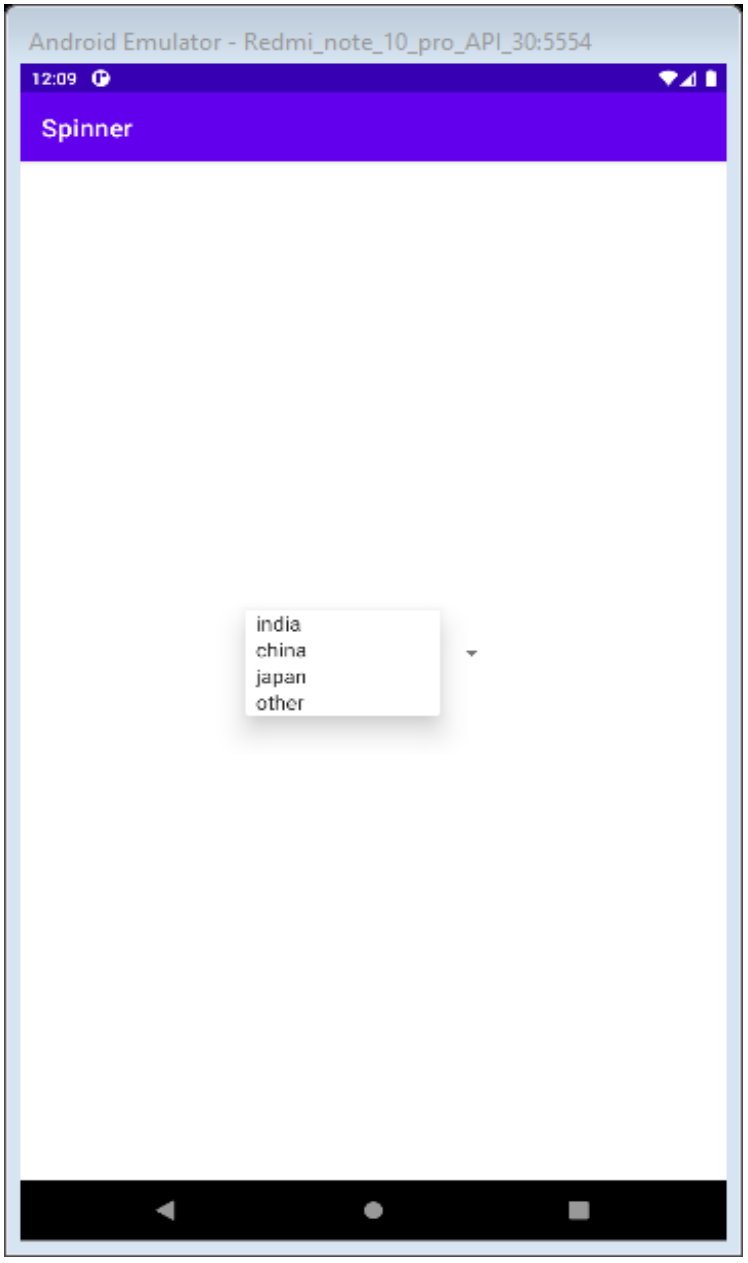
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
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

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

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

MainActivity.java

```
package com.example.spinner;

import androidx.appcompat.app.AppCompatActivity;

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


public class MainActivity extends AppCompatActivity implements
        AdapterView.OnItemSelectedListener {
    String[] country = {"india", "china", "japan", "other"};
```

```
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Spinner spin = (Spinner) findViewById(R.id.spinner);
        spin.setOnItemSelectedListener(this);
        ArrayAdapter aa = new ArrayAdapter(this, android.R.layout.simple_spinner_item,
country);
        aa.setDropDownViewResource(android.R.layout.simple_spinner_item);
        spin.setAdapter(aa);
    }

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

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

    }
}
```

Output:


Android Emulator - Redmi_note_10_pro_API_30:5554
12:09
Spinner
india
china
japan
other

Program No: 17

Aim: Apply themes vis code and manifest file

XML Code:

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/re
    s/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/editTextTextPers
        onName"
        android:layout_width="wrap_conte
        nt"
        android:layout_height="wrap_cont"

        android:ems="10"
        android:inputType="textPersonNae
        android:minHeight="48dp"
        android:text="HAI HELLO"
        app:layout_constraintBottom_toBottomOf
        ="parent"
        app:layout_constraintEnd_toEndOf="pare
        nt"
        app:layout_constraintStart_toStartOf="par
        ent"
```

```
        app:layout_constraintTop_toTopOf="pare
        nt" />
  </androidx.constraintlayout.widget.ConstraintLayout>
```

Java Code:

```
package com.example.theme;
import
androidx.appcompat.app.AppCompatActivi
ty; 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">#673AB7</color>
    <color name="color_primary_dark">#8BC34A</color>
    <color name="color_accent">#00BCD4</color>
    <color name="color_text_color_primary">#3B65FF</color>
</resources>
```

#new_style.xml

```
        <resources xmlns:tools="http://schemas.android.com/tools">
    <!-- Base application theme. -->
    <stylename="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>
</resourcs>
```

#values\themes.xml

```
<resources xmlns:tools="http://schemas.android.com/tools">
<!-- Base application theme. -->
<stylename="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>
```

#**AndroidMai**

nfest.xml

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

<application
android:allowBackup="true"
android:icon="@mipmap/ic_
launcher"
android:label="@string/app_
name"
android:roundIcon="@mipmap/ic_launch
er_round" android:supportsRtl="true"
android:theme="@style/Theme.new_style
">
```

```
<activity
android:name=".Mai
nActivity"
android:exported="tr
ue" >
<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. -->
<stylename="Theme.Themes"
parent="Theme.MaterialComponents.DayNight.DarkAc
tionBar">

<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:-

10:44
THEMES
HAI HELLO
Hello World!

Program no: 18

Aim: Program to develop application using Fragments

activity_main.xml

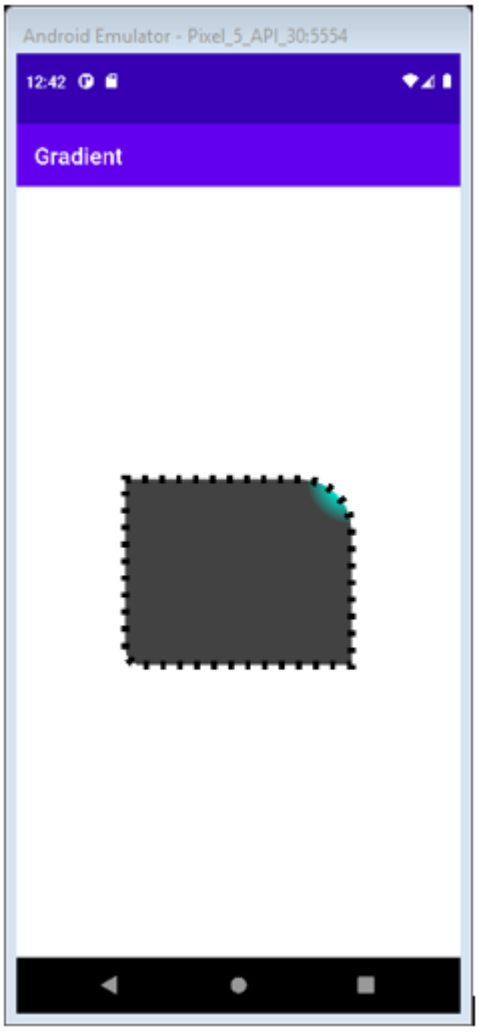
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent"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

   <ImageButton
      android:id="@+id/imageButton"
      android:layout_width="208dp"
      android:layout_height="173dp"
      android:background="@drawable/custom_button_background"
      app:layout_constraintBottom_toBottomOf="parent"
      app:layout_constraintEnd_toEndOf="parent"
      app:layout_constraintStart_toStartOf="parent"
      app:layout_constraintTop_toTopOf="parent"
      tools:srcCompat="@tools:sample/backgrounds/scenic" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

custom_button_background.xml

```
<?xml version="1.0" encoding="utf-8"?>
<selector xmlns:android="http://schemas.android.com/apk/res/android">
<item>
   <shape android:shape="rectangle">
      <solid android:color="@color/purple_700"></solid>
      <stroke android:color="@color/black"
            android:width="10dp"
            android:dashGap="40dp"
            android:dashWidth="5dp">
      </stroke>
      <corners android:bottomLeftRadius="15dp"
             android:topRightRadius="45dp" >
      </corners>

      <size android:width="100dp" android:height="100dp"></size>

      <gradient
         android:startColor="@color/teal_200"
         android:endColor="@color/cardview_dark_background"
         android:angle="360"
         android:centerColor="@color/teal_200"
         android:type="radial"
```

```
            android:gradientRadius="40dp"
            android:centerX="1"
            android:centerY="0">
        </gradient>

    </shape>
</item>
</selector>
```

Output:



Program no: 19

Aim: Program to 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:id="@+id/textview"
            android:text="Welcome"
            android:textSize="20dp"/>
   </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>
```

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">NavigationDrawer</string>
    <string name="nav_open">Open</string>
    <string name="nav_close">Close</string>
</resources>
```

build.gardle

```
plugins {
    id 'com.android.application'
}

android {
    compileSdk 31

    defaultConfig {
        applicationId "com.example.navigationdrawer"
        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'
    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"
}
```

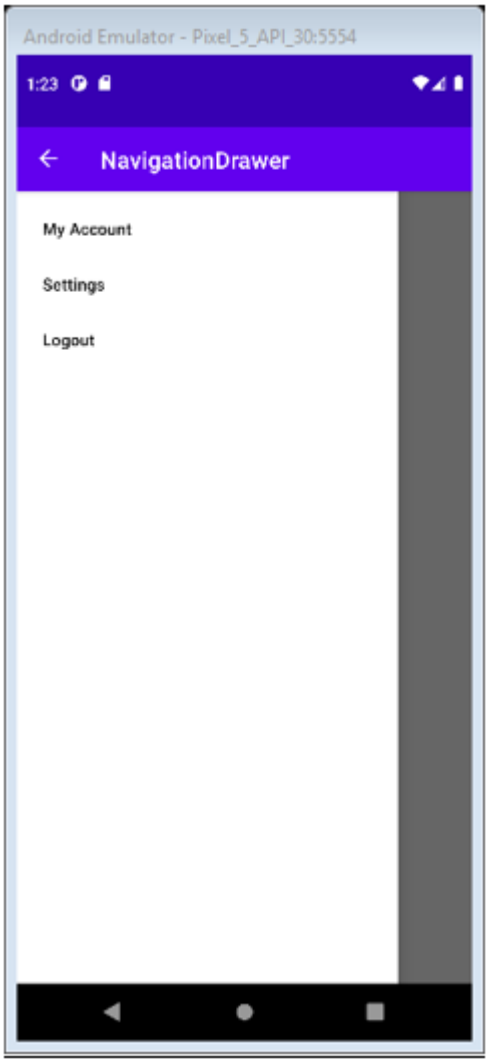
MainActivity.java

```
package com.example.navigationdrawer;

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<id> 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.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;
    }
}
```

Output:


Android Emulator - Pixel_5_API_30:5554
1:23
NavigationDrawer
My Account
Settings
Logout

Program no: 20

Aim: Program to implement activity life cycle.

Activity_main.xml

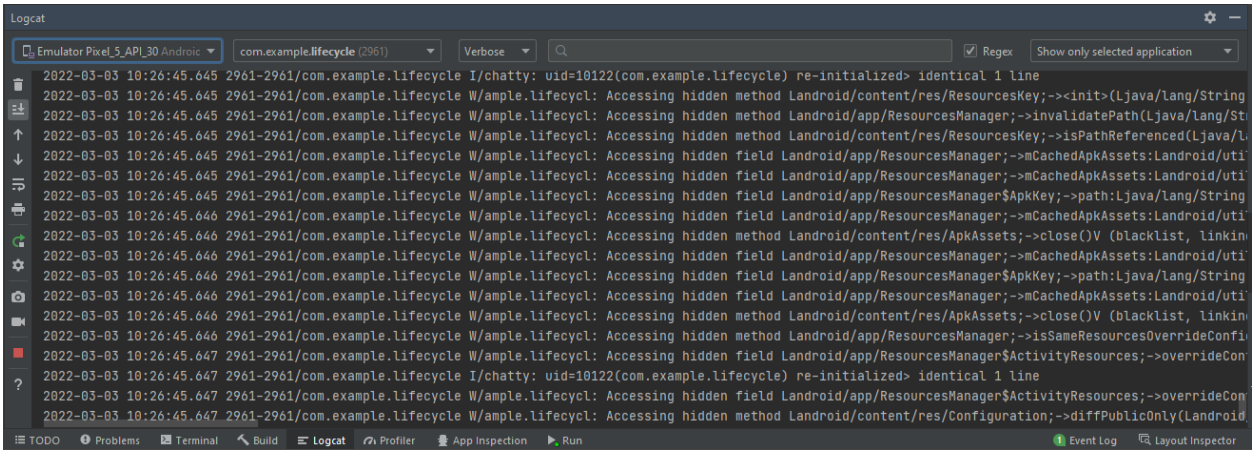
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
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

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="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>
```

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.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:


Logcat
Emulator Pixel_5_API_30 Androic
com.example.lifecycle (2961)
Verbose
Regex
Show only selected application
2022-03-03 10:26:45.645 2961-2961/com.example.lifecycle I/chatty: uid=10122(com.example.lifecycle) re-initialized> identical 1 line
2022-03-03 10:26:45.645 2961-2961/com.example.lifecycle W/ample.lifecycl: Accessing hidden method Landroid/content/res/ResourcesKey;-><init>(Ljava/lang/String
2022-03-03 10:26:45.645 2961-2961/com.example.lifecycle W/ample.lifecycl: Accessing hidden method Landroid/app/ResourcesManager;->invalidatePath(Ljava/lang/St
2022-03-03 10:26:45.645 2961-2961/com.example.lifecycle W/ample.lifecycl: Accessing hidden method Landroid/content/res/ResourcesKey;->isPathReferenced(Ljava/l
2022-03-03 10:26:45.645 2961-2961/com.example.lifecycle W/ample.lifecycl: Accessing hidden field Landroid/app/ResourcesManager;->mCachedApkAssets:Landroid/uti
2022-03-03 10:26:45.645 2961-2961/com.example.lifecycle W/ample.lifecycl: Accessing hidden field Landroid/app/ResourcesManager;->mCachedApkAssets:Landroid/uti
2022-03-03 10:26:45.645 2961-2961/com.example.lifecycle W/ample.lifecycl: Accessing hidden field Landroid/app/ResourcesManager$ApkKey;->path:Ljava/lang/String
2022-03-03 10:26:45.646 2961-2961/com.example.lifecycle W/ample.lifecycl: Accessing hidden field Landroid/app/ResourcesManager;->mCachedApkAssets:Landroid/uti
2022-03-03 10:26:45.646 2961-2961/com.example.lifecycle W/ample.lifecycl: Accessing hidden method Landroid/content/res/ApkAssets;->close()V (blacklist, linkin
2022-03-03 10:26:45.646 2961-2961/com.example.lifecycle W/ample.lifecycl: Accessing hidden field Landroid/app/ResourcesManager;->mCachedApkAssets:Landroid/uti
2022-03-03 10:26:45.646 2961-2961/com.example.lifecycle W/ample.lifecycl: Accessing hidden field Landroid/app/ResourcesManager$ApkKey;->path:Ljava/lang/String
2022-03-03 10:26:45.646 2961-2961/com.example.lifecycle W/ample.lifecycl: Accessing hidden field Landroid/app/ResourcesManager;->mCachedApkAssets:Landroid/uti
2022-03-03 10:26:45.646 2961-2961/com.example.lifecycle W/ample.lifecycl: Accessing hidden method Landroid/content/res/ApkAssets;->close()V (blacklist, linkin
2022-03-03 10:26:45.646 2961-2961/com.example.lifecycle W/ample.lifecycl: Accessing hidden method Landroid/app/ResourcesManager;->isSameResourcesOverrideConfi
2022-03-03 10:26:45.647 2961-2961/com.example.lifecycle W/ample.lifecycl: Accessing hidden field Landroid/app/ResourcesManager$ActivityResources;->overrideCon
2022-03-03 10:26:45.647 2961-2961/com.example.lifecycle I/chatty: uid=10122(com.example.lifecycle) re-initialized> identical 1 line
2022-03-03 10:26:45.647 2961-2961/com.example.lifecycle W/ample.lifecycl: Accessing hidden field Landroid/app/ResourcesManager$ActivityResources;->overrideCon
2022-03-03 10:26:45.647 2961-2961/com.example.lifecycle W/ample.lifecycl: Accessing hidden method Landroid/content/res/Configuration;->diffPublicOnly(Landroid
TODO
Problems
Terminal
Build
Logcat
Profiler
App Inspection
Run
Event Log
Layout Inspector

Program no: 21

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

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:padding="10dp"
   tools:context=".MainActivity">
   <TextView
      android:id="@+id/texttitle"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_marginTop="20dp"
      android:text="Please enter the details below"
      android:textSize="24dp"/>

   <EditText
      android:id="@+id/name"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:hint="Name"
      android:textSize="24dp"
      android:layout_below="@+id/texttitle"
      android:inputType="textPersonName"/>
   <EditText
      android:id="@+id/contact"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:hint="Contact"
      android:textSize="24dp"
      android:layout_below="@+id/name"
      android:inputType="number"/>
   <EditText
      android:id="@+id/dob"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:hint="Date Of Birth"
      android:textSize="24dp"
      android:layout_below="@+id/contact"
      android:inputType="number"/>
   <Button
      android:id="@+id/buttonInsert"
      android:layout_width="match_parent"
```

```
        android:layout_height="wrap_content"
        android:textSize="24dp"
        android:text="Insert New Data"
        android:layout_marginTop="30dp"
        android:layout_below="@+id/dob"/>
    <Button
        android:id="@+id/buttonUpdate"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24dp"
        android:text="Update Data"
        android:layout_marginTop="30dp"
        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:layout_below="@id/buttondelete"/>

</RelativeLayout>
```

MainActivity.java

```
package com.example.sqllite;


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,"Entrydeleted",
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,"Noentryexists",
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();

        }
    });


}
}
```

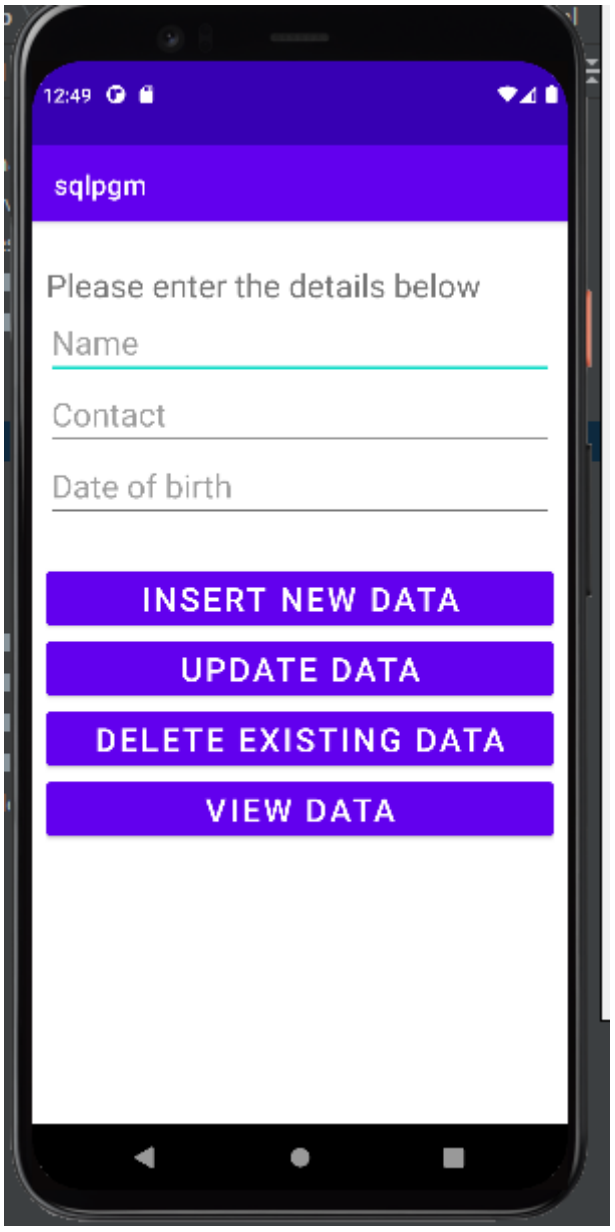
DBHelper.java

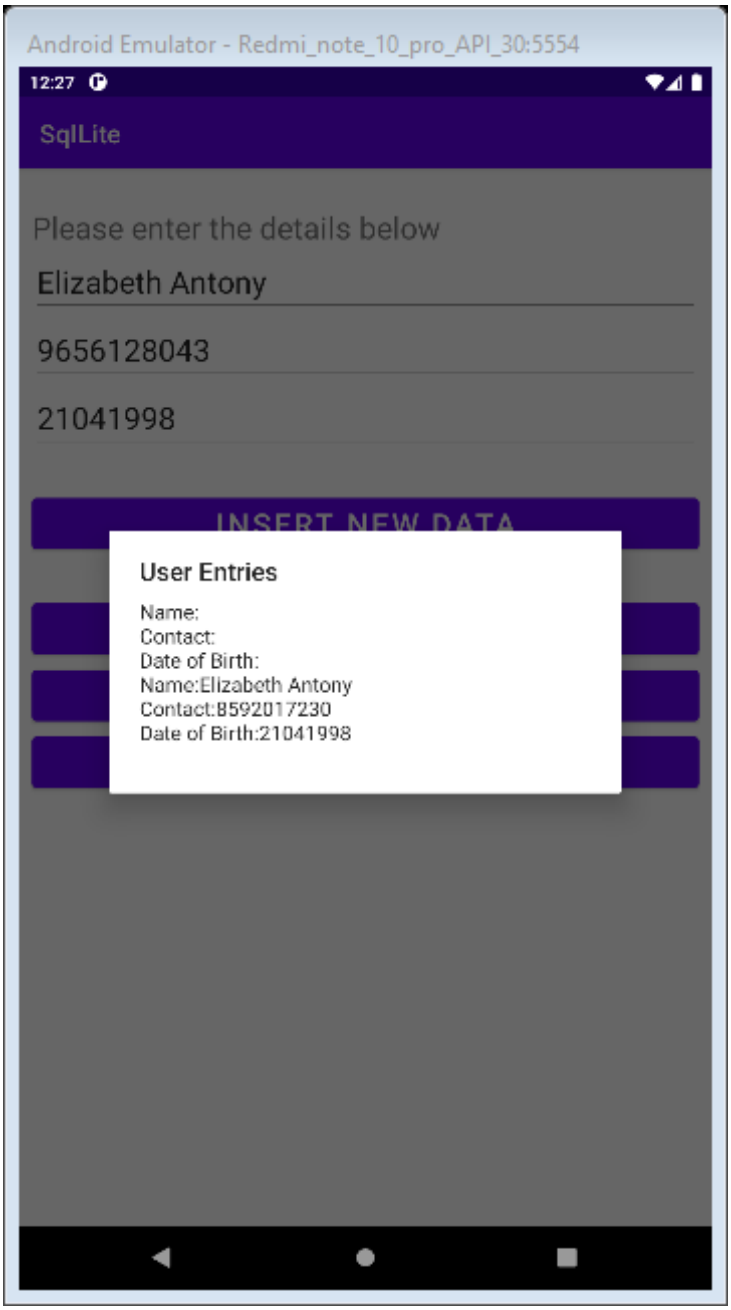
```
package com.example.sqllite;
import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;
import androidx.annotation.Nullable;

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:


12:49
sqlpgm
Please enter the details below
Name
Contact
Date of birth
INSERT NEW DATA
UPDATE DATA
DELETE EXISTING DATA
VIEW DATA


Android Emulator - Redmi_note_10_pro_API_30:5554
12:27
SqlLite
Please enter the details below
Elizabeth Antony
9656128043
21041998
INSERT NEW DATA
User Entries
Name:
Contact:
Date of Birth:
Name:Elizabeth Antony
Contact:8592017230
Date of Birth:21041998

```
    }
}
```

Program no: 19