20MCA243 MOBILE APPLICATION DEVELOPMENT LAB

Lab Report SubmittedBy

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Reg. No.: AJC20MCA-2012

In Partial fulfillment for the Award of the Degree Of

MASTER OF COMPUTER APPLICATIONS (2 Year)
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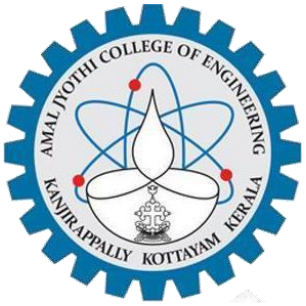
APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY



AMAL JYOTHI COLLEGE OF ENGINEERING
KANJIRAPPALLY

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

2021-2022

DEPARTMENT OF COMPUTER APPLICATIONS

AMAL JYOTHI COLLEGE OF ENGINEERING

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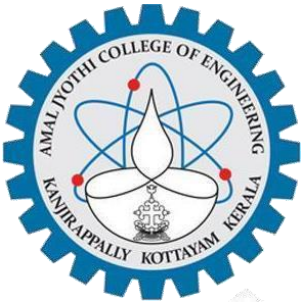

CERTIFICATE

This is to certify that the lab report, "**20MCA243 MOBILE APPLICATION DEVELOPMENT LAB"** is the bonafide work of **AMEENA SHERIN.V (Reg.No:AJC20MCA-2012)** in partial fulfillment of the requirements for the award of the Degree of Master of Computer Applications under APJ Abdul Kalam Technological University during the year 2021-22.

Ms. Meera Rose Mathew
Staff In-Charge

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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"?>

<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="@drawable/primary_screen"

tools:context=".LoginActivity">


<ImageView

android:id="@+id/avatar"

android:layout_width="120dp"

android:layout_height="120dp"

android:layout_marginTop="10dp"

android:contentDescription="@string/login_image"

android:src="@drawable/avatar"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintHorizontal_bias="0.498"

app:layout_constraintStart_toStartOf="parent"
```

```
app:layout_constraintTop_toTopOf="parent" />

<TextView
android:id="@+id/loginText"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="10dp"
android:text="@string/login"
android:textColor="@color/black"
android:textSize="30sp"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.498"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/avatar" />

<RelativeLayout
android:id="@+id/loginLoginLayout"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginStart="5dp"
android:layout_marginEnd="5dp"
        android:background="@drawable/account_creation"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="1.0"
app:layout_constraintStart_toStartOf="parent"
```

```
app:layout_constraintTop_toBottomOf="@+id/loginText"
app:layout_constraintVertical_bias="0.098">

<EditText
android:id="@+id/loginUsername"
android:layout_width="match_parent"
android:layout_height="40dp"
android:layout_marginTop="40dp"
android:autofillHints=""
android:layout_alignParentTop="true"
android:hint="@string/username"
android:layout_alignParentStart="true"
android:layout_alignParentEnd="true"
android:inputType="textEmailAddress"
android:padding="10dp"
android:layout_marginEnd="20dp"
android:layout_marginStart="20dp"
android:textColor="@color/white"
android:textColorHint="@color/white" />

<EditText
android:id="@+id/loginPassword"
android:layout_width="match_parent"
android:layout_height="40dp"
android:layout_below="@+id/loginUsername"
android:layout_alignParentStart="true"
```

```
android:layout_alignParentEnd="true"
android:layout_marginTop="20dp"
android:layout_marginEnd="20dp"
android:layout_marginStart="20dp"
android:hint="@string/password"
android:inputType="textPassword"
android:padding="10dp"
android:textColor="@color/white"
android:textColorHint="@color/white" />

<TextView
android:id="@+id/forgotPasswordText"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="20dp"
android:text="@string/conform_password"
android:clickable="true"
android:textSize="20sp"
android:layout_marginStart="30dp"
android:layout_alignParentStart="true"
android:layout_below="@+id/loginPassword"/>
<com.blure.complexview.ComplexView
android:id="@+id/shadowLoginButton"
android:layout_width="match_parent"
android:layout_height="wrap_content"
app:radius="20dp"
```

```
app:shadow="true"
app:shadowAlpha="100"
app:shadowColor="#2962FF"
android:padding="10dp"
android:layout_below="@+id/forgotPasswordText"
android:layout_marginTop="30dp"
app:shadowSpread="2">

<Button
android:id="@+id/loginButton"
android:layout_width="match_parent"
android:layout_height="46dp"
                    android:background="@drawable/password_reset_buttons"
android:text="@string/sign_in" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

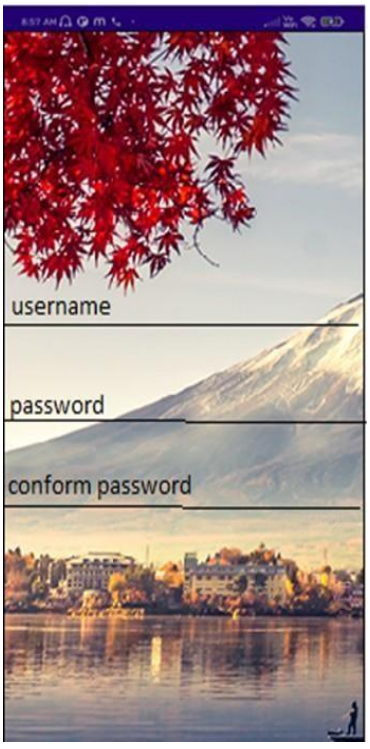
Java Code:

```
import androidx.annotation.NonNull;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

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

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



public class LoginActivity extends AppCompatActivity {

EditText loginName, loginPwd;
Button login;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_login);

loginName =
findViewById(R.id.loginUsername); loginPwd =
findViewById(R.id.loginPassword); login =
findViewById(R.id.loginButton);
login.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
String uName, passwd;
uName = loginName.getText().toString();
passwd = loginPwd.getText().toString();

Toast.makeText(LoginActivity.this, "Welcome", Toast.LENGTH_SHORT).show();
}
```

```
});

}

}
```

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"

tools:context=".MainActivity">


<TextView

android:id="@+id/txt1"

android:layout_width="182dp"

android:layout_height="54dp"


app:layout_constraintBottom_toBottomOf="parent"

app:layout_constraintHorizontal_bias="0.497"

app:layout_constraintLeft_toLeftOf="parent"

app:layout_constraintRight_toRightOf="parent"

app:layout_constraintTop_toBottomOf="@+id/btn1"

app:layout_constraintVertical_bias="0.356" />


<EditText
```

```
android:id="@+id/edt1"
android:layout_width="300dp"
android:layout_height="40dp"
android:layout_marginTop="136dp"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.495"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.85" />

<Button
android:id="@+id/btn1"
android:layout_width="122dp"
android:layout_height="43dp"
android:layout_marginTop="48dp"
android:text="Button"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.498"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/edt1" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

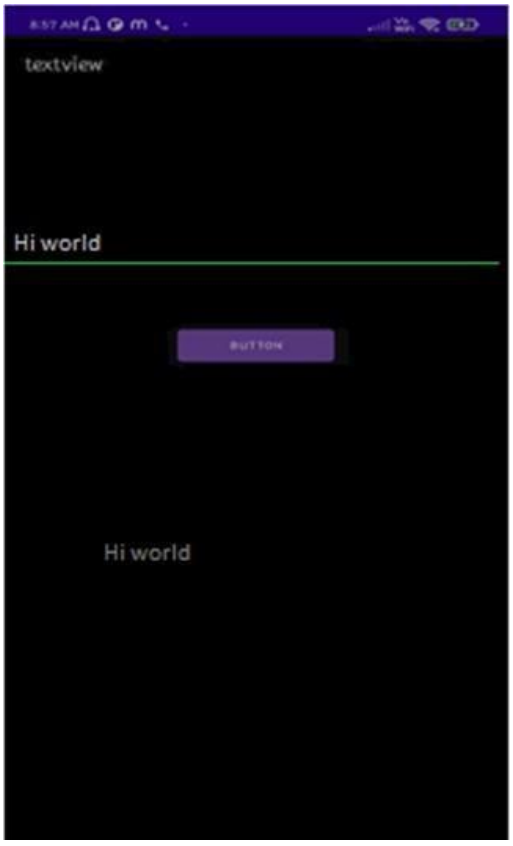
Java Code:

```
package com.example.textview;

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

```
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import
android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
Button b1;
EditText e1;
TextView t1;

@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
e1 = findViewById(R.id.edt1);
b1=findViewById(R.id.btn1);
t1=findViewById(R.id.txt1);
b1.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
String
value=e1.getText().toString();
t1.setText(value);
```

```
}
});


}
}
```

Output:



Program no: 03

Aim:

Program to design a Login Form with username and password using LinearLayout and toast valid credentials

XML Code:

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

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

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

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

android:layout_width="match_parent"

android:layout_height="match_parent"

android:orientation="vertical"

android:background="#ecdaf2"

tools:context=".MainActivity">


<TextView

        android:id="@+id/txt1"

android:layout_width="match_parent"

android:layout_height="wrap_content"

android:layout_marginTop="10dp"

android:padding="20dp"
```

```
android:textAlignment="center"
android:textSize="20sp"
android:text="Login form"/>

<EditText
android:id="@+id/edt1"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginTop="100dp"
android:paddingStart="10dp"
android:hint="Username" />
<TextView
android:id="@+id/t1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:visibility="gone"
android:padding="10dp"
android:text="*Please enter username"
android:textColor="@color/red"/>

<EditText
android:id="@+id/edt2"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginTop="50dp"
android:paddingStart="10dp"
```

```
android:hint="Password" />
<TextView
android:id="@+id/t2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:visibility="gone"
android:padding="10dp"
android:text="*Please enter password"
android:textColor="@color/red"/>

<Button
android:id="@+id/btn1"
android:layout_width="150dp"
android:layout_height="40dp"
android:layout_gravity="center"
android:text="Sign In"
android:layout_marginTop="20dp"
/>
</LinearLayout>
```

Java Code:

```
package com.example.logformvalid;

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 e1,e2;
TextView t1, t2;
Button b1;

@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
e1=findViewById(R.id.edt1);
e2=findViewById(R.id.edt2);
t1  =  findViewById(R.id.t1);
t2  =  findViewById(R.id.t2);
b1=findViewById(R.id.btn1)
;
b1.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
String username,password;
username=e1.getText().toString();
password=e2.getText().toString();
```

```
if (username.isEmpty()){
t1.setVisibility(View.VISIBLE);
Toast.makeText(MainActivity.this, "Username is empty", Toast.LENGTH_SHORT).show();
}
else if (password.isEmpty()){
t2.setVisibility(View.VISIBLE);
Toast.makeText(MainActivity.this, "Password is empty", Toast.LENGTH_SHORT).show();
}else
Toast.makeText(MainActivity.this, "Login success", Toast.LENGTH_SHORT).show();
}
});
}
}
```

Output:

Program no: 04

Aim:

Program to implementing basic arithmetic operations of a simple calculator.

XML Code:

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

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

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

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

android:layout_width="match_parent"

android:layout_height="match_parent"

tools:context=".MainActivity">


<TextView

android:id="@+id/txt1"

android:layout_width="match_parent"

android:layout_height="wrap_content"

android:text="@string/calc"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintTop_toTopOf="parent"

android:padding="20dp"/>


<TextView

android:id="@+id/txt2"
```

```
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="20"
app:layout_constraintStart_toStartOf="parent"
android:gravity="end"
app:layout_constraintBottom_toTopOf="@+id/grid"
android:layout_marginTop="60dp"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintTop_toBottomOf="@+id/txt1"
android:padding="20dp"/>

<GridLayout
android:id="@+id/grid"
android:layout_width="match_parent"
android:layout_height="wrap_content"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintEnd_toEndOf="parent"
android:rowCount="3"
android:columnCount="4"
app:layout_constraintBottom_toBottomOf="parent">

<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
android:text="C"/>
```

```
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
android:text="Back"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
android:text="%"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
android:text="/"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:background="@drawable/button_number"
android:layout_margin="7dp"
android:text="7"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
android:background="@drawable/button_number"
```

```
android:text="8"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
android:background="@drawable/button_number"
android:text="9"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
android:text="X"/>

<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:background="@drawable/button_number"
android:layout_margin="7dp"
android:text="4"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:background="@drawable/button_number"
android:layout_margin="7dp"
android:text="5"/>
<Button
```

```
android:layout_height="80dp"
android:layout_width="wrap_content"
android:background="@drawable/button_number"
android:layout_margin="7dp"
android:text="6"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
android:text="-"/>

<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:background="@drawable/button_number"
android:layout_margin="7dp"
android:text="1"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:background="@drawable/button_number"
android:layout_margin="7dp"
android:text="2"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
```

```
android:background="@drawable/button_number"
android:layout_margin="7dp"
android:text="3"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
android:text="+"/>

<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
android:text="--"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:background="@drawable/button_number"
android:layout_margin="7dp"
android:text="0"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
android:text="."/>
<Button
```

```
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
android:text="="/>
</GridLayout>
</androidx.constraintlayout.widget.ConstraintLayout>
```

Java Code:

#MainActivity.java

```
package com.example.calculator;

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


public class MainActivity extends AppCompatActivity {

double input1 = 0, input2 = 0;
TextView edt1;
boolean Addition, Subtract, Multiplication, Division, mRemainder, decimal;
Button button0, button1, button2, button3, button4, button5, button6, button7, button8,
button9, buttonAdd, buttonSub,
```

```
buttonMul, buttonDivision, buttonEqual, buttonDel, buttonDot, Remainder;

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

button0 = (Button) findViewById(R.id.button0);
button1 = (Button) findViewById(R.id.button1);
button2 = (Button) findViewById(R.id.button2);
button3 = (Button) findViewById(R.id.button3);
button4 = (Button) findViewById(R.id.button4);
button5 = (Button) findViewById(R.id.button5);
button6 = (Button) findViewById(R.id.button6);
button7 = (Button) findViewById(R.id.button7);
button8 = (Button) findViewById(R.id.button8);
button9 = (Button) findViewById(R.id.button9);
buttonDot = (Button) findViewById(R.id.buttonDot);
buttonAdd = (Button) findViewById(R.id.buttonadd);
buttonSub = (Button) findViewById(R.id.buttonsub);
buttonMul = (Button) findViewById(R.id.buttonmul);
buttonDivision = (Button)
findViewById(R.id.buttondiv); Remainder = (Button)
findViewById(R.id.Remainder); buttonDel = (Button)
findViewById(R.id.buttonDel); buttonEqual = (Button)
findViewById(R.id.buttoneql);
```

```
edt1 = (TextView) findViewById(R.id.display);

button1.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
edt1.setText(edt1.getText() + "1");
}
});

button2.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
edt1.setText(edt1.getText() + "2");
}
});

button3.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
edt1.setText(edt1.getText() + "3");
}
});

button4.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
```

```
edt1.setText(edt1.getText() + "4");
}
});

button5.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
edt1.setText(edt1.getText() + "5");
}
});

button6.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
edt1.setText(edt1.getText() + "6");
}
});

button7.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
edt1.setText(edt1.getText() + "7");
}
});
button8.setOnClickListener(new View.OnClickListener() {
@Override
```

```
public void onClick(View v) {
edt1.setText(edt1.getText() + "8");
}
});

button9.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
edt1.setText(edt1.getText() + "9");
}
});

button0.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
edt1.setText(edt1.getText() + "0");
}
});

buttonAdd.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
if (edt1.getText().length() != 0) {
input1 = Float.parseFloat(edt1.getText() + "");
Addition = true;
decimal = false;
```

```
edt1.setText(null);
}
}
});

buttonSub.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
if (edt1.getText().length() != 0) {
input1 = Float.parseFloat(edt1.getText() + "");
Subtract = true;
decimal = false;
edt1.setText(null);
}
}
});

buttonMul.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
if (edt1.getText().length() != 0) {
input1 = Float.parseFloat(edt1.getText() + "");
Multiplication = true;
decimal = false;
edt1.setText(null);
}
```

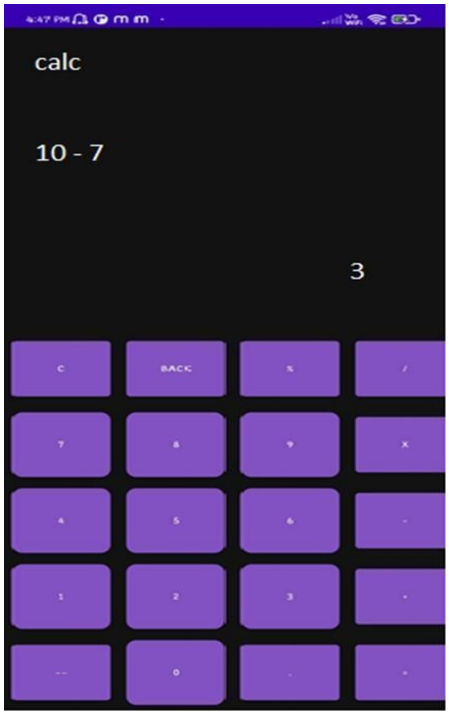
```
}
});

buttonDivision.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
if (edt1.getText().length() != 0) {
input1 = Float.parseFloat(edt1.getText() + "");
Division = true;
decimal = false;
edt1.setText(null);
}
}
});

Remainder.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
if (edt1.getText().length() != 0) {
input1 = Float.parseFloat(edt1.getText() + "");
mRemainder = true;
decimal = false;
edt1.setText(null);
}
}
});
```

```
buttonEqual.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
if (Addition || Subtract || Multiplication || Division || mRemainder) {
input2 = Float.parseFloat(edt1.getText() + "");
}

if (Addition) {

edt1.setText(input1 + input2 + "");
Addition = false;
}

if (Subtract) {

edt1.setText(input1 - input2 + "");
Subtract = false;
}

if (Multiplication) {
edt1.setText(input1 * input2 + "");
Multiplication = false;
}

if (Division) {
```

```
edt1.setText(input1 / input2 + "");
Division = false;
}
if (mRemainder) {
edt1.setText(input1 % input2 + "");
mRemainder = false;
}
}
});

buttonDel.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
edt1.setText("");
input1 = 0.0;
input2 = 0.0;
}
});

buttonDot.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
if (decimal) {
//do nothing or you can show the error
} else {
edt1.setText(edt1.getText() + ".");
```

```
decimal = true;
}

}
});
}

public void onClick(View view) {
}
}
```

Output:



Program no: 05

Aim:

Program tomplement validations on various UI controls.

XML Code:

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

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

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



<EditText android:id="@+id/firstName"

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

<EditText android:id="@+id/lastName"

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



<EditText android:id="@+id/email"

android:layout_width="match_parent" android:layout_height="wrap_content"
android:layout_marginStart="16dp" android:layout_marginTop="16dp"
android:layout_marginEnd="16dp" android:hint="Email"
android:inputType="textEmailAddress" />



<EditText android:id="@+id/password"

android:layout_width="match_parent" android:layout_height="wrap_content"
android:layout_marginStart="16dp" android:layout_marginTop="16dp"
```

```
android:layout_marginEnd="16dp" android:hint="Password"
android:inputType="textPassword" />

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


<Button


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


<Button


android:id="@+id/proceedButton" android:layout_width="wrap_content"
android:layout_height="wrap_content" android:layout_marginEnd="16dp"
android:backgroundTint="@color/black" android:text="PROCEED"


android:textColor="@android:color/white" tools:ignore="ButtonStyle" />

</LinearLayout>

</LinearLayout>
```

Java Code:

```
package com.example.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 Ui_validation extends AppCompatActivity {

// two buttons

Button bCancel, bProceed;

// four text fields

EditText etFirstName, etLastName, etEmail, etPassword;

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

// are filled by the user, properly or not. boolean isAllFieldsChecked = false;

@Override

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

// register buttons with their proper IDs. bProceed = findViewById(R.id.proceedButton);
bCancel = findViewById(R.id.cancelButton);


// register all the EditText fields with their IDs. etFirstName = findViewById(R.id.firstName);
etLastName = findViewById(R.id.lastName); etEmail = findViewById(R.id.email);
etPassword = findViewById(R.id.password);


// handle the PROCEED button bProceed.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

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

// whether the entered data is valid or if any fields are left blank. isAllFieldsChecked =
CheckAllFields();

// the boolean variable turns to be true then

// only the user must be proceed to the activity2
```

```
if (isAllFieldsChecked) {

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

}

}

});

// if user presses the cancel button then close the


// application or the particular activity. bCancel.setOnClickListener(new
View.OnClickListener() {

@Override

public void onClick(View v) { Ui_validation.this.finish(); System.exit(0);

}

});

}

// function which checks all the text fields

// are filled or not by the user.

// when user clicks on the PROCEED button

// this function is triggered.


private boolean CheckAllFields() { if (etFirstName.length() == 0) {

etFirstName.setError("This field is required"); return false;

}

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

}
```

```
if (etEmail.length() == 0) { etEmail.setError("Email is required"); return false;
}
if (etPassword.length() == 0) { etPassword.setError("Password is required"); return false;
} else if (etPassword.length() < 8) {

etPassword.setError("Password must be minimum 8 characters"); return false;
}

// after all validation return true. return true;
}
}
```

Output:

Program no: 06

Aim:

Program to design a registration activity and store registration details in local memory of phone using Intents and SharedPreferences

XML Code:

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

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

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

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

android:layout_width="match_parent"

android:layout_height="match_parent"

tools:context=".MainActivity">


<TextView

android:id="@+id/txt1"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:text="Registration"

android:layout_marginTop="50dp"

android:textSize="25sp"

app:layout_constraintLeft_toLeftOf="parent"

app:layout_constraintRight_toRightOf="parent"

app:layout_constraintTop_toTopOf="parent" />


<EditText
```

```
android:id="@+id/edt1"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginTop="100dp"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintEnd_toEndOf="parent"
android:paddingStart="10dp"
app:layout_constraintTop_toBottomOf="@+id/txt1"
android:hint="Name"/>
<EditText
android:id="@+id/edt2"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginTop="10dp"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintEnd_toEndOf="parent"
android:paddingStart="10dp"
app:layout_constraintTop_toBottomOf="@+id/edt1"
android:hint="Email"/>
<EditText
android:id="@+id/edt3"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginTop="10dp"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintEnd_toEndOf="parent"
```

```
android:paddingStart="10dp"
app:layout_constraintTop_toBottomOf="@+id/edt2"
android:hint="Password"/>

<Button
android:layout_width="wrap_content"
android:id="@+id/btn1"
android:layout_height="wrap_content"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintTop_toBottomOf="@+id/edt3"
android:layout_marginTop="30dp"
android:text="Register"/>



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

#activity2.xml

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

```
tools:context=".MainActivity2">

<TextView
android:id="@+id/txt1"
android:layout_width="match_parent"
android:layout_height="wrap_content"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintTop_toTopOf="parent"
android:layout_marginTop="70dp"
android:layout_marginHorizontal="20dp"/>

<TextView
android:id="@+id/txt2"
android:layout_width="match_parent"
android:layout_height="wrap_content"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintTop_toBottomOf="@+id/txt1"
android:layout_marginTop="70dp"
android:layout_marginHorizontal="20dp"/>

<TextView
android:id="@+id/txt3"
android:layout_width="match_parent"
android:layout_height="wrap_content"
```

```
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintTop_toBottomOf="@+id/txt2"
android:layout_marginTop="70dp"
android:layout_marginHorizontal="20dp"/>

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

Java Code:

```
package com.example.sharedpref;

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.Toast;

public class MainActivity extends AppCompatActivity {

EditText e1, e2, e3;
```

```
Button b1;

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

e1 = findViewById(R.id.edt1);
e2 = findViewById(R.id.edt2);
e3 = findViewById(R.id.edt3);
b1 = findViewById(R.id.btn1);

b1.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
String a, b, c;
a = e1.getText().toString();
b = e2.getText().toString();
c = e3.getText().toString();

SharedPreferences sharedPreferences = getSharedPreferences("myKey", MODE_PRIVATE);
SharedPreferences.Editor editor = sharedPreferences.edit();
editor.putString("name", a);
editor.putString("email", b);
editor.putString("password", c);
editor.apply();
```

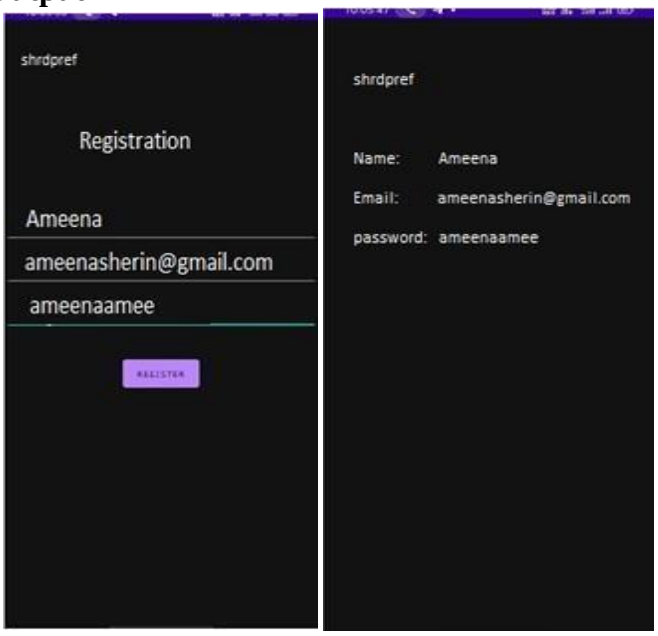
```
Intent intent = new Intent(MainActivity.this, MainActivity2.class);
startActivity(intent);

}
});

}
}
```

#mainactivity2.java

```
package com.example.shared preference;

import androidx.appcompat.app.AppCompatActivity;

import android.content.SharedPreferences;
import android.os.Bundle;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity2 extends AppCompatActivity {

TextView t1, t2, t3;

@Override
```

```
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main2);

t1 = findViewById(R.id.txt1);
t2 = findViewById(R.id.txt2);
t3 = findViewById(R.id.txt3);

SharedPreferences sharedPreferences = getSharedPreferences("myKey", MODE_PRIVATE);
String name, email, password;
name = "Name: "+sharedPreferences.getString("name", "");
email = "Email: "+sharedPreferences.getString("email", "");
password = "Password: "+sharedPreferences.getString("password", "");

t1.setText(name);
t2.setText(email);
t3.setText(password);
}
}
```

Output


shrdpref
Registration
Ameena
ameenasherin@gmail.com
ameenaamee
REGISTER
shrdpref
Name: Ameena
Email: ameenasherin@gmail.com
password: ameenaamee

Program no: 07

Aim:

Program to design a simple Calculator using GridLayout and Cascaded LinearLayout

XML Code:

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

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

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

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

android:layout_width="match_parent"

android:layout_height="match_parent"

tools:context=".MainActivity">


<TextView

android:id="@+id/txt1"

android:layout_width="match_parent"

android:layout_height="wrap_content"

android:text="@string/calculator"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintTop_toTopOf="parent"

android:padding="20dp"/>


<TextView
```

```
android:id="@+id/txt2"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="20"
app:layout_constraintStart_toStartOf="parent"
android:gravity="end"
app:layout_constraintBottom_toTopOf="@+id/grid"
android:layout_marginTop="60dp"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintTop_toBottomOf="@+id/txt1"
android:padding="20dp"/>

<GridLayout
android:id="@+id/grid"
android:layout_width="match_parent"
android:layout_height="wrap_content"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintEnd_toEndOf="parent"
android:rowCount="3"
android:columnCount="4"
app:layout_constraintBottom_toBottomOf="parent">

<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
```

```
android:text="C"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
android:text="Back"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
                android:layout_margin="7dp"
android:text="%"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
android:text="/"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:background="@drawable/button_number"
android:layout_margin="7dp"
android:text="7"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
```

```
android:background="@drawable/button_number"
android:text="8"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
android:background="@drawable/button_number"
android:text="9"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
android:text="X"/>

<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:background="@drawable/button_number"
android:layout_margin="7dp"
android:text="4"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:background="@drawable/button_number"
android:layout_margin="7dp"
android:text="5"/>
```

```
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:background="@drawable/button_number"
android:layout_margin="7dp"
android:text="6"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
android:text="-"/>

<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:background="@drawable/button_number"
android:layout_margin="7dp"
android:text="1"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:background="@drawable/button_number"
android:layout_margin="7dp"
android:text="2"/>
<Button
android:layout_height="80dp"
```

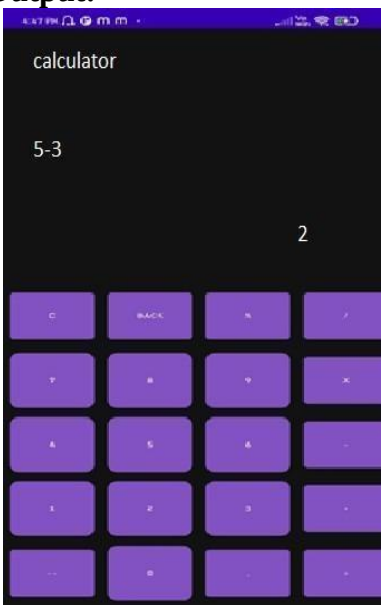
```
android:layout_width="wrap_content"
android:background="@drawable/button_number"
android:layout_margin="7dp"
android:text="3"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
android:text="+"/>

<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
android:text="--"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:background="@drawable/button_number"
android:layout_margin="7dp"
android:text="0"/>
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
android:text="."/>
```

```
<Button
android:layout_height="80dp"
android:layout_width="wrap_content"
android:layout_margin="7dp"
android:text="="/>
</GridLayout>

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

Java Code:

```
package com.example.calculator;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

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

Output:



Program no: 08

Aim:

Program to create a Facebook page using RelativeLayout; set properties using .xml file

XML Code:

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

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

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

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

android:layout_width="match_parent"

android:layout_height="match_parent"

android:background="@color/blue"

tools:context=".MainActivity">


<TextView

android:id="@+id/t1"

android:layout_width="264dp"

android:layout_height="40dp"

android:layout_alignParentStart="true"

android:layout_alignParentTop="true"

android:textColor="@color/white"

android:layout_alignParentEnd="true"

android:layout_marginTop="50dp"

android:text="FACEBOOK"

android:textAlignment="center"

android:textSize="40dp" />
```

```
<EditText
android:id="@+id/ed1"
android:layout_width="match_parent"
android:layout_height="50dp"
android:layout_below="@+id/t1"
android:layout_alignParentStart="true"
android:layout_alignParentEnd="true"
android:layout_marginHorizontal="40dp"
android:layout_marginTop="150dp"
android:textColor="@color/white"
android:textColorHint="@color/white"
android:hint="Username"
android:paddingStart="10px" />

<EditText
android:id="@+id/ed2"
android:layout_width="match_parent"
android:layout_height="50dp"
android:layout_below="@+id/ed1"
android:layout_alignParentStart="true"
android:layout_alignParentEnd="true"
android:textColor="@color/white"
android:textColorHint="@color/white"
android:layout_marginHorizontal="40dp"
android:layout_marginTop="50dp"
```

```
android:hint="Password"
android:paddingStart="10px" />

<Button
android:id="@+id/btn1"
android:layout_width="334dp"
android:layout_height="50dp"
android:layout_below="@+id/ed2"
android:layout_marginTop="31dp"
android:layout_alignParentStart="true"
android:layout_alignParentEnd="true"
android:background="@color/purple_700"
android:layout_marginHorizontal="400px"
android:text="SignIn"/>


<Button
android:id="@+id/btn2"
android:layout_width="match_parent"
android:layout_height="50dp"
android:layout_below="@+id/btn1"
android:layout_marginTop="100dp"
android:background="@color/green"
android:text="Dont have an account? Register here"
android:layout_marginHorizontal="20dp"/>
</RelativeLayout>
```

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: 09

Aim:

Program to 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"
```

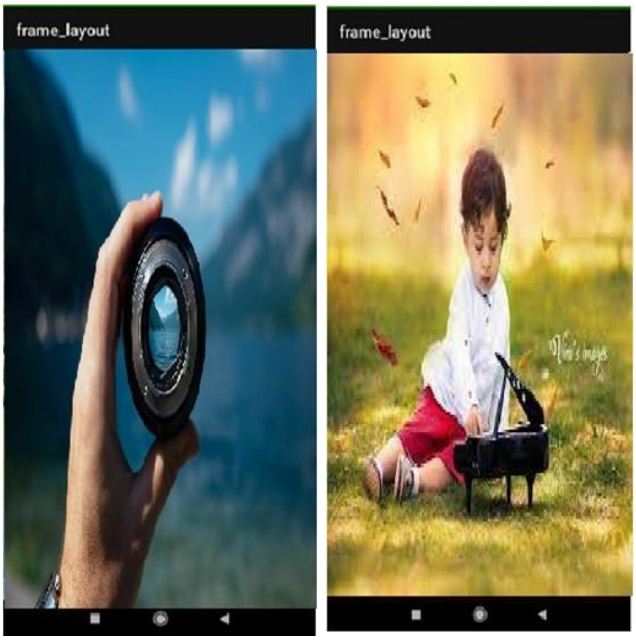
```
android:layout_gravity="center"
android:src="@drawable/image1"/>
</FrameLayout>
```

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:

Program to 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"

android:background="@color/purple_500"

tools:context=".MainActivity">


<TextView

android:id="@+id/txt1"

android:layout_width="match_parent"

android:padding="20dp"

android:textAlignment="center"

android:layout_marginHorizontal="10dp"

android:layout_height="wrap_content"

android:textSize="30sp"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintTop_toTopOf="parent"

android:layout_marginTop="100dp"
```

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

<EditText
android:id="@+id/edt1"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:padding="20dp"
android:layout_marginHorizontal="20dp"
android:hint="Enter first number"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintTop_toBottomOf="@+id/txt1"
android:layout_marginTop="100dp"/>
<EditText
android:id="@+id/edt2"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:padding="20dp"
android:hint="Enter second number"
android:layout_marginHorizontal="20dp"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintTop_toBottomOf="@+id/edt1"
android:layout_marginTop="10dp"/>

<Button
```

```
android:id="@+id/btn1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Divide"
app:layout_constraintTop_toBottomOf="@+id/edt2"
android:layout_marginTop="30dp"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintEnd_toEndOf="parent"/>

<TextView
android:id="@+id/txt2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="20dp"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintTop_toBottomOf="@+id/btn1"/>

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

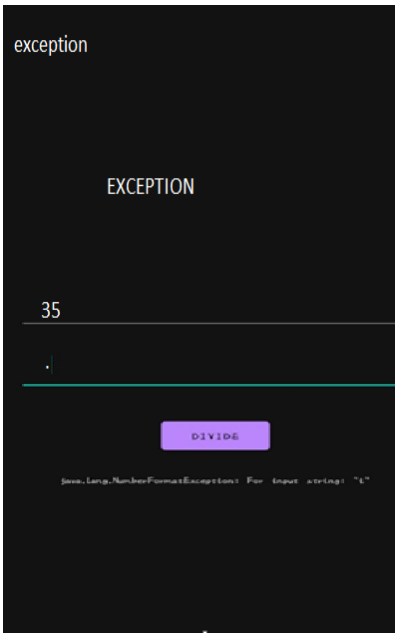
Java Code:

```
package com.example.exception;

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

@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
e1 = findViewById(R.id.edt1);
e2 = findViewById(R.id.edt2);
b1 = findViewById(R.id.btn1);
t1 = findViewById(R.id.txt2);

b1.setOnClickListener(new View.OnClickListener()
{ @Override
public void onClick(View v) {
String a, b;
int c, d;
a = e1.getText().toString();
b = e2.getText().toString();
```

```
try{
int res = Integer.parseInt(a)/Integer.parseInt(b);
t1.setText(res);
}catch(Exception e){
t1.setText(e.toString());
}
}
});


}
}
```

Output:



Program no: 11

Aim:

Program to 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:background="#fba9dc"

tools:context=".MainActivity">


<Button

android:id="@+id/btn1"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toTopOf="parent"
```

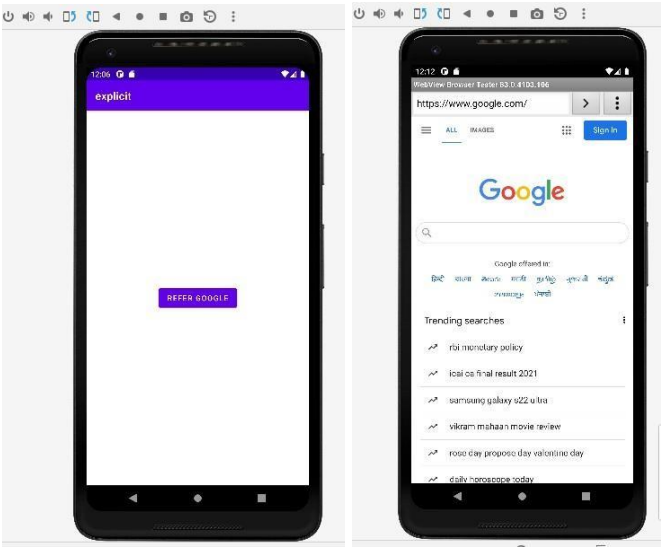
```
app:layout_constraintBottom_toBottomOf="parent"
android:text="Button"
/>
</androidx.constraintlayout.widget.ConstraintLayout>
```

Java Code:

```
package com.example.explicit;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

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.btn1);
b1.setOnClickListener(new View.OnClickListener() {
@Override
```

```
public void onClick(View v) {
Intent b=new Intent(Intent.ACTION_VIEW, Uri.parse("https://www.google.com"));
startActivity(b);
}
});
}
}
```

Output:



Program no: 12

Aim:

Program to develop an application that works with Implicit intents

XML Code:

#activity_main1.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:background="@color/teal_200"
android:layout_height="match_parent"
tools:context=".MainActivity">

<TextView
android:id="@+id/txt1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Activity 1"
app:layout_constraintLeft_toLeftOf="parent"
android:layout_marginTop="50dp"
android:textSize="30sp"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent" />
```

```
<Button
android:id="@+id/btn1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="NEXT ACTIVITY"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintTop_toBottomOf="@id/txt1"
app:layout_constraintBottom_toBottomOf="parent"/>

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

#activity_main2.xml

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

```
<TextView
android:id="@+id/txt2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:textSize="30sp"
android:text="Activity 2"
app:layout_constraintLeft_toLeftOf="parent"
android:layout_marginTop="50dp"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent" />

<Button
android:id="@+id/btn2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="PREVIOUS ACTIVITY"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintTop_toBottomOf="@id/txt2"
app:layout_constraintBottom_toBottomOf="parent"/>

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

Java Code:

#Mainactivity1

```
package com.example.intent;
```

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

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

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.btn1);
b1.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
Intent intent = new Intent(MainActivity.this, MainActivity2.class);
startActivity(intent);
}
});

}
}
```

#Mainactivity2

```
package com.example.intent;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity2 extends AppCompatActivity {

Button b1;

@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main2);

b1 = findViewById(R.id.btn2);

b1.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
Intent intent = new Intent(MainActivity2.this, MainActivity.class);
startActivity(intent);
```

```
}
});


}
}
```

Output:

1:15:32
intent
NEXT ACTIVITY
1:15:32
intent
Activity 2
PREVIOUS ACTIVITY

Program no: 13

Aim:

Program to implement Options Menu to navigate to activities.

XML Code:

#Activity_main_drawer

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

<group android:checkableBehavior="single">
<item
android:id="@+id/nav_home"
android:icon="@drawable/ic_menu_camera"
android:title="@string/menu_home" />
<item
android:id="@+id/nav_gallery"
android:icon="@drawable/ic_menu_gallery"
android:title="Account" />
<item
android:id="@+id/nav_slideshow"
android:icon="@drawable/ic_menu_slideshow"
android:title="Logout" />
</group>
</menu>
```

#main

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto">
<item
android:id="@+id/action_settings"
android:orderInCategory="100"
android:title="@string/action_settings"
app:showAsAction="never" />
</menu>
```

#activity_main

```
<?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:id="@+id/drawer_layout"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:fitsSystemWindows="true"
tools:openDrawer="start">

<include
```

```
android:id="@+id/app_bar_main"
layout="@layout/app_bar_main"
android:layout_width="match_parent"
android:layout_height="match_parent" />

<com.google.android.material.navigation.NavigationView
android:id="@+id/nav_view"
android:layout_width="wrap_content"
android:layout_height="match_parent"
android:layout_gravity="start"
android:fitsSystemWindows="true"
app:headerLayout="@layout/nav_header_main"
app:menu="@menu/activity_main_drawer" />
</androidx.drawerlayout.widget.DrawerLayout>
```

#activity_main2

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:background="@color/teal_700"
tools:context=".MainActivity2">
```

```
<TextView
android:layout_width="match_parent"
android:layout_height="wrap_content"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
android:text="Account Page"
android:textSize="30sp"
android:textAlignment="center"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />

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

Java Code:

```
package com.example.nav;
import android.os.Bundle;
import android.view.View;
import android.view.Menu;

import com.google.android.material.snackbar.Snackbar;
import com.google.android.material.navigation.NavigationView;

import androidx.navigation.NavController;
import androidx.navigation.Navigation;
```

```
import androidx.navigation.ui.AppBarConfiguration;
import androidx.navigation.ui.NavigationUI;
import androidx.drawerlayout.widget.DrawerLayout;
import androidx.appcompat.app.AppCompatActivity;

import com.example.nav.databinding.ActivityMainBinding;

public class MainActivity extends AppCompatActivity {

private AppBarConfiguration mAppBarConfiguration;
private ActivityMainBinding binding;

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

binding =
ActivityMainBinding.inflate(getLayoutInflater());
setContentView(binding.getRoot());

setSupportActionBar(binding.appBarMain.toolbar);
binding.appBarMain.fab.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View view) {
Snackbar.make(view, "Replace with your own action", Snackbar.LENGTH_LONG)
.setAction("Action", null).show();
}
```

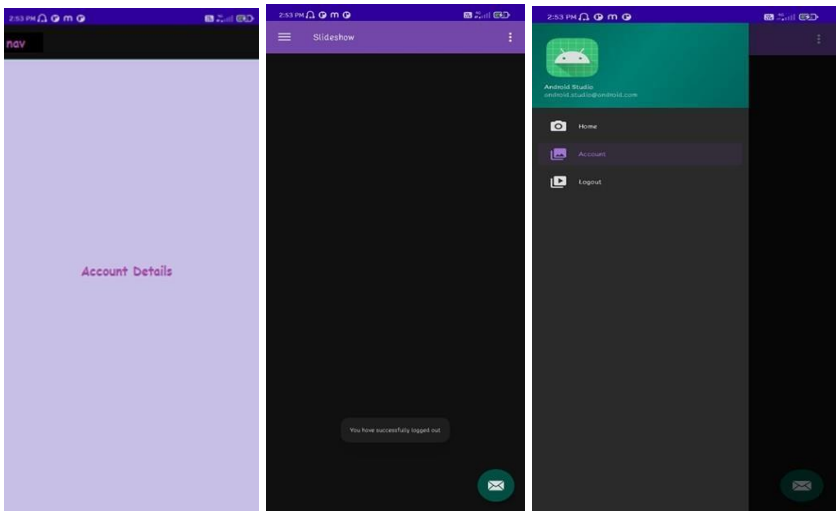
```
});

DrawerLayout drawer = binding.drawerLayout;

NavigationView navigationView = binding.navView;

// Passing each menu ID as a set of Ids because each

// menu should be considered as top level destinations.

mAppBarConfiguration = new AppBarConfiguration.Builder(

R.id.nav_home, R.id.nav_gallery, R.id.nav_slideshow)

.setOpenableLayout(drawer)

.build();

NavController navController = Navigation.findNavController(this,
R.id.nav_host_fragment_content_main);

NavigationUI.setupActionBarWithNavController(this, navController,
mAppBarConfiguration);

NavigationUI.setupWithNavController(navigationView, navController);

}


@Override

public boolean onCreateOptionsMenu(Menu menu) {

// Inflate the menu; this adds items to the action bar if it is present.

getMenuInflater().inflate(R.menu.main, menu);

return true;

}


@Override

public boolean onSupportNavigateUp() {

NavController navController = Navigation.findNavController(this,
R.id.nav_host_fragment_content_main);
```

```
return NavigationUI.navigateUp(navController, mAppBarConfiguration)
|| super.onSupportNavigateUp();
}
}
```

#mainactivity2

```
package com.example.nav;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity2 extends AppCompatActivity {

@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main2);
}
}
```

Output:


nav
Account Details
Slideshow
You have successfully logged out
Android Studio
Home
Account
Logout

Program no: 14

Aim:

Program to develop an application that uses ArrayAdapter with ListView

XML Code:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/androi
    d" 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_paren
    t" tools:context=".arrayAdapter">

    <ListView
        android:id="@+id/mobile_list"
        android:layout_width="match_paren
        t"

        android:layout_height="wrap_content" >


</ListView>
```

</LinearLayou>

Java Code:

```
package com.example.ArrayAdapter;
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 arrayAdapter extends AppCompatActivity
implements AdapterView.OnItemClickListener {
ListView l;
String[] days = {{"Sunday", "Monday", "Tuesday", "Wednesday", "Thursday", "Friday",
"Saturday"};
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_array_adapter)
```

; l = findViewById(R.id.mobile_list);

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


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:

Array Adapters
Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Tuesday

Program no:15

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

XML Code:

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

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

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

Java Code:

```
package com.example.myapp;

import androidx.annotation.NonNull;
```

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

import
android.content.DialogInterface;
import android.content.Intent;
import android.os.Bundle; import android.view.Menu;
import
android.view.MenuItem;
import android.view.View;
import
android.widget.Button;
import
android.widget.ImageView;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity3 extends AppCompatActivity
ImageView i;
AlertDialog.Builder builder;
AlertDialog alertDialog;
Button b;
//option
menu
@Overri
de
public boolean onCreateOptionsMenu(Menu menu) {
getMenuInflater().inflate(R.menu.menu,menu); return
true;
//return super.onCreateOptionsMenu(menu);
}
```

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

item.setIcon(R.drawable.about);
//i=findViewById(R.id.imageView);

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

//handle item selection

switch (item.getItemId()) {


case R.id.it3:

builder=new AlertDialog.Builder(MainActivity3.this);
builder.setMessage("Do you want to
close?").setTitle("AlertDialog").setPositiveButton("OK", new
DialogInterface.OnClickListener() {
@Override

public void onClick(DialogInterface dialog, int which)

{

finish();
}

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

{

 @Override
public void onClick(DialogInterface dialog, int which) {
dialog.dismiss();

}
});
alertDialog=builder.create();
alertDialog.show();
return true;
```

```
case R.id.it4:
builder=new AlertDialog.Builder(MainActivity3.this);
View popupView=getLayoutInflater().inflate(R.layout.popup1,null);
builder.setView(popupView);
alertDialog=builder.create();
alertDialog.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"
ndroid: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_content"
    android:layout_height="wrap_content"
    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/it3"
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

XML Code:

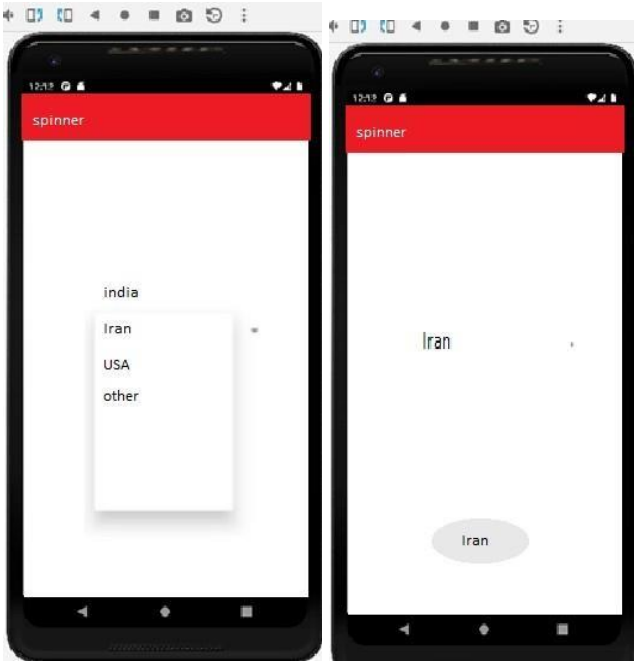
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayoutxmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">
<Spinner
android:id="@+id/spinner"
android:layout_width="197dp"
android:layout_height="70dp"
tools:layout_editor_absoluteX="92dp"
tools:layout_editor_absoluteY="297dp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.502"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.48"/>
</androidx.constraintlayout.widget.ConstraintLayout>
```

Java Code:

```
package com.example.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","Iran","USA","other"};
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
Spinner spin =(Spinner) findViewById(R.id.spinner);
spin.setOnItemSelectedListener(this);
ArrayAdapter aa = new ArrayAdapter(this,android.R.layout.simple_spinner_item,country);
aa.setDropDownViewResource(android.R.layout.simple_spinner_item);
spin.setAdapter(aa);
}
@Override
public void onItemSelected(AdapterView<?> arg0, View arg1, int position, long id){
Toast.makeText(getApplicationContext(),country[position],Toast.LENGTH_LONG).show();
}
@Override
public void onNothingSelected(AdapterView<?>arg0){
}
}
```

Output:



Program no:17

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

XML Code:

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

<EditText
android:id="@+id/editTextTextPersonName"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:inputType="textPersonName"
android:minHeight="48dp" android:text=""
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.themes;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
}
}
```

#colors.xml

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
<color name="colorPrimary">#006064</color>
<color name="color_primary_dark">#00838F</color>
<color name="color_accent">#B2DFDB</color>
<color name="color_text_color_primary">#03A9F4</color>
</resources>
```

#new_style.xml

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

#values\themes.xml

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

<style name="Theme.Themes"
parent="Theme.MaterialComponents.DayNight.DarkActionBar">
<item name="colorPrimary">@color/colorPrimary</item>
<item name="colorPrimaryDark">@color/color_primary_dark</item>
<item name="colorAccent">@color/color_accent</item>
<item name="android:textColorPrimary">@color/color_text_color_primary</item>
<item name="android:textSize">40dp</item>
</style>
</resources>
```

#**AndroidMainfest.xml**

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

```
</activity>
</application>
</manifest>
```

#night\themes.xml

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

<item name="colorPrimary">@color/colorPrimary</item>
<item name="colorPrimaryDark">@color/color_primary_dark</item>
<item name="colorAccent">@color/color_accent</item>
<item name="android:textColorPrimary">@color/color_text_color_primary</item>
<item name="android:textSize">40sp</item>
</style>
</resources>
```

Output:

Program no:18

Aim: Program to develop application using Fragments

XML Code:

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

<FrameLayout
android:id="@+id/frameLayout"
android:layout_width="match_parent"
android:background="@color/teal_200"
android:layout_height="0dp"
android:layout_weight="4" />
<RelativeLayout
android:layout_width="match_parent"
android:layout_height="0dp"
android:layout_weight="1">
<Button
android:id="@+id/b1"
android:layout_width="160dp"
android:layout_height="50dp"
android:layout_alignParentBottom="true"
android:layout_marginStart="30dp"
android:layout_marginBottom="30dp"
android:text="Fragment 1" />
```

Java Code:

```
package com.example.myapp09_02_3;

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

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

public class MainActivity extends AppCompatActivity {
Button b1,b2;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);

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

b1.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
replaceFragmnt(new fragment1());
}

});

b2.setOnClickListener(new View.OnClickListener() {
```

```
@Override
public void onClick(View v) {
replaceFragmnt(new fragment2());


}
});
}

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


}
<Button
android:id="@+id/b2"

android:layout_width="160dp"
android:layout_height="50dp"
android:layout_alignParentBottom="true"
android:layout_alignParentRight="true"
android:layout_marginStart="30dp"
android:layout_marginBottom="30dp"
android:text="Fragment 2" />

</RelativeLayout>
</LinearLayout>
//create fragment from new>frament>fragment(blank)
```

fragment1.java

```
package

com.example.myapp09_02_3; import

android.os.Bundle;

import androidx.fragment.app.Fragment;

import
android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;


public class fragment1 extends Fragment {
@Override
public View onCreateView(LayoutInflater inflater, ViewGroup container, Bundle
savedInstanceState) {
// Inflate the layout for this fragment
return inflater.inflate(R.layout.fragment_fragment1, container, false);
}
}
```

fragment2.java

```
packagecom.example.myapp;

import android.os.Bundle;

import androidx.fragment.app.Fragment;
```

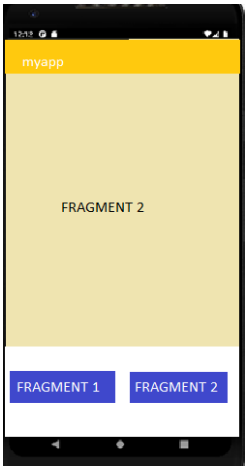
```
import
android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;

public class fragment2 extends Fragment {
@Override
public View onCreateView(LayoutInflater inflater, ViewGroup container, Bundle
savedInstanceState) {
// Inflate the layout for this fragment
return inflater.inflate(R.layout.fragment_fragment2, container, false);
}
}
```

fragment_fragment1.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:background="@color/purple_700"
tools:context=".fragment1">

<!-- TODO: Update blank fragment layout -->
<TextView android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_centerInParent="true"
android:textSize="30dp"
android:text="Fragment 1" />

</RelativeLayout>
```

Output:

myapp
FRAGMENT 1
FRAGMENT 2
myapp
FRAGMENT 1
FRAGMENT 1
FRAGMENT 2


myapp
FRAGMENT 2
FRAGMENT 1
FRAGMENT 2

Program no:19

Aim: Program to implement Navigation drawer.

XML Code:

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.drawerlayout.widget.DrawerLayoutxmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity"
android:id="@+id/drawer">
<LinearLayout
android:layout_width="match_parent"
android:layout_height="match_parent">
<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Hello World!"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent" />
</LinearLayout>
<com.google.android.material.navigation.NavigationView
android:layout_width="match_parent"
android:layout_height="match_parent"
android:id="@+id/navigation_view"
app:menu="@menu/navigation_menu"
android:layout_gravity="start"/>
```

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

Java Code:

```
package com.example.drawernavigation;

import androidx.annotation.NonNull;

import androidx.appcompat.app.ActionBarDrawerToggle;

import androidx.appcompat.app.AppCompatActivity;

import androidx.drawerlayout.widget.DrawerLayout;

import android.app.ActionBar;

import android.os.Bundle;

import android.view.MenuItem;

import android.widget.Toast;

import com.google.android.material.navigation.NavigationView;

public class MainActivity extends AppCompatActivity implements
NavigationView.OnNavigationItemSelectedListener {

public DrawerLayoutdrawerLayout;

public ActionBarDrawerToggleactionBarDrawerToggle;

@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);

NavigationViewnavigationView = findViewById(R.id.navigation_view);

navigationView.setNavigationItemSelectedListener(this);

}

@Override
```

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

#navigation_menu.xml

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

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

#strings.xml

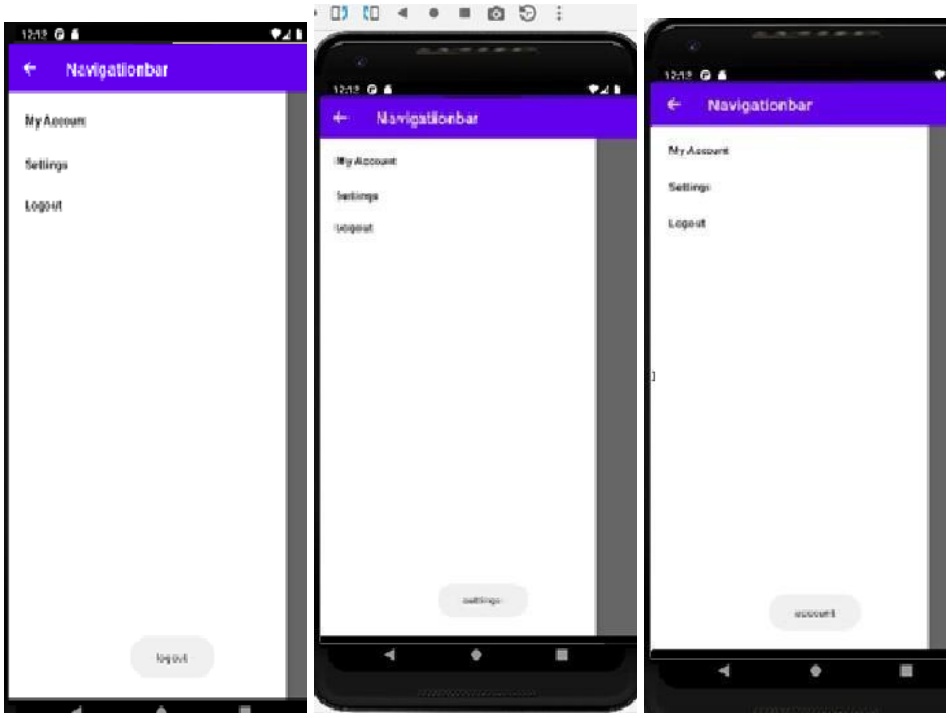
```
<resources>
<string name="app_name">drawernavigation</string>
<string name="nav_open">Open</string>
<string name="nav_close">Close</string>
</resources>
```

#build.gradle(:app)

```
plugins {
id 'com.android.application'
}
android {
compileSdk 31
defaultConfig {
applicationId "com.example.drawernavigation"
minSdk 21
targetSdk 31
versionCode 1
versionName "1.0"
testInstrumentationRunner "androidx.test.runner.AndroidJUnitRunner"
}
buildTypes {
release {
minifyEnabled false
proguardFilesgetDefaultProguardFile('proguard-android-optimize.txt'), 'proguard-rules.pro'
}
}
compileOptions {
sourceCompatibility JavaVersion.VERSION_1_8
```

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

Output:



Program no:20

Aim: Program to implement activity lifecycle

XML Code:

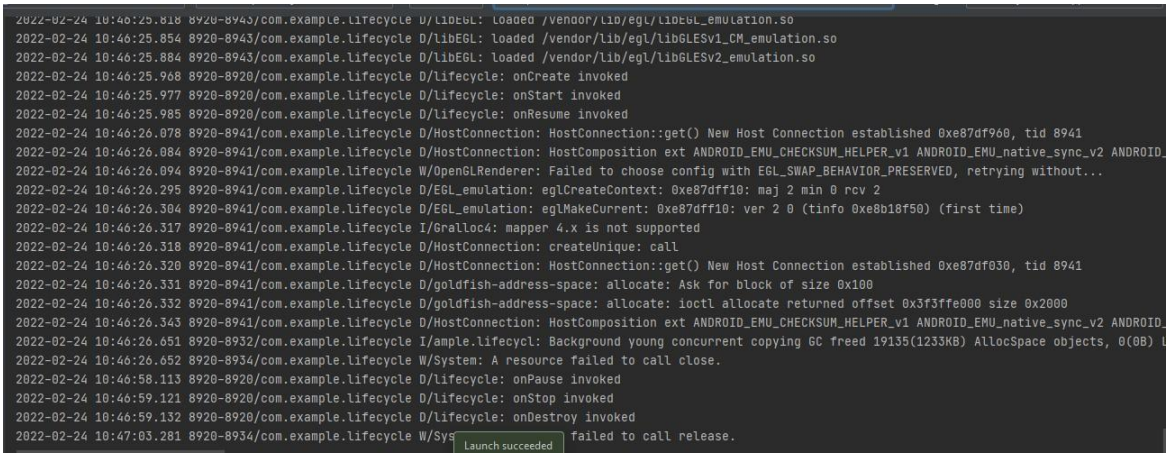
```
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout xmlns:android="http://sche mas.androi
.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent" android:layout_height="match_parent"
    tools:context="example.javatpoint.com.activitylifecycle.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" />

</android.support.constraint.ConstraintLayout>
```

Java Code:

```
package example.javatpoint.com.activitylifecycle; import
android.app.Activity;
import android.os.Bundle;
import android.util.Log;

public class MainActivity extends Activity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d("lifecycle","onCreate invoked");
    }
    @Override
    protected void onStart() { super.onStart();
        Log.d("lifecycle","onStart invoked");
    }
    @Override
    protected void onResume() { super.onResume();
        Log.d("lifecycle","onResume invoked");
    }
    @Override
    protected void onPause() { super.onPause();
        Log.d("lifecycle","onPause invoked");
    }
```

```
    @Override
    protected void onStop() { super.onStop();
        Log.d("lifecycle","onStop invoked");
    }
    @Override
    protected void onRestart() { super.onRestart();
        Log.d("lifecycle","onRestart invoked");
    }
    @Override
    protected void onDestroy() { super.onDestroy();
        Log.d("lifecycle","onDestroy invoked");
    }
}
```

Output:



Program no:21

Aim: Program to implement various SQLite operations :

(INSERT, UPDATE ,DELETE ,SELECT)

XML Code:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools" android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="10dp"
    tools:context=".MainActivity">

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

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

```
    android:layout_below="@+id/name"
    android:inputType="number"
    />
<EditText
    android:id="@+id/dob"
    android:layout_width="match_parent"
    android:layout_height="wrap_content" android:hint="Date
    of birth" android:textSize="24dp"
    android:layout_below="@+id/contact"
    android:inputType="number"
    />
<Button
    android:id="@+id/buttonInsert"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textSize="24dp" android:text="Insert
    new Data"
    android:layout_marginTop="30dp"
    android:layout_below="@+id/dob"
    />
<Button
    android:id="@+id/buttonUpdate"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textSize="24dp" android:text="Update
    Data" android:layout_below="@+id/buttonInsert"
    />
<Button
    android:id="@+id/buttondelete"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textSize="24dp" android:text="Delete
    existing data"
    android:layout_below="@+id/buttonUpdate"
    />
```

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

</RelativeLayout>
```

Java Code:

```
package com.example.sqlite_app;


import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity; import
android.database.Cursor;
import android.os.Bundle; import
android.view.View; import
android.widget.Button; import
android.widget.EditText; import
android.widget.Toast;


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


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

```
        name=findViewById(R.id.name);
        contact=findViewById(R.id.contact);
        dob=findViewById(R.id.dob);
        insert=findViewById(R.id.buttonInsert);
        update=findViewById(R.id.buttonUpdate);
        delete=findViewById(R.id.buttondelete);
        view=findViewById(R.id.buttonView); DB=new
        DBHelper(this);

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

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

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

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

            Boolean checkdeletedata=DB.deletedata(nameTXT);
            if(checkdeletedata==true)
                Toast.makeText(MainActivity.this, "Entry deleted",
Toast.LENGTH_SHORT).show();
            else
                Toast.makeText(MainActivity.this, "Not deleted",
Toast.LENGTH_SHORT).show();
        }
    });
    view.setOnClickListener(new View.OnClickListener() {
```

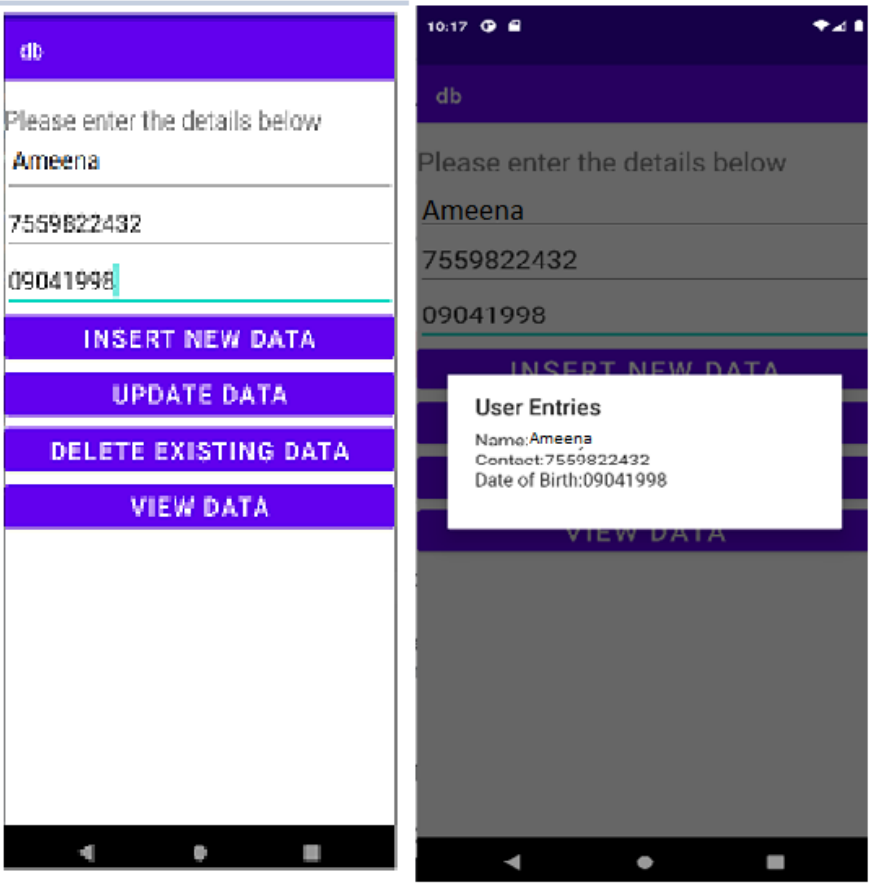
```
        @Override
        public void onClick(View v) {
            Cursor res=DB.getdata();
            if(res.getCount()==0){
                Toast.makeText(MainActivity.this, "No entry exists",
Toast.LENGTH_SHORT).show();
                return;
            }
            StringBuffer buffer=new StringBuffer();
            while(res.moveToNext()){
                buffer.append("Name:"+res.getString(0)+"\n");
                buffer.append("Contact:"+res.getString(1)+"\n"); buffer.append("Date of
                Birth:"+res.getString(2)+"\n");
            }
            AlertDialog.Builder builder=new
AlertDialog.Builder(MainActivity.this);
            builder.setCancelable(true); builder.setTitle("User
            Entries"); builder.setMessage(buffer.toString());
            builder.show();

        }
    });


  }
}
```

```
package com.example.sqlite_app;

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

import androidx.annotation.Nullable;

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

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

    }

    @Override
    public void onUpgrade(SQLiteDatabase DB, int oldVersion, int newVersion)
{
        DB.execSQL("drop Table if exists Userdetails");
    }
    public Boolean insertuserdata(String name, String contact, String dob){
        SQLiteDatabase DB=this.getWritableDatabase();
```

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

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

Output:


db
Please enter the details below
Ameena
7559822432
09041998
INSERT NEW DATA
UPDATE DATA
DELETE EXISTING DATA
VIEW DATA
10:17
db
Please enter the details below
Ameena
7559822432
09041998
User Entries
Name:Ameena
Contact:7559822432
Date of Birth:09041998