

20MCA243 MOBILE APPLICATION DEVELOPMENT LAB

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

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY



**AMAL JYOTHI COLLEGE OF ENGINEERING
KANJIRAPPALLY**

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**DEPARTMENT OF COMPUTER APPLICATIONS
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CERTIFICATE

This is to certify that the lab report, “**20MCA243 MOBILE APPLICATION DEVELOPMENT LAB**” is the bonafide work of **ANNAPOORNESWARI D (Reg.No:AJC20MCA-2020)** 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"
    android:background="@drawable/a4">
    <TextView
        android:id="@+id/l1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:gravity="center"
        android:text="Login"
        android:textColor="#630DFB"
        android:textSize="50dp"
        tools:layout_editor_absoluteX="31dp"
        tools:layout_editor_absoluteY="39dp" />
    <EditText
        android:id="@+id/e1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
```

```

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

```

Java Code:

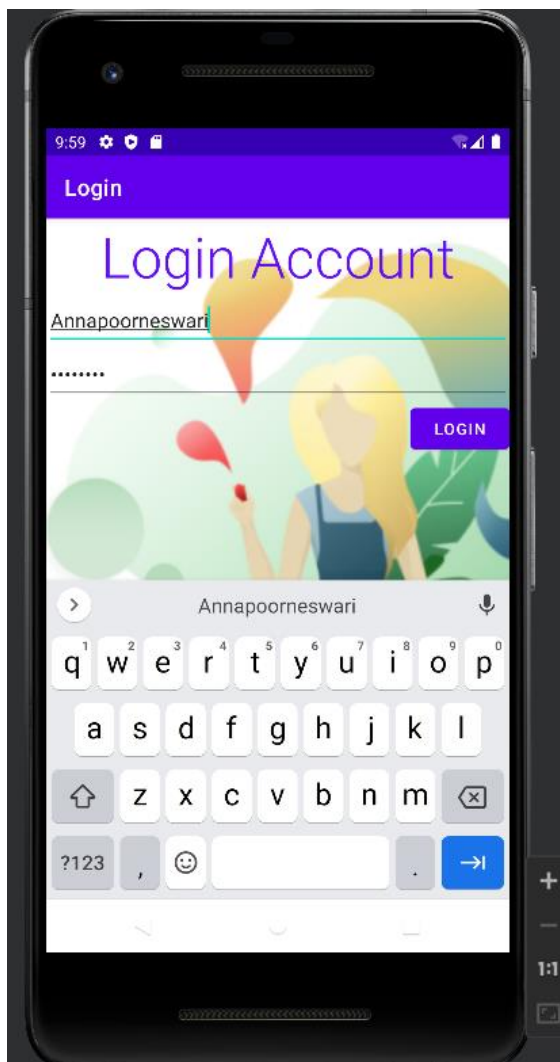
```

package com.example.myapplication222;
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 t;
    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"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical"
    android:background="#DFF6C4">
    <EditText
        android:layout_width="261dp"
        android:layout_height="78dp"
        android:id="@+id/text1"
        android:hint="Write here!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        android:background="@color/teal_700"
        android:textSize="25dp"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
    <Button
        android:id="@+id/button"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:text="Button" />
    <TextView
```



```

android:id="@+id/textView2"
android:layout_width="match_parent"
android:layout_height="70dp"
android:layout_gravity="center"
android:text="Your text is" />

```

Java Code:

```

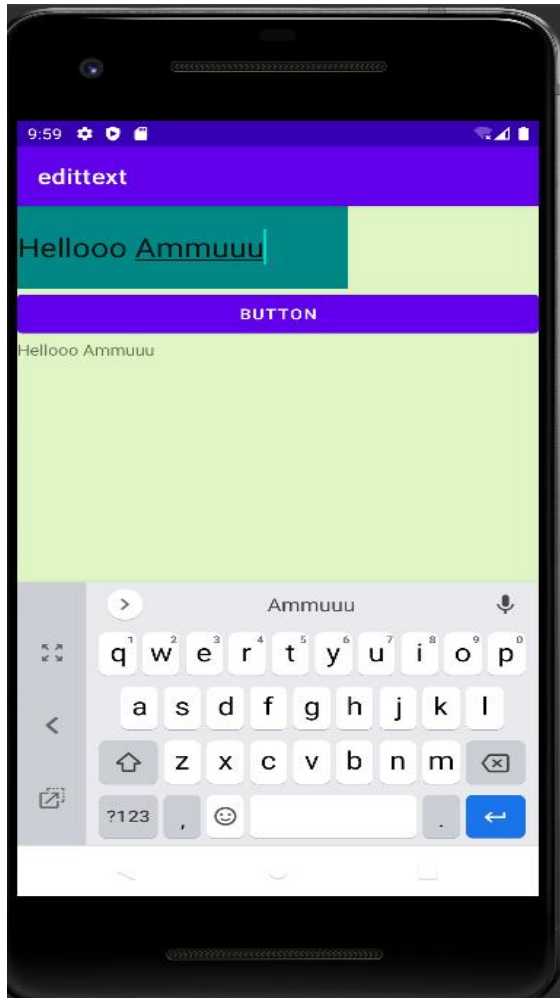
package com.example.display;

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

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:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"          android:orientation="vertical"
    android:gravity="center"                    android:background="@drawable/login"
    android:layout_height="match_parent" tools:context=".Login">
```

```
<TextView
```

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

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

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

```
    android:fontFamily="@font/archivo_black"
```

```
    android:text="Login" android:textSize="50dp"/>
```

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

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

```
    android:orientation="vertical"
```

```
    android:layout_marginLeft="20dp"
```

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

```
<com.google.android.material.textfield.TextInputLayout android:id="@+id/edturn"
```

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

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

```
android:hint="Username"
style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox">
```

```
<com.google.android.material.textfield.TextInputEditText
android:layout_width="match_parent" android:layout_height="wrap_content"
android:inputType="text"/>
```

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

```
<com.google.android.material.textfield.TextInputLayout
android:id="@+id/edtpswd"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:hint="Password"
style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox">
<com.google.android.material.textfield.TextInputEditText
android:layout_width="match_parent" android:layout_height="wrap_content"
android:inputType="text"/>
```

```
</LinearLayout>
```

```
<Button android:id="@+id/btnlgn"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Login"/>
</LinearLayout>
```

Java Code:

```
package com.example.vaidyakare;
```

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

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

```
import android.os.Bundle;
import android.util.Log; import
android.view.View; import
android.widget.Button;
```

```
import android.widget.EditText; import
android.widget.TextView;
```

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

```
import com.google.android.material.textfield.TextInputLayout;
```

```
public class Login extends AppCompatActivity {

    TextView t1;

    TextInputLayout e1, e2;

    Button b1;

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

```
t1=findViewById(R.id.txtlgn);
e1=findViewById(R.id.edtur);
e2=findViewById(R.id.edtpd);
```

```
b1 = findViewById(R.id.btnlgn);
b1.setOnClickListener(new
View.OnClickListener() {
```

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

```
        String username = e1.getText().toString().trim(); String
password = e2.getText().toString().trim();
```

```
        if (username.equals("")){
```

```
        Toast.makeText(Login.this, "Enter your username",
        Toast.LENGTH_SHORT).show();
    }

    else if(password.equals("")){

        Toast.makeText(Login.this, "Enter your password",
        Toast.LENGTH_SHORT).show();
    }

    else{

        Intent j = new Intent(Login.this,Dashboard.class);

        if(username.equals("admin")){

            j.putExtra("usrn",username);
            startActivity(j);
        }else if(username.equals("patient")){

            j.putExtra("usrn",username);
            startActivity(j);

        }else{

            Toast.makeText(Login.this, "Invalid user", Toast.LENGTH_SHORT).show();

        }
    }
}
```

```
});
```

```
}
```

```
}
```

OUTPUT



PROGRAM NO:04

Aim: Implementing basic arithmetic operations of a simple calculator

XML Code:

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

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

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="#9DD59F"
tools:context=".MainActivity">

<TextView
android:id="@+id/tx1"
android:layout_width="108dp"
android:layout_height="29dp"
android:layout_alignParentStart="true"
android:layout_alignParentTop="true"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginStart="143dp"
android:layout_marginTop="63dp"
android:layout_marginEnd="158dp"
android:layout_marginBottom="639dp"
android:background="#4CAF50"
android:text="Calculator"
```



```

app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent" />

```

```

<EditText
    android:id="@+id/ed1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentStart="true"
    android:layout_alignParentTop="true"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginStart="104dp"
    android:layout_marginTop="186dp"
    android:layout_marginEnd="98dp"
    android:layout_marginBottom="500dp"
    android:backgroundTint="#4CAF50"
    android:ems="10"
    android:inputType="textPersonName"
    android:text="Enter a Number"
    android:textColor="@color/black"
    tools:ignore="TouchTargetSizeCheck" />

```

```

<EditText
    android:id="@+id/ed2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentStart="true"
    android:layout_alignParentTop="true"

```

```

android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginStart="106dp"
android:layout_marginTop="251dp"
android:layout_marginEnd="96dp"
android:layout_marginBottom="435dp"
android:backgroundTint="#4CAF50"
android:ems="10"
android:inputType="textPersonName"
android:text="Enter second Number"
android:textColor="@color/black"
tools:ignore="TouchTargetSizeCheck" />

```

```
<TextView
```

```

android:id="@+id/tx2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentStart="true"
android:layout_alignParentTop="true"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginStart="245dp"
android:layout_marginTop="315dp"
android:layout_marginEnd="108dp"
android:layout_marginBottom="397dp"
android:background="#A4D1A6"
android:text="Answer"
android:textColor="@color/black" />

```

```
<Button
```

```

android:id="@+id/btn1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentStart="true"
android:layout_alignParentTop="true"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginStart="18dp"
android:layout_marginTop="398dp"
android:layout_marginEnd="299dp"
android:layout_marginBottom="285dp"
android:text="-" />

```

<Button

```

android:id="@+id/btn2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentStart="true"
android:layout_alignParentTop="true"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginStart="216dp"
android:layout_marginTop="400dp"
android:layout_marginEnd="101dp"
android:layout_marginBottom="283dp"
android:text="+" />

```

<Button

```

android:id="@+id/btn3"
android:layout_width="wrap_content"

```

```

android:layout_height="wrap_content"
android:layout_alignParentStart="true"
android:layout_alignParentTop="true"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginStart="24dp"
android:layout_marginTop="507dp"
android:layout_marginEnd="293dp"
android:layout_marginBottom="176dp"
android:text="*" />

```

```
<Button
```

```

android:id="@+id/btn4"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentStart="true"
android:layout_alignParentTop="true"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginStart="218dp"
android:layout_marginTop="506dp"
android:layout_marginEnd="99dp"
android:layout_marginBottom="177dp"
android:text="/" />

```

```
<Button
```

```

android:id="@+id/btn5"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentStart="true"

```

```

android:layout_alignParentTop="true"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginStart="125dp"
android:layout_marginTop="581dp"
android:layout_marginEnd="192dp"
android:layout_marginBottom="102dp"
android:text="" />

</RelativeLayout>

```

Java Code:

```

package com.example.myapplication1;

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 {
    TextView t1,t2;
    EditText e1,e2;
    Button b1,b2,b3,b4,b5;
    double ans=0;

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

```

```

setContentView(R.layout.activity_main);
t1=findViewById(R.id.tx1);
t2=findViewById(R.id.tx2);
e1=findViewById(R.id.ed1);
e2=findViewById(R.id.ed2);
b1=findViewById(R.id.btn1);
b2=findViewById(R.id.btn2);
b3=findViewById(R.id.btn3);
b4=findViewById(R.id.btn4);
b5=findViewById(R.id.btn5);
b1.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        String num1=e1.getText().toString();
        String num2=e2.getText().toString();
        if(num1.isEmpty()||num2.isEmpty()){
            Toast.makeText(MainActivity.this, "Sub", Toast.LENGTH_LONG).show();
        }
        else{
            double a=Double.parseDouble(e1.getText().toString());
            double b=Double.parseDouble(e2.getText().toString());

            ans= a-b;

        }
    }
});

b2.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {

```

```

String num1=e1.getText().toString();
String num2=e2.getText().toString();
if(num1.isEmpty()||num2.isEmpty()){
    Toast.makeText(MainActivity.this, "add", Toast.LENGTH_LONG).show();
}
else{
    double a=Double.parseDouble(e1.getText().toString());
    double b=Double.parseDouble(e2.getText().toString());

    ans= a+b;

}
}
});

b3.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        String num1=e1.getText().toString();
        String num2=e2.getText().toString();
        if(num1.isEmpty()||num2.isEmpty()){
            Toast.makeText(MainActivity.this, "multi", Toast.LENGTH_LONG).show();
        }
        else{
            double a=Double.parseDouble(e1.getText().toString());
            double b=Double.parseDouble(e2.getText().toString());

            ans= a*b;

        }
    }
});

```

```
b4.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View view) {  
        String num1=e1.getText().toString();  
        String num2=e2.getText().toString();  
        if(num1.isEmpty()||num2.isEmpty()){  
            Toast.makeText(MainActivity.this, "divide", Toast.LENGTH_LONG).show();  
        }  
        else{  
            double a=Double.parseDouble(e1.getText().toString());  
            double b=Double.parseDouble(e2.getText().toString());  
            if(b!=0)  
                ans= a/b;  
            else  
                Toast.makeText(MainActivity.this, "enter the number", Toast.LENGTH_SHORT).show();  
        }  
    }  
});  
  
b5.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View view) {  
        String ans2 =String.valueOf(ans);  
        t2.setText(ans2);  
        ans=0;  
    }  
});  
}
```


OUTPUT

PROGRAM NO:05**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=".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.vaidyakare;
```

```

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

```

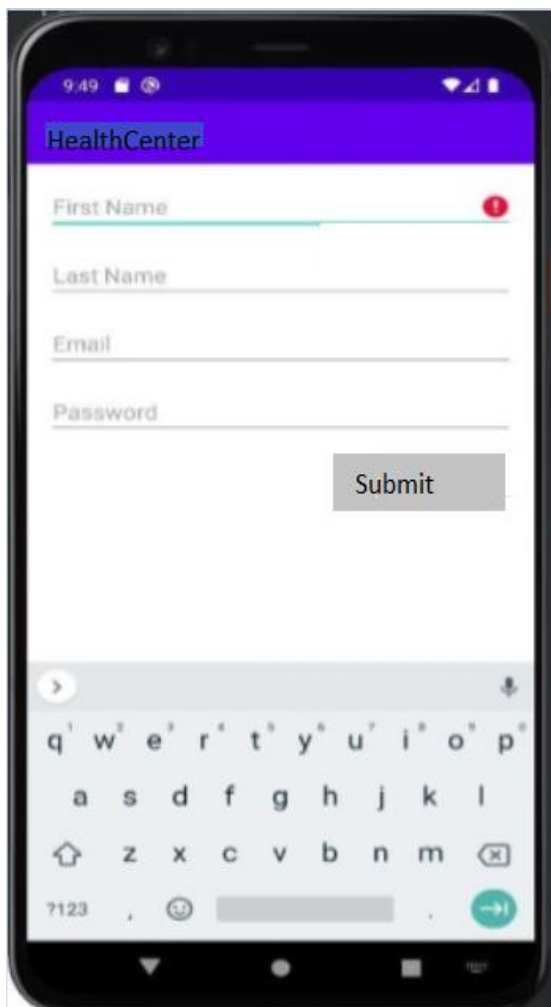
```

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: 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"?>

<RelativeLayout

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

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

android:layout_width="match_parent"

android:layout_height="match_parent"

tools:context=".MainActivity"

tools:ignore="HardcodedText">

<TextView

android:id="@+id/textview"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_centerHorizontal="true"

android:layout_marginTop="32dp"

android:text="Shared Preferences Demo"

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

android:textSize="24sp" />

<!--EditText to take the data from the user
and save the data in SharedPreferences-->

<EditText

android:id="@+id/edit1"

android:layout_width="match_parent"
```

```

android:layout_height="wrap_content"
android:layout_below="@+id/textview"
android:layout_marginStart="16dp"
android:layout_marginTop="8dp"
android:layout_marginEnd="16dp"
android:hint="Enter your Name"
android:padding="10dp" />

```

<!--EditText to take the data from the user and
save the data in SharedPreferences-->

```

<EditText
android:id="@+id/edit2"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_below="@+id/edit1"
android:layout_marginStart="16dp"
android:layout_marginTop="8dp"
android:layout_marginEnd="16dp"
android:hint="Enter your Age"
android:padding="10dp"
android:inputType="number" />

```

```

<Button
android:id="@+id/btn"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/edit2"
android:layout_marginStart="160dp"
android:layout_marginTop="18dp"
android:layout_marginEnd="16dp"

```



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

```
</RelativeLayout>
```

Java Code:

```
package com.example.todolist;

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 {
    private EditText name, age;
    Button b1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        name = findViewById(R.id.edit1);
        age = findViewById(R.id.edit2);
        b1 = findViewById(R.id.btn);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
```

```

public void onClick(View v) {

    Intent i=new
    Intent(MainActivity.this,MainActivity2.class);

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

    startActivity(i);

}

});

}

// Fetch the stored data in onResume()

// Because this is what will be called

// when the app opens again

@Override

protected void onResume() {

    super.onResume();

    // Fetching the stored data

    // from the SharedPreferences

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

    String s1 = sh.getString("name", "");

    int a = sh.getInt("age", 0);

    // Setting the fetched data

    // in the EditTexts

    name.setText(s1);

    age.setText(String.valueOf(a));

}

```

```

// Store the data in the SharedPreferences
// in the onPause() method
// When the user closes the application
// onPause() will be called
// and data will be stored
@Override
protected void onPause() {
    super.onPause();

    // Creating a shared pref object
    // with a file name "MySharedPref"
    // in private mode

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

    SharedPreferences.Editor myEdit =
        sharedPreferences.edit();

    // write all the data entered by the user in
    // SharedPreferences and apply

    myEdit.putString("name", name.getText().toString());

    myEdit.putInt("age",
    Integer.parseInt(age.getText().toString()));

    myEdit.apply();
}
}

```

Activity_main2.xml

```

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

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

```

```

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:gravity="center"
android:orientation="vertical"
tools:context=".MainActivity2">
<TextView
android:id="@+id/txt1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"/>
<TextView
android:id="@+id/txt2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"/>

</LinearLayout>

```

mainActivity2.java

```

package com.example.todolist;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity2 extends AppCompatActivity
{
    TextView T1,T2;

```

```

@Override

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

    T1 = findViewById(R.id.txt1);
    T2 = findViewById(R.id.txt2);

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

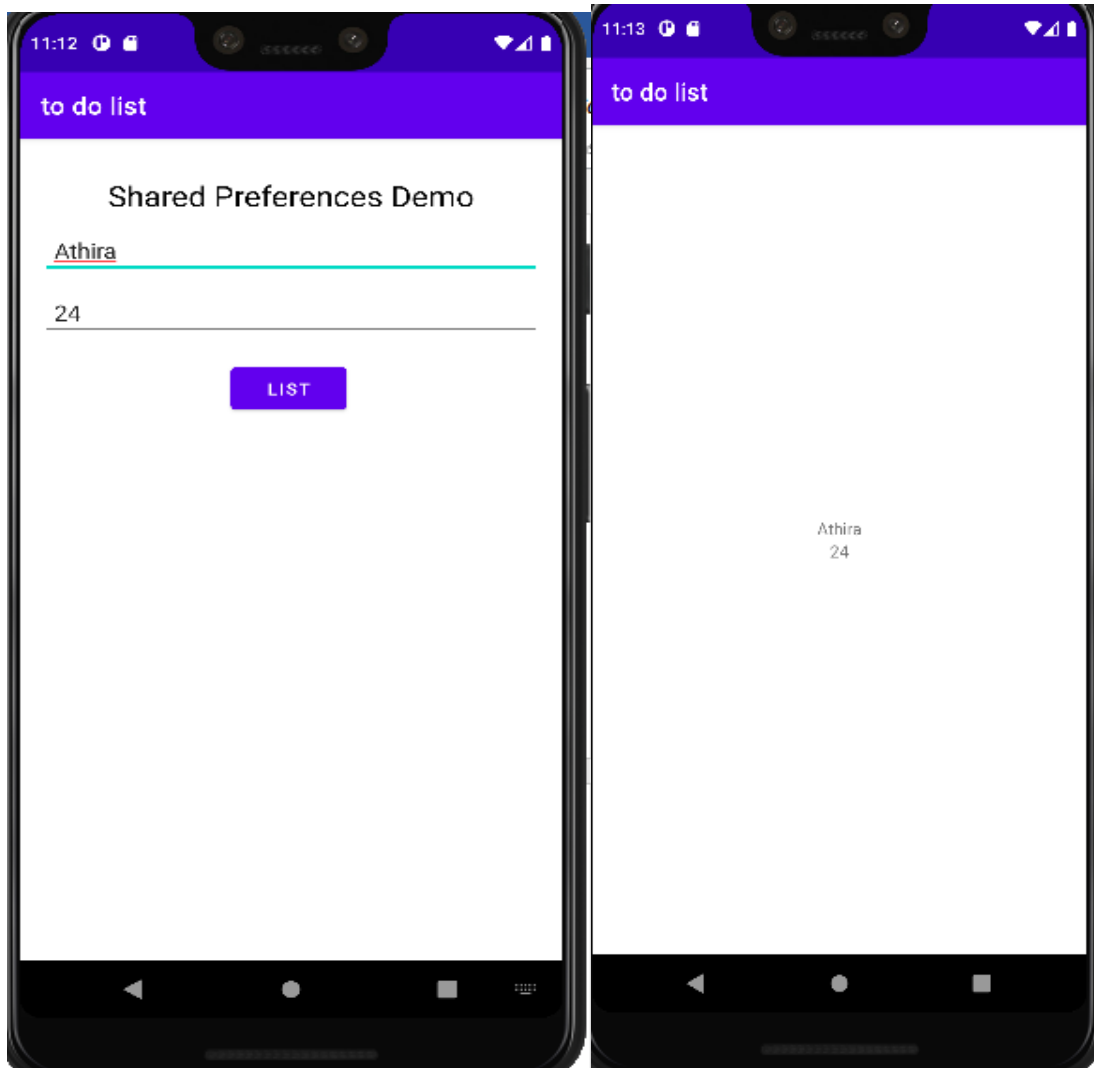
    String s1 = sh.getString("name", "");
    int a = sh.getInt("age", 0);

    // Setting the fetched data
    // in the EditTexts

    T1.setText(s1);
    T2.setText(String.valueOf(a));

}
}

```

OUTPUT

PROGRAM NO:07

Aim: Design a simple Calculator using GridLayout and Cascaded LinearLayout

XML Code:

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

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent" android:layout_height="match_parent"
    android:background="#00000000"          android:layout_gravity="bottom"
    android:gravity="bottom"                android:orientation="vertical"
    tools:context=".Output">

    <LinearLayout android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical">

        <LinearLayout android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_gravity="end"
            android:orientation="vertical">

            <TextView

                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_marginEnd="20dp"
                android:text="18+7"
                android:textAlignment="textEnd"
                android:textColor="@color/black"
                android:textSize="40dp" />

            <TextView

                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_marginEnd="20dp"
                android:text="=25"
                android:textAlignment="textEnd"
```

```

        android:textColor="@color/black"
        android:textSize="40dp" />
</LinearLayout>

```

```

<GridLayout  android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:layout_weight="1"
    android:columnCount="4"
    android:gravity="bottom" android:rowCount="4">

```

```

<Button                android:id="@+id/b9"
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="@drawable/bg_button"
    android:text="9"
    android:textColor="@color/white"
    android:textSize="25dp" />

```

```

<Button                android:id="@+id/b8"
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="@drawable/bg_button"
    android:text="8"
    android:textColor="@color/white"
    android:textSize="25dp" />

```

```

<Button
    android:id="@+id/b7"
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="@drawable/bg_button"
    android:text="7"
    android:textColor="@color/white"
    android:textSize="25dp" />

```



```

<Button            android:id="@+id/bmult"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="#F86605"
    android:text="x"
    android:textColor="@color/white"
    android:textSize="18dp" />

```

```

<Button            android:id="@+id/b6"
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="@drawable/bg_button"
    android:text="6"
    android:textColor="@color/white"
    android:textSize="25dp" />

```

```

<Button            android:id="@+id/b5"
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="@drawable/bg_button"
    android:text="5"
    android:textColor="@color/white"
    android:textSize="25dp" />

```

```

<Button            android:id="@+id/b4"
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="@drawable/bg_button"
    android:text="4"
    android:textColor="@color/white"
    android:textSize="25dp" />

```

```

<Button            android:id="@+id/bdiv"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="#F86605"
    android:text="/"
    android:textColor="@color/white"
    android:textSize="25dp" />

```

```
<Button                android:id="@+id/b3"
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="@drawable/bg_button"
    android:text="3"
    android:textColor="@color/white"
    android:textSize="25dp" />
```

```
<Button                android:id="@+id/b2"
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="@drawable/bg_button"
    android:text="2"
    android:textColor="@color/white"
    android:textSize="25dp" />
```

```
<Button                android:id="@+id/b1"
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="@drawable/bg_button"
    android:text="1"
    android:textColor="@color/white"
    android:textSize="25dp" />
```

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

```
<Button                android:id="@+id/b0"
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="@drawable/bg_button"
    android:text="0"
    android:textColor="@color/white"
    android:textSize="25dp" />
```

```
<Button                android:id="@+id/b."
    android:layout_width="50dp"
    android:layout_height="wrap_content"
```

```

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

```

```

<Button                android:id="@+id/bequal"
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="@drawable/bg_button"
    android:text="="
    android:textColor="@color/white"
    android:textSize="25dp" />

```

```

<Button                android:id="@+id/bplus"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="#F86605"
    android:text="+"
    android:textColor="@color/white"

    android:textSize="25dp" />

```

```

</GridLayout>

```

```

</LinearLayout>

```

```

</LinearLayout>

```

Java Code:

```

package com.example.edit2text;

```

```

import androidx.appcompat.app.AppCompatActivity;

```

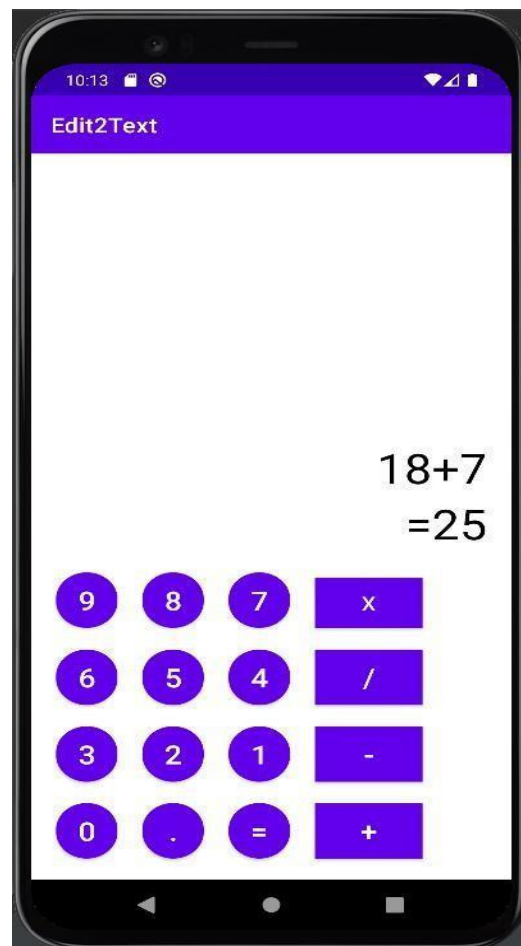
```

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

```

```
public class Output extends AppCompatActivity {  
    TextView t1;  
  
    @Override protected void onCreate(Bundle  
        savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_output);  
    }  
}
```

OUTPUT



PROGRAM NO:08

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

XML Code:

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

<LinearLayout
xmlns:android="http://schemas.android.com/apk/res/an
droid" 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=".facebook">

<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/arvo"
android:padding="10dp" android:text="facebook"
android:textColor="@color/white"
android:textSize="36dp" />

</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"/>
```

```
<EditText      android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginBottom="30dp"
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_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="130dp"
android:layout_weight="1" android:textStyle="bold"
```

```
android:text="?">
```

```
</LinearLayout>
```

```
</LinearLayout>
```

```
</LinearLayout>
```

Java Code:

```

package com.example.myapplication2;

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 {

    Button b1;

    TextView t1;

    EditText e1,e2;

    SharedPreferences sharedPreferences;

    public static final String
    SHARED_PREF_NAME="mypref";

    public static final String KEY_NAME="";

    @Override

    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        getSupportActionBar().setTitle("FaceBook_Login");
        addListeneronButton();

    }

```

```

private void addListeneronButton() {
    t1=findViewById(R.id.tx);
    b1=findViewById(R.id.btn);
    e1=findViewById(R.id.e1);
    e2=findViewById(R.id.e2);

    sharedPreferences=
    getSharedPreferences(SHARED_PREF_NAME,MO
    DE_PRIVATE);

    String name=
    sharedPreferences.getString(KEY_NAME,String.val
    ueOf(0));

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

        public void onClick(View view) {

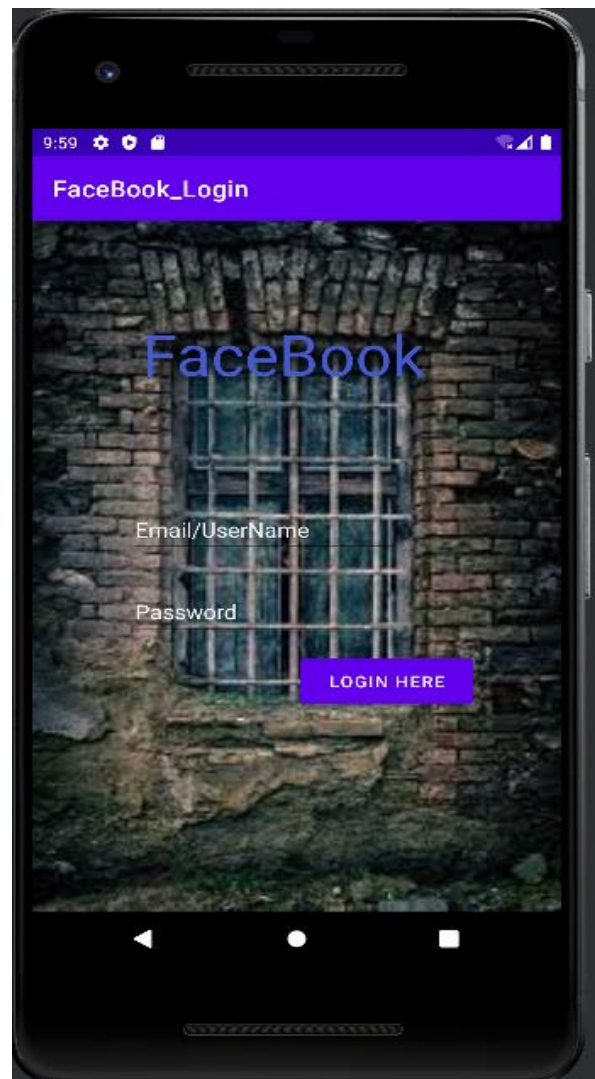
            Intent intent = new
            Intent(MainActivity.this,add1.class);

            startActivity(intent);

        }
    });

}
}

```


OUTPUT

PROGRAM NO:09

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/and
roid"
xmlns:app="http://schemas.android.com/apk/res-
auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">
<FrameLayout
android:layout_width="match_parent"
android:layout_height="657dp"
android:layout_marginTop="12dp"
app:layout_constraintTop_toTopOf="@+id/textVie
w"
tools:layout_editor_absoluteX="47dp">
<ImageView
android:id="@+id/imageView"
android:layout_width="match_parent"
android:layout_height="672dp"
app:srcCompat="@drawable/tom" />
<ImageView
android:id="@+id/imageView2"
android:layout_width="wrap_content"
android:layout_height="672dp"
app:srcCompat="@drawable/jerry" />
</FrameLayout>
</FrameLayout>
```

Java Code:

```
package com.example.framelayout;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;
```

```
import android.widget.ImageView;

public class MainActivity extends AppCompatActivity {

    ImageView i1,i2;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        i1=findViewById(R.id.imageView);

        i2=findViewById(R.id.imageView2);

        i2.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                i1.bringToFront();

            }

        });

        i1.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                i2.bringToFront();

            }

        });

    }

}
```

OUTPUT

PROGRAM NO:10

Aim: Implement Adapters and perform exception handling

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:gravity="center" tools:context=".exception">
```

```
<TextView
```

```
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="TextView"/>
```

```
</LinearLayout>
```

Java Code:

```
package com.example.vaidyakare;
```

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

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

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

```

public class exception extends AppCompatActivity {

    TextView textView;

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

        try {

            textView.setText("Hello there...");

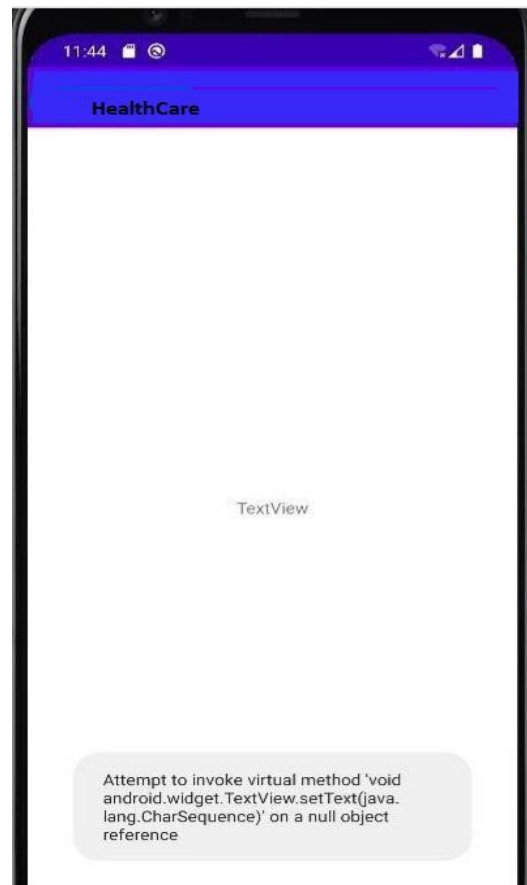
        } catch (Exception e) {
            Toast.makeText(this, e.getMessage(), Toast.LENGTH_SHORT).show();

        }

    }
}

```

OUTPUT



PROGRAM NO:11

Aim: Implement Intent to navigate between multiple activities

XML Code:

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

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

<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"
    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" android:onClick="callActivity"
    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>

```

Display.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=".intent_act2">

    <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.vaidyakare;
```

```

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

```

```
public class intent_activity extends AppCompatActivity {
```

```
    Button b1;
```

```

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

```

```

    } public void callActivity(View view)
    {
        Intent i = new Intent(intent_activity.this, intent_act2.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);

}

}

```

Display.java

```

package com.example.vaidyakare;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle; import
android.widget.TextView; public
class intent_act2 extends
AppCompatActivity {

    TextView view1;

    TextView view2;

    TextView view3;

    @Override protected void onCreate(Bundle
savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_intent_act2);

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

```

```
String value1 = extras.getString("Value1");
```

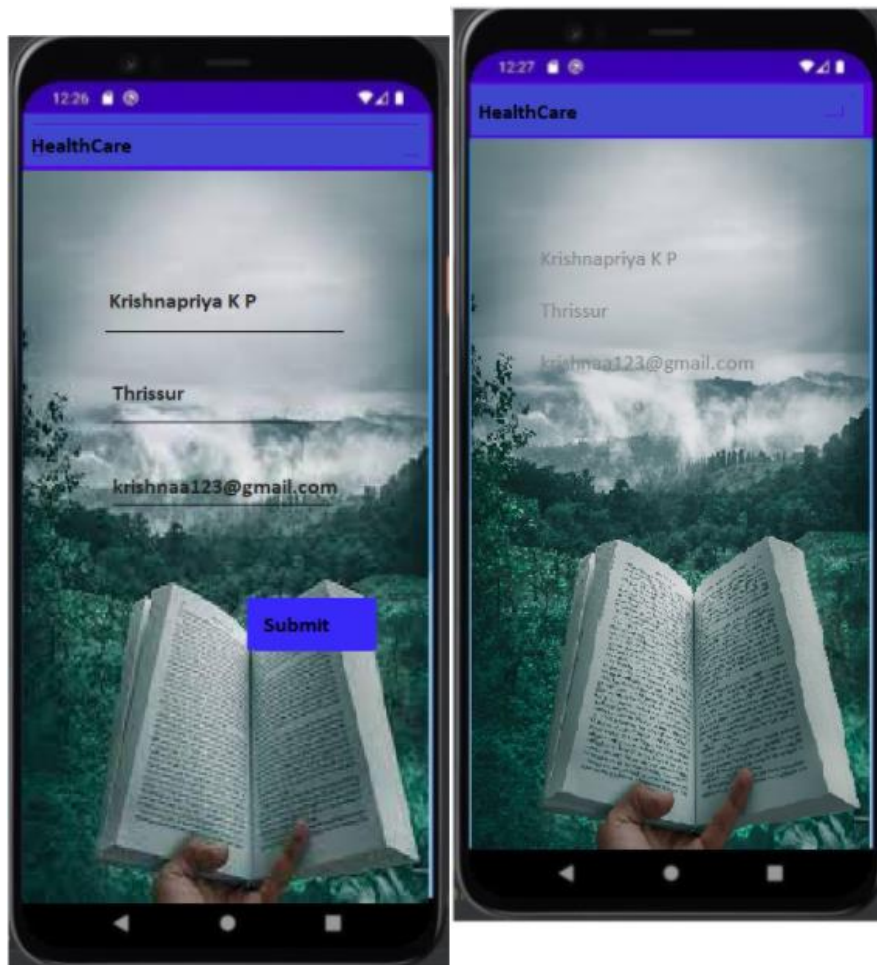
```
String value2 = extras.getString("Value2"); String  
value3 = extras.getString("Value3");
```

```
view1.setText(value1); view2.setText(value2);  
view3.setText(value3);
```

```
}
```

```
}
```

OUTPUT



PROGRAM NO:12

Aim: Develop an application that works with explicit intents

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="#B4ECDC"
tools:context=".MainActivity">

<TextView
android:id="@+id/tx"
android:layout_width="229dp"
android:layout_height="61dp"

app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintHorizontal_bias="0.351"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.083" />

<Button
android:id="@+id/btn"
android:layout_width="135dp"
android:layout_height="51dp"
android:text="Add"
app:layout_constraintBottom_toBottomOf="parent"
```

```
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.727"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.717" />

<EditText
    android:id="@+id/e1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textPersonName"
    android:text="Name"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.378"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.278" />

<EditText
    android:id="@+id/e2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textPersonName"
    android:text="email"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.378"
    app:layout_constraintStart_toStartOf="parent"
```

```

app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.381" />

<EditText
    android:id="@+id/e3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textPersonName"
    android:text="DOB"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.378"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.476" />

```

```

<EditText
    android:id="@+id/e4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textPersonName"
    android:text="Password"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.378"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.572" />

```

```

</androidx.constraintlayout.widget.ConstraintLayout>

```

Java Code:

```

package com.example.myapplication2;

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 {
    Button b1;
    TextView t1;
    EditText e1,e2,e3,e4;
    SharedPreferences sharedPreferences;

    public          static          final          String
    SHARED_PREF_NAME="mypref";

    public static final String KEY_NAME="";

    @Override

    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        getSupportActionBar().setTitle("Register");
        addListeneronButton();

    }

    private void addListeneronButton() {

```

```

t1=findViewById(R.id.tx);
b1=findViewById(R.id.btn);
e1=findViewById(R.id.e1);
e2=findViewById(R.id.e2);
e3=findViewById(R.id.e3);
e4=findViewById(R.id.e4);

sharedPreferences=
getSharedPreferences(SHARED_PREF_NAME,MODE
_PRIVATE);

String name=
sharedPreferences.getString(KEY_NAME,String.valueOf(0));

t1.setText("Register"+"Account");
b1.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

Intent intent = new Intent(MainActivity.this,add1.class);
startActivity(intent);

}

});

}

}

```

Add1.xml

```

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

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

```



```

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=".add1">

```

```

<Button
    android:id="@+id/btn"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="login here"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.536"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.565" />

```

```

<TextView
    android:id="@+id/tx"
    android:layout_width="112dp"
    android:layout_height="42dp"
    android:text="Login"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.381"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.148" />

```

```
<EditText
android:id="@+id/e1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:inputType="textPersonName"
android:text="Email"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.343"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.297" />

<EditText
android:id="@+id/e2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:inputType="textPersonName"
android:text="Password"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.343"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.434" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Add1.java

```
package com.example.myapplication2;

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 add1 extends AppCompatActivity {
    Button b1;
    TextView t1;
    EditText e1,e2;
    String n1;

    SharedPreferences sharedPreferences;

    public          static          final          String
    SHARED_PREF_NAME="mypref";

    public static final String KEY_NAME="";

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_add1);
        getSupportActionBar().setTitle("Login");
        addButton();
    }
}
```

```

private void addButton() {
    b1=findViewById(R.id.btn);
    t1=findViewById(R.id.tx);
    e1=findViewById(R.id.e1);
    e2=findViewById(R.id.e2);

    sharedPreferences=
    getSharedPreferences(SHARED_PREF_NAME,MODE
    _PRIVATE);

    String name=
    sharedPreferences.getString(KEY_NAME,String.value
    Of(0));

    b1.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            String n1= e1.getText().toString();

            SharedPreferences.Editor editor=
            sharedPreferences.edit();

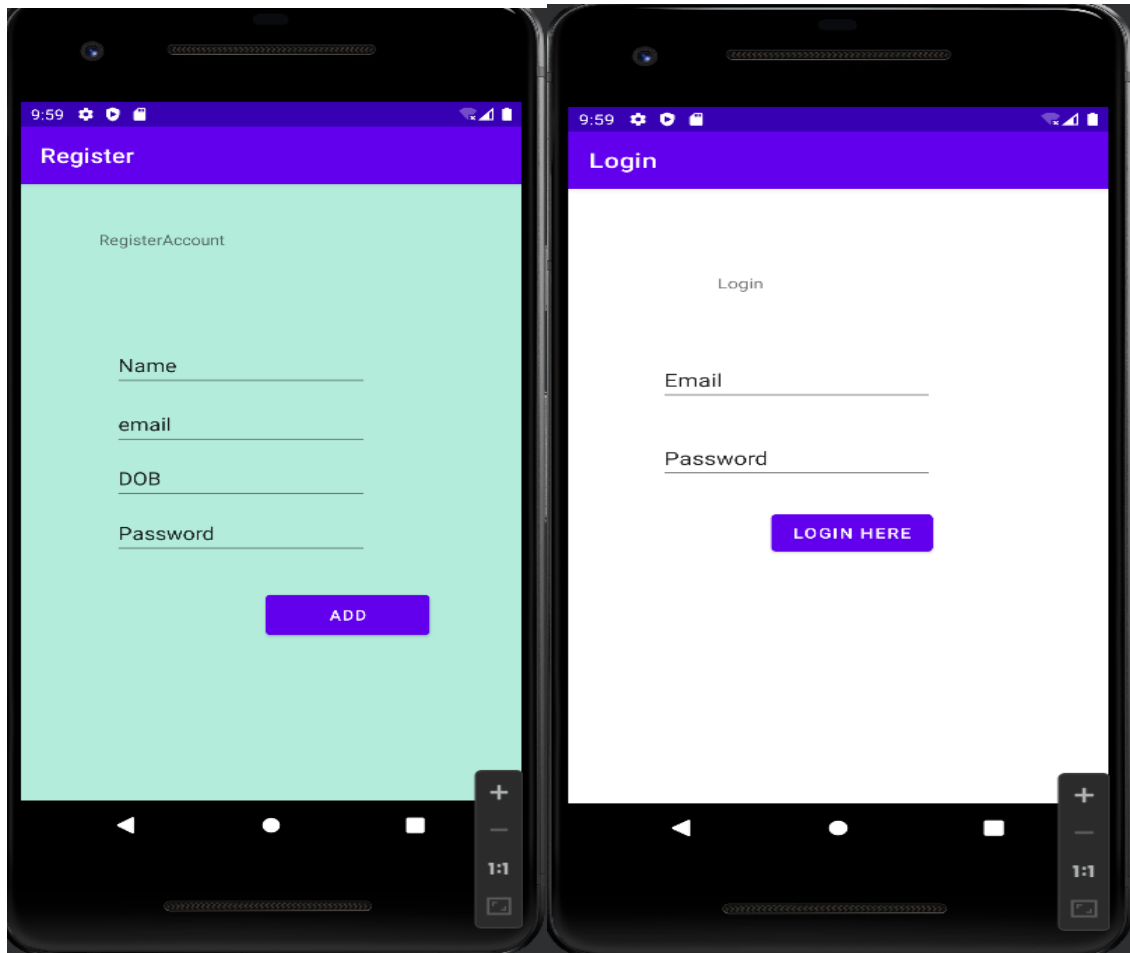
            editor.putString(KEY_NAME,n1);

            editor.commit();

            Intent int1= new Intent(add1.this,MainActivity.class);
            startActivity(int1);

        }
    });
}
}

```

OUTPUT

PROGRAM NO:13

Aim: Implement Options Menu to navigate to activities

XML Code:

Activity.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.drawerlayout.widget.DrawerLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:id="@+id/drawerlayout"
tools:context=".MainActivity">
<LinearLayout
android:layout_width="match_parent"
android:layout_height="wrap_content">
<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="navigationdrawer"
android:textSize="20dp"
android:layout_gravity="center"/>
</LinearLayout>
<com.google.android.material.navigation.NavigationView
android:layout_width="wrap_content"
android:layout_height="match_parent"
android:layout_gravity="start"
app:menu="@menu/navigation_menu"/>
</androidx.drawerlayout.widget.DrawerLayout>
```

Java Code:

```
package com.example.navigation;
import androidx.annotation.NonNull;
import androidx.appcompat.app.ActionBarDrawerToggle;
import androidx.appcompat.app.AppCompatActivity;
import androidx.drawerlayout.widget.DrawerLayout;
import android.os.Bundle;
import android.view.MenuItem;
public class MainActivity extends AppCompatActivity {
    DrawerLayout drawerLayout;
    ActionBarDrawerToggle actionBarDrawerToggle;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
```

```

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);
drawerLayout = findViewById(R.id.drawerlayout);
actionBarDrawerToggle = new ActionBarDrawerToggle(this,
drawerLayout, R.string.nav_open, R.string.nav_close);
drawerLayout.addDrawerListener(actionBarDrawerToggle);
actionBarDrawerToggle.syncState();
getSupportActionBar().setDisplayHomeAsUpEnabled(true);
}
@Override
public boolean onOptionsItemSelected(@NonNull MenuItem item) {
if(actionBarDrawerToggle.onOptionsItemSelected(item))
{
return true;
}
return super.onOptionsItemSelected(item);
}
}

```

navigation_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/11"
android:title="login"
android:icon="@drawable/login"
/>
<item
android:id="@+id/12"
android:title="logout"
android:icon="@drawable/logout"
/>
<item
android:id="@+id/13"
android:title="submit"
android:icon="@drawable/submit"
/>
</menu>

```

String.xml

```

<resources>
<string name="app_name">navigation</string>
<string name="nav_open">open</string>
<string name="nav_close">close</string>
</resources>

```

OUTPUT

PROGRAM NO:14

Aim: Develop an application that uses ArrayAdapter with ListView

XML Code:

```
<?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"
tools:context=".MainActivity">

<ListView
android:id="@+id/simpleListView"
android:layout_width="match_parent"
android:layout_height="wrap_content" />

</RelativeLayout>
```

Java Code:

```
package com.example.array;
import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    ListView simpleListView;

    // array objects
```

```
String courseList[] = {"C-Programming", "Data
Structure", "Database", "Python",
"Java", "Operating System", "Compiler Design",
"Android Development"};
```

```
@Override
```

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

simpleListView = (ListView)
findViewById(R.id.simpleListView);

ArrayAdapter<String> arrayAdapter = new
ArrayAdapter<String>(this,
R.layout.item_view, R.id.itemTextView, courseList);
simpleListView.setAdapter(arrayAdapter);
}
}
```

Item_View.xml

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

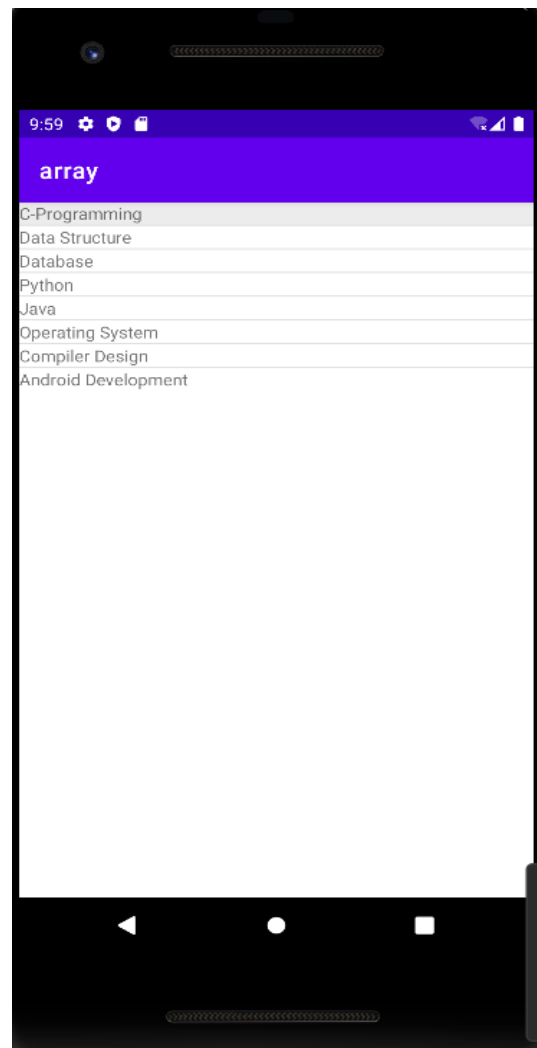
<TextView
android:id="@+id/itemTextView"
android:layout_width="match_parent"
```

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

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

```
</LinearLayout>
```

OUTPUT



PROGRAM NO:15

Aim: 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: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=".MainActivity3">
<TextView
android:id="@+id/textView4"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="169dp"
android:layout_marginTop="94dp"
android:layout_marginEnd="140dp"
android:layout_marginBottom="618dp"
android:text="Alert And Popup"
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.myapp15_12_2;

import androidx.annotation.NonNull;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import android.content.DialogInterface;
import android.content.Intent;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity3 extends AppCompatActivity {
    ImageView i;
    AlertDialog.Builder builder;
    AlertDialog alertDialog;
    Button b;
    //option menu
    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        getMenuInflater().inflate(R.menu.menu,menu);
        return true;
        //return super.onCreateOptionsMenu(menu);
    }
    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        item.setIcon(R.drawable.about);
        //i=findViewById(R.id.imageView);

```

```

TextView t=findViewById(R.id.textView4);
//handle item selection
switch (item.getItemId()) {
case R.id.it3:
builder=new AlertDialog.Builder(MainActivity3.this);
builder.setMessage("Do you want to
close?").setTitle("AlertDialog").setPositiveButton("OK", new
DialogInterface.OnClickListener() {
@Override
public void onClick(DialogInterface dialog, int which) {
finish();
}
}).setNegativeButton("Cancel", new DialogInterface.OnClickListener() {
@Override
public void onClick(DialogInterface dialog, int which) {
dialog.dismiss();
}
});
alertDialog=builder.create();
alertDialog.show();
return true;
case R.id.it4:
builder=new AlertDialog.Builder(MainActivity3.this);
View popupView=getLayoutInflater().inflate(R.layout.popup1,null);
builder.setView(popupView);
alertDialog=builder.create();
alertDialog.show();
return true;
default:
return super.onOptionsItemSelected(item);
}

```

```

}

@Override

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

```

Popup1.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"
        android: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"?>

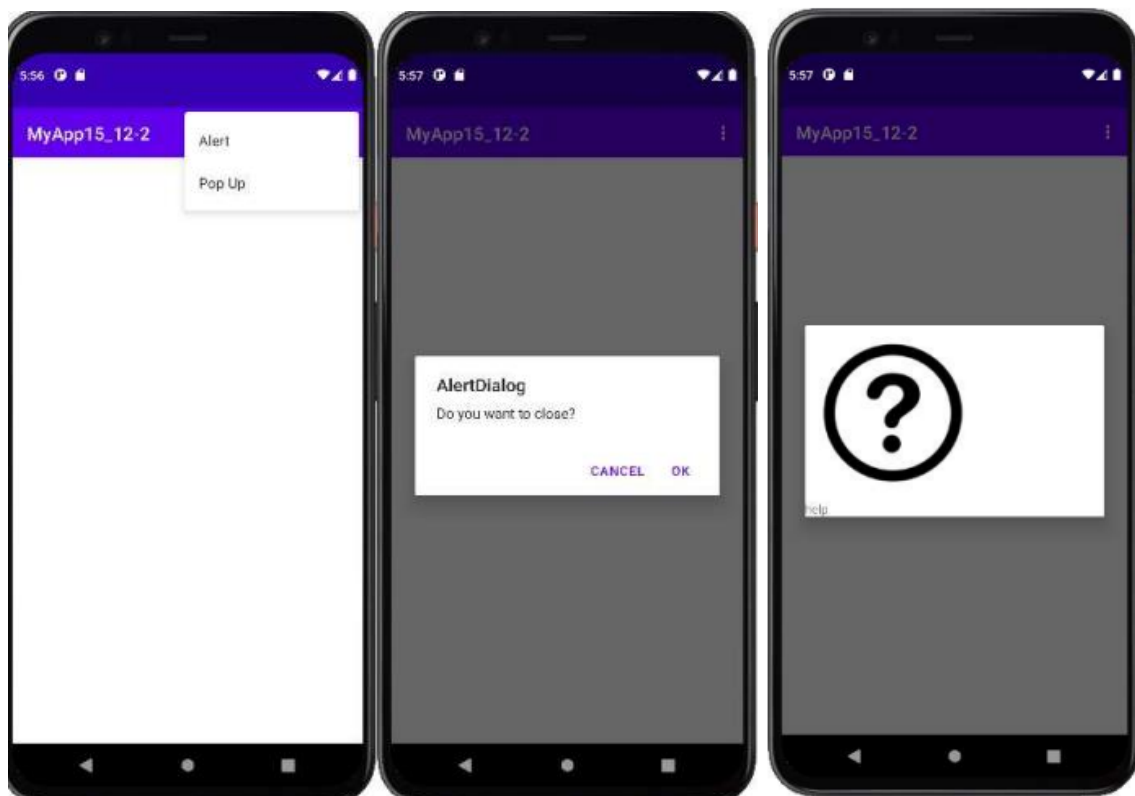
```

```

<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: Develop an application that implements Spinner component and perform event handling

XML Code:

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

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

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

Java Code:

```
package com.example.myapplicationspinner;

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

```

public class MainActivity extends AppCompatActivity implements
AdapterView.OnItemSelectedListener {
String[] country = { "India", "USA", "China", "Japan", "Other"};

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

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

}

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

```

OUTPUT



PROGRAM NO:17

Aim: Apply themes via code and manifest file

XML Code:

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

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

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" and
roid:icon="@mipmap/ic_launcher" android:label="@string/app_name"
    android:roundIcon="@mipmap/ic_launcher_rou
nd"
    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: 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" />

```

```

<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>framents>fragment(blank)

```

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();

}

}

```

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

```

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 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/an
droid"

    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>

```

fragment_fragment2.xml

```

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

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

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

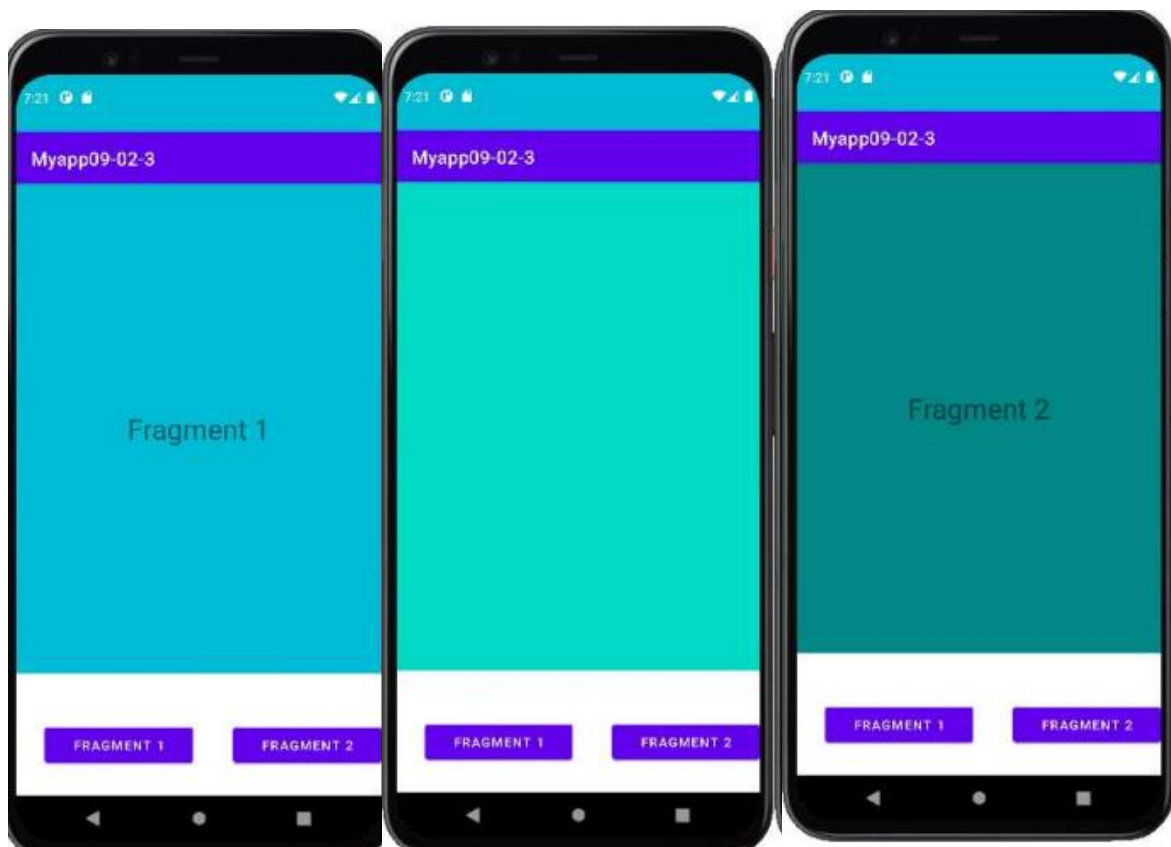
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@color/teal_700"
    tools:context=".fragment2">

    <!-- TODO: Update blank fragment layout -->

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:textSize="30dp"
        android:text="Fragment 2" />

    </RelativeLayout>

```

OUTPUT

PROGRAM NO:19**Aim:** Implement Navigation drawer**XML Code:**

```

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

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

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

    <com.google.android.material.navigation.NavigationView
        android:layout_width="match_parent"

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    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.os.Bundle;
import android.support.design.widget.NavigationView;
import android.support.v4.view.GravityCompat;
import android.support.v4.widget.DrawerController;
import android.support.v7.app.AppCompatActivity;
import android.support.v7.widget.Toolbar;

```

```

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

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

    return super.onOptionsItemSelected(item);
}

@Override public boolean onNavigationItemSelectedListener(@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_accoun
t"      android:title="MY Account"/>
<item      android:id="@+id/nav_settin
gs"      android:title="Settings"/>
<item      android:id="@+id/nav_log
out"      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 {
    compileS
dk      31
    defaultCo
nfig    {
    applicatio
nId
"com.example.dr
awernavigation"
    minSdk 21
    targetSdk
31
versionCode 1
    versionN
ame "1.0"
    testInstru
mentationRunner
"androidx.test.ru

```

```

nner.AndroidJUn
itRunner"
}

buildTypes {

release    {
    minifyEnabled false
proguardFiles getDefaultProguardFile('proguard-android-optimize.txt'), 'proguardrules.pro'
}

}

compileOptions {    sourceCompatibility
JavaVersion.VERSION_1_8    targetCompatibility
JavaVersion.VERSION_1_8
}

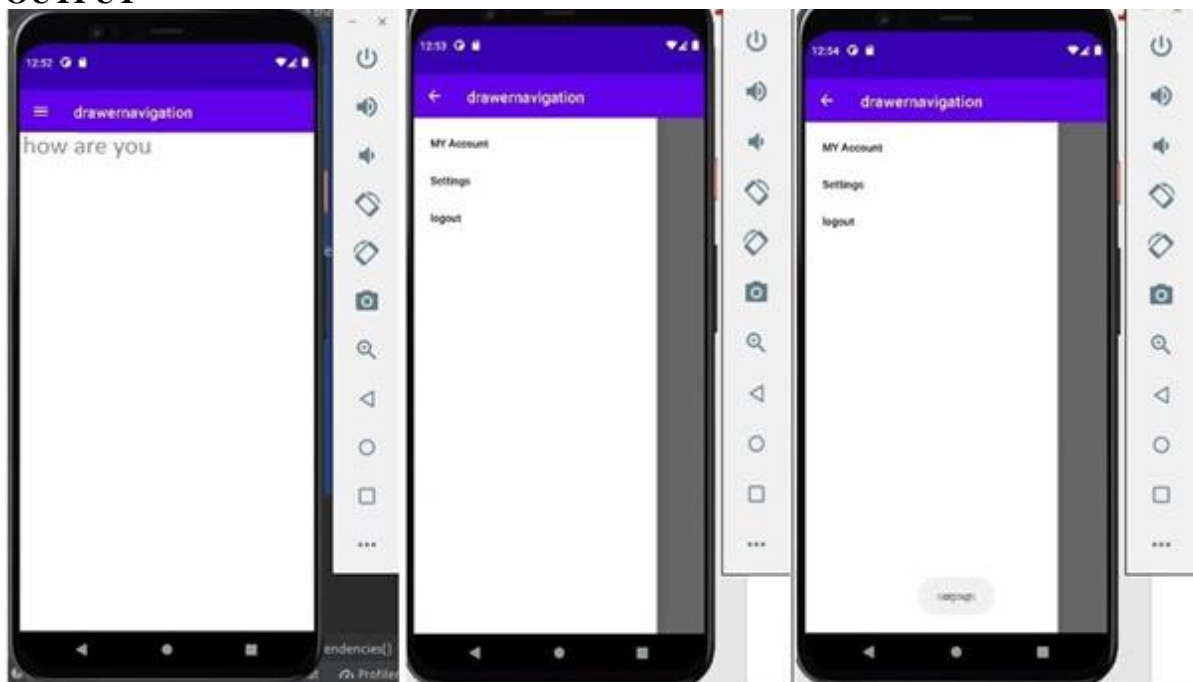
}

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: Write a program that demonstrates Activity Lifecycle.

XML Code:

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

<android.support.constraint.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="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

```
2022-03-03 10:50:41.677 275-275/? D/goldfish-address-space: claimShared: Ask to claim region [0x3f9564000 0x3f98fb000]
2022-03-03 10:50:41.785 275-275/? D/goldfish-address-space: claimShared: Ask to claim region [0x3f98fb000 0x3f9c92000]
2022-03-03 10:50:41.791 548-564/? W/Looper: Slow dispatch took 212ms android.ui h=android.view.Choreographer$FrameDispatcher
2022-03-03 10:50:41.793 548-564/? W/Looper: Slow delivery took 238ms android.ui h=com.android.server.am.BaseErrorDialog$1 c=null m=0
2022-03-03 10:50:42.276 548-1137/? I/system_server: oneway function results will be dropped but finished with status OK and parcel size 4
2022-03-03 10:50:42.460 548-564/? W/Looper: Drained
2022-03-03 10:50:42.942 275-275/? D/goldfish-address-space: claimShared: Ask to claim region [0x3f91cd000 0x3f9564000]
2022-03-03 10:50:43.057 548-3934/? W/WindowManager: Force finishing activity com.example.activitylifecycle/.MainActivity
2022-03-03 10:50:43.060 548-3934/? I/ActivityManager: Killing 9414:com.example.activitylifecycle/u0a155 (adj 900): crash
2022-03-03 10:50:43.070 548-1137/? I/system_server: oneway function results will be dropped but finished with status OK and parcel size 4
2022-03-03 10:50:43.076 548-1137/? I/system_server: oneway function results will be dropped but finished with status OK and parcel size 4
2022-03-03 10:50:43.101 262-262/? I/Zygote: Process 9414 exited due to signal 9 (Killed)
2022-03-03 10:50:43.109 548-9445/? D/OpenGLRenderer: endAllActiveAnimators on 0xef1477b0 (RippleDrawable) with handle 0xbd4b51d0
2022-03-03 10:50:43.122 548-574/? I/libprocessgroup: Successfully Killed process cgroup uid 10155 pid 9414 in 48ms
2022-03-03 10:50:43.223 548-4042/? I/system_server: oneway function results will be dropped but finished with status OK and parcel size 4
2022-03-03 10:50:44.356 324-324/? I/perfetto: probes_producer.cc:329 Producer stop (id=2)
2022-03-03 10:50:44.358 324-324/? I/perfetto: ftrace_procfs.cc:183 disabled ftrace
2022-03-03 10:50:44.360 325-325/? I/perfetto: ng_service_impl.cc:1948 Tracing session 2 ended, total sessions:0
2022-03-03 10:50:45.361 316-316/? W/adbd: timeout expired while flushing socket, closing
2022-03-03 10:50:46.162 548-4042/? I/system_server: oneway function results will be dropped but finished with status OK and parcel size 4
2022-03-03 10:50:48.246 2117-2181/? I/PeriodicStatsRunner: PeriodicStatsRunner.call():180 call()
```

PROGRAM NO:21

Aim: Create database using SQLite and perform INSERT ,DELETE, UPDATE,VIEW and SELECT

XML Code:

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

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

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

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

    <EditText
        android:id="@+id/dob"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Date of birth"
        android:textSize="24dp"
        android:layout_below="@+id/contact"
        android:inputType="number"
```

```

    />
    <Button
        android:id="@+id/buttonInsert"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24dp"
        android:text="Insert new Data"
        android:layout_marginTop="30dp"
        android:layout_below="@+id/dob"
    />
    <Button
        android:id="@+id/buttonUpdate"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24dp"
        android:text="Update Data"
        android:layout_below="@+id/buttonInsert"
    />
    <Button
        android:id="@+id/buttondelete"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24dp"
        android:text="Delete existing data"
        android:layout_below="@+id/buttonUpdate"
    />
    <Button
        android:id="@+id/buttonView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24dp"
        android:text="View data"
        android:layout_below="@+id/buttondelete"
    />

</RelativeLayout>

```

Java Code:

```

package com.example.sqlite_app;

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

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

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

```

DBHelper DB;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);

name=findViewById(R.id.name);

contact=findViewById(R.id.contact);

dob=findViewById(R.id.dob);

insert=findViewById(R.id.buttonInsert);

update=findViewById(R.id.buttonUpdate);

delete=findViewById(R.id.buttonDelete);

view=findViewById(R.id.buttonView);

DB=new DBHelper(this);

insert.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

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

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

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

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

if(checkinsertdata==true)

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

else

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

}

});

update.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

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

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

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

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

if(checkupdatedata==true)

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

else

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

}

});

delete.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

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

Boolean checkdeletedata=DB.deletedata(nameTXT);

if(checkdeletedata==true)

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

else

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

}

});

view.setOnClickListener(new View.OnClickListener() {

@Override


```

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

}
});

}
}

```

DBHelper.java

```

package com.example.sqlite_app;

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

import androidx.annotation.Nullable;

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

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

    @Override
    public void onUpgrade(SQLiteDatabase DB, int oldVersion, int newVersion) {
        DB.execSQL("drop Table if exists Userdetails");
    }

    public Boolean insertuserdata(String name, String contact, String dob){
        SQLiteDatabase DB=this.getWritableDatabase();
        ContentValues contentValues=new ContentValues();
        contentValues.put("name",name);
        contentValues.put("contact",contact);
    }
}

```

```

        contentValues.put("dob",dob);
        long result=DB.insert("Userdetails", null, contentValues);
        if(result==-1){
            return false;
        }else{
            return true;
        }
    }
}

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

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

public Cursor getdata (){
    SQLiteDatabase DB=this.getWritableDatabase();
    Cursor cursor=DB.rawQuery("Select * from Userdetails",null);
    return cursor;
}
}

```

OUTPUT

