

20MCA243 MOBILE APPLICATION DEVELOPMENT LAB

Lab Report Submitted By

JEENA MATHEW

Reg. No.: AJC20MCA-2042

In Partial fulfillment for the Award of the Degree Of

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

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY



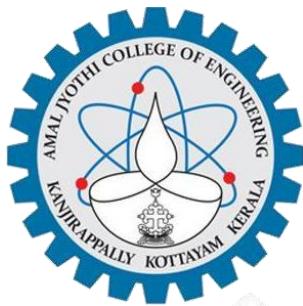
AMAL JYOTHI COLLEGE OF ENGINEERING

KANJIRAPPALLY

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

2020-2022

DEPARTMENT OF COMPUTER APPLICATIONS
AMAL JYOTHI COLLEGE OF ENGINEERING
KANJIRAPPALLY



CERTIFICATE

This is to certify that the Lab report, “**20MCA243 MOBILE APPLICATION DEVELOPMENT LAB**” is the bonafide work of **JEENA MATHEW (Reg.No:AJC20MCA-2042)** in partial fulfillment of the requirements for the award of the Degree of Master of Computer Applications under APJ Abdul Kalam Technological University during the year 2021-22.

Ms. Nimmy Francis

Staff In-Charge

Rev.Fr.Dr.Rubin Thottupurathu Jose

Head of the Department

Internal Examiner

External Examiner

CONTENT

Sl. No	Content	Date	Page No.	Signature
1	Program to develop the android mobile application which consist of GUI components for Login Page creation.	20/01/2022	1	
2	Program to display the content of EditText in TextView on button click.	01/12/2021	4	
3	Program to design a Login Form with username and Password using LinearLayout and toast valid credentials	27/01/2022	7	
4	Program to implementing basic arithmetic operations of a simple calculator	27/01/2022	12	
5	Program to implement validations on various UI controls	27/01/2022	21	
6	Program to design a registration activity and store registration details in local memory of phone using Intents and SharedPreferences	27/01/2022	28	
7	Program to design a simple Calculator using GridLayout and Cascaded LinearLayout	27/01/2022	35	
8	Program to create a Facebook page using RelativeLayout; set properties using .xml file	27/01/2022	42	
9	Program to develop an application that toggles image using FrameLayout	27/01/2022	46	
10	Program to implement Adapters and perform exception handling	04/02/2022	49	
11	Program to implement Intent to navigate between multiple activities (Explicit Intent)	04/02/2022	51	

12	Program to develop an application that works with Implicit intents	04/02/2022	57	
13	Program to implement Options Menu to navigate to activities	10/02/2022	61	
14	Program to develop an application that uses ArrayAdapter with ListView	10/02/2022	64	
15	Program to develop an application that use GridView with images and display Alert box on selection	11/02/2022	67	
16	Program to develop an application that implements Spinner component and perform event handling	11/02/2022	74	
17	Program to apply themes via code from manifest file	11/02/2022	77	
18	Program to develop application using Fragments	11/02/2022	81	
19	Program to implement Navigation drawer	11/02/2022	89	
20	Program to implement activity life cycle	24/02/2022	94	
21	Program to implement various SQLite operations : (INSERT, UPDATE ,DELETE ,SELECT)	03/03/2022	98	

PROGRAM NO:1

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

XML CODE:

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical"
    android:background="@drawable/a4">

    <TextView
        android:id="@+id/l"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:gravity="center"
        android:text="Login"
        android:textColor="#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"

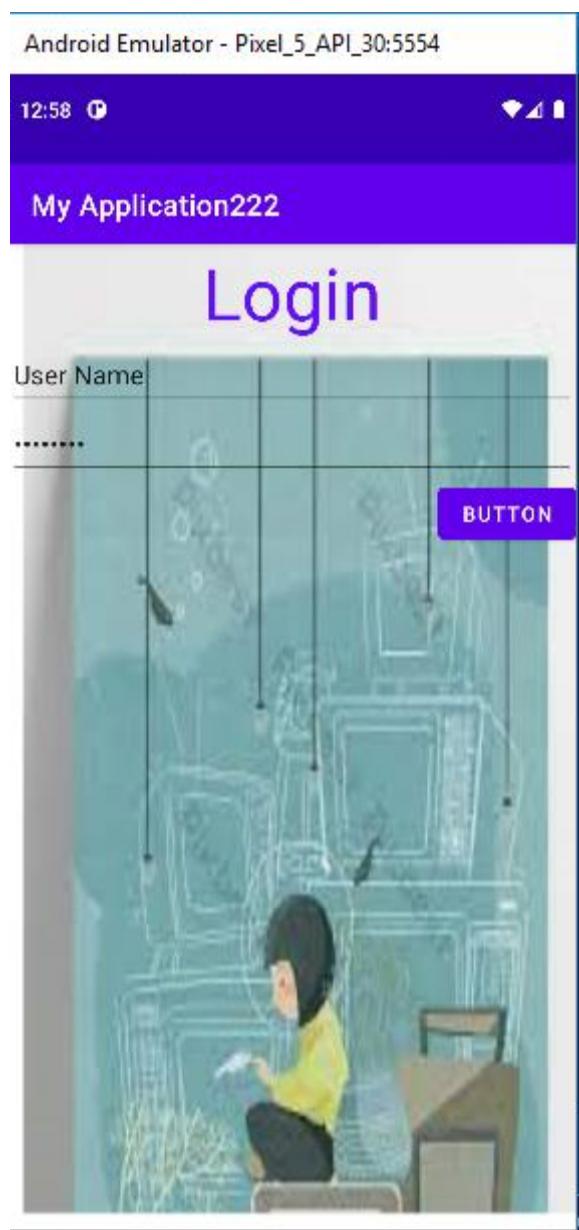
```

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

OUTPUT



PROGRAM NO:2

AIM:

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

XML code:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical"
    android:background="#DFF6C4">

    <EditText
        android: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 {

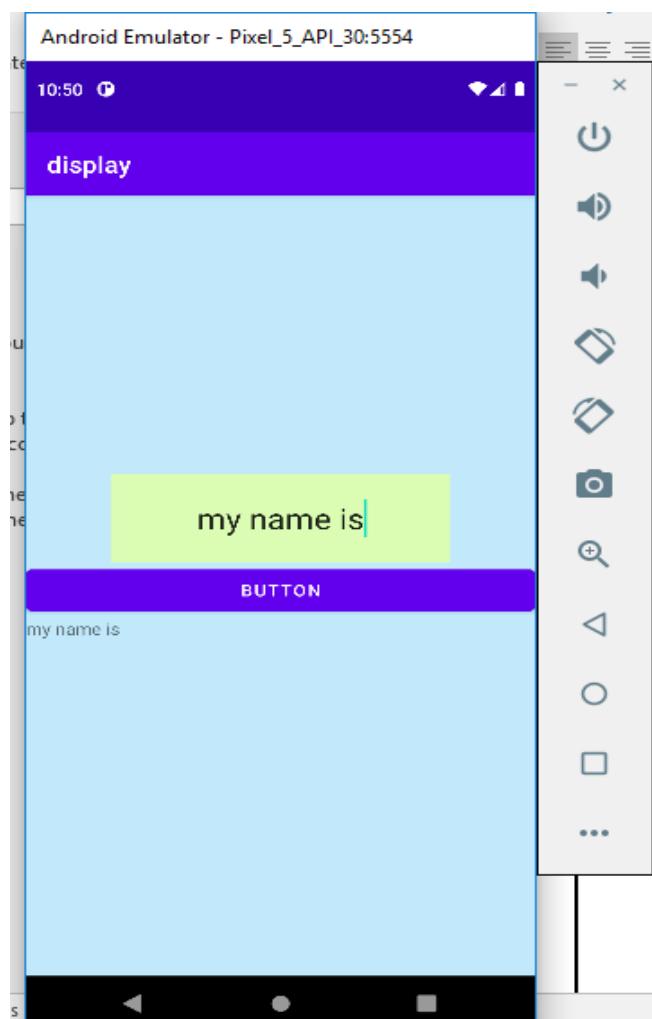
    private EditText t1;
    private TextView t2;
    private Button b1;

    @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:layout_height="match_parent"
    android:background="@drawable/f5"

    tools:context=".MainActivity">

    <TextView
        android:id="@+id/t1"
        android:layout_width="212dp"
        android:layout_height="61dp"

        android:text="LOGIN" />

    <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"/>
    </com.google.android.material.textfield.TextInputLayout>
</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.a5;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.content.Intent;
import android.util.Log;
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 MainActivity extends AppCompatActivity {

    TextView t1;
    TextInputLayout e1, e2;
    Button b1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        t1 = findViewById(R.id.t1);
        e1 = findViewById(R.id.edturn);
        e2 = findViewById(R.id.edtpswd);
        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(MainActivity.this, "Enter your username",
                    Toast.LENGTH_LONG).show();
                }
                else if(password.equals("")){
                    Toast.makeText(MainActivity.this, "Enter your Password",
                    Toast.LENGTH_LONG).show();
                }
                else{
                    Intent j = new Intent(MainActivity.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(MainActivity.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/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:layout_height="match_parent"
    android:background="#B394EA"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/t1"
        android:layout_width="143dp"
        android:layout_height="35dp"
        android:layout_alignParentStart="true"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginStart="8dp"
        android:layout_marginEnd="259dp"
        android:layout_marginBottom="678dp"
        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/e1"
```

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

    android:layout_alignParentStart="true"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginStart="135dp"
    android:layout_marginEnd="65dp"
    android:layout_marginBottom="627dp"
    android:ems="10"
    android:inputType="textPersonName"
    android:minHeight="48dp"
    android:hint="enter num1"
    tools:ignore="TouchTargetSizeCheck,TouchTargetSizeCheck" />
```

<EditText

```
    android:id="@+id/e2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"

    android:layout_alignParentStart="true"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginStart="134dp"
    android:layout_marginTop="110dp"
    android:layout_marginEnd="66dp"
    android:layout_marginBottom="569dp"
    android:ems="10"
    android:inputType="textPersonName"
    android:minHeight="48dp"
    android:hint="enter num2"
    tools:ignore="TouchTargetSizeCheck,TouchTargetSizeCheck" />
```

```
<TextView  
    android:id="@+id/t2"  
    android:layout_width="114dp"  
    android:layout_height="wrap_content"  
    android:layout_alignParentStart="true"  
    android:layout_alignParentTop="true"  
    android:layout_alignParentEnd="true"  
    android:layout_alignParentBottom="true"  
    android:layout_marginStart="244dp"  
    android:layout_marginTop="185dp"  
    android:layout_marginEnd="53dp"  
    android:layout_marginBottom="502dp"  
    android:text="Answer" />
```

```
<Button  
    android:id="@+id/b1"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_alignParentTop="true"  
    android:layout_alignParentEnd="true"  
    android:layout_alignParentBottom="true"  
    android:layout_marginTop="294dp"  
    android:layout_marginRight="50dp"  
    android:layout_marginEnd="279dp"  
    android:layout_marginBottom="389dp"  
    android:text="-" />
```

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

```
    android:layout_marginEnd="133dp"
    android:layout_marginBottom="386dp"
    android:text="+" />
```

```
<Button
    android:id="@+id/b3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="3dp"
    android:layout_marginBottom="384dp"
    android:text="*" />
```

```
<Button
    android:id="@+id/b4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="274dp"
    android:layout_marginBottom="296dp"
    android:text="/" />
```

```
<Button
    android:id="@+id/b5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="128dp"
    android:layout_marginBottom="297dp"
    android:text="=" />
```

</RelativeLayout>

Java Code:

```
package com.example.myapp4;

import static java.lang.String.valueOf;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {

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

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        e1=findViewById(R.id.e1);
        e2=findViewById(R.id.e2);
        t1=findViewById(R.id.t1);
        t2=findViewById(R.id.t2);
        b1=findViewById(R.id.b1);
        b2=findViewById(R.id.b2);
        b3=findViewById(R.id.b3);
```

```

b4=findViewById(R.id.b4);
b5=findViewById(R.id.b5);
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, "Enter numbers",
Toast.LENGTH_SHORT).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, "enter numbers",
Toast.LENGTH_SHORT).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, "enter number",
Toast.LENGTH_SHORT).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, "enter number",
Toast.LENGTH_SHORT).show();
        }
    }
});

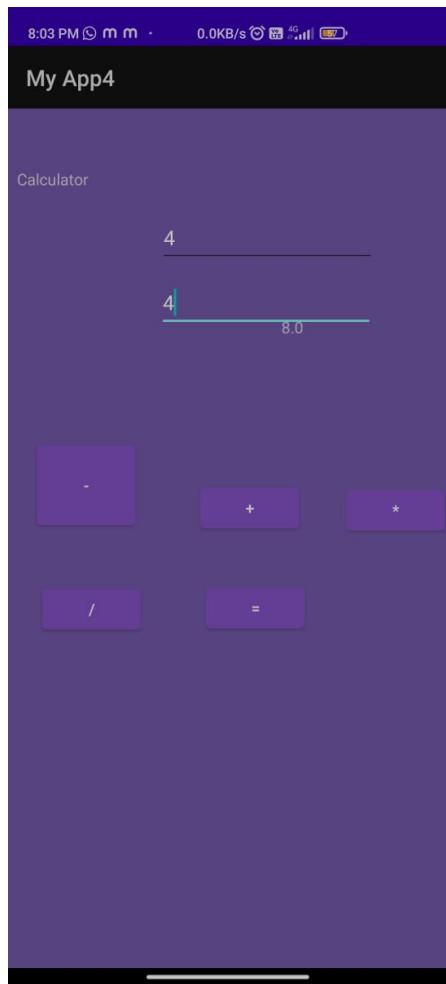
```

```
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" />
    Applications<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/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"
    Applications 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 android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class Ui_validation extends AppCompatActivity {
    // two buttons
    Button bCancel, bProceed;
    // four text fields
    EditText etFirstName, etLastName, etEmail, etPassword;
    // one boolean variable to check whether all the text fields
    // are filled by the user, properly or not. boolean isAllFieldsChecked = false;
```

```

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_ui_validation);
    // register buttons with their proper IDs. bProceed = findViewById(R.id.proceedButton);
    bCancel = findViewById(R.id.cancelButton);
    // register all the EditText fields with their IDs. etFirstName =
    findViewById(R.id.firstName);
    etLastName = findViewById(R.id.lastName);
    etEmail = findViewById(R.id.email);
    etPassword = findViewById(R.id.password);
    // handle the PROCEED button
    bProceed.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            // store the returned value of the dedicated function which checks
            // whether the entered data is valid or if any fields are left blank. isAllFieldsChecked =
            CheckAllFields();
            // the boolean variable turns to be true then
            // only the user must be proceed to the activity2
            if (isAllFieldsChecked) {
                Intent i = new Intent(Ui_validation.this, Dashboard.class);
                startActivity(i);
            }
        }
    });
    // if user presses the cancel button then close the
    // application or the particular activity. bCancel.setOnClickListener(new
    View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Ui_validation.this.finish();
            System.exit(0);
        }
    });
}

```

```
}

});

}

// 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");

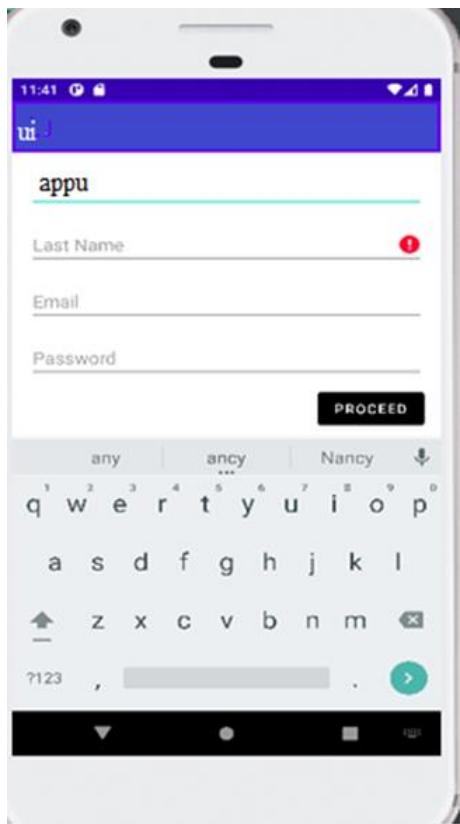
return false;

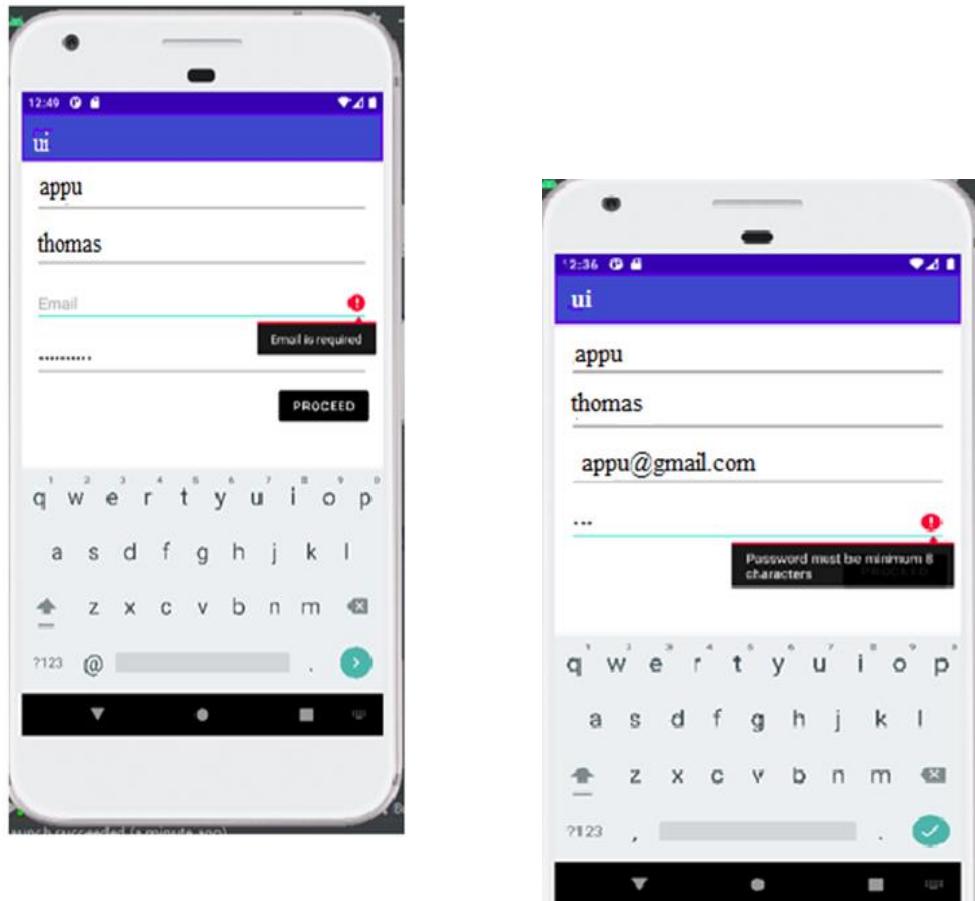
}

// 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"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@color/teal_700"
    tools:context=".MainActivity">
    <Button
        android:id="@+id/btnadd"
        android:layout_width="87dp"
        android:layout_height="52dp"
        android:text="ADD"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/tv111"
        app:layout_constraintVertical_bias="0.12" />
    <TextView
        android:id="@+id/tv111"
        android:layout_width="293dp"
        android:layout_height="100dp"
        android:layout_marginTop="176dp"
        android:textFontWeight="@integer/material_motion_duration_long_1"
        app:layout_constraintEnd_toEndOf="parent"
```

```

    app:layout_constraintHorizontal_bias="0.745"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

add.xml

```

<?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=".add">

    <Button
        android:id="@+id/btnsub"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="56dp"
        android:text="SAVE"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/editTextdta"
        app:layout_constraintVertical_bias="0.241" />

    <EditText
        android:id="@+id/editTextdta"
        android:layout_width="199dp"
        android:layout_height="54dp"/>

```

```

        android:layout_marginTop="248dp"
        android:ems="10"
        android:inputType="textPersonName"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

<TextView
        android:id="@+id/textviewname"
        android:layout_width="207dp"
        android:layout_height="46dp"
        android:text="Name"
        app:layout_constraintBottom_toTopOf="@+id/editTextdta"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.686" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Java code:

```

package com.example.todolist1;

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.TextView;
public class MainActivity extends AppCompatActivity {
    Button btn;
    TextView tv11;
    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);
    addListeneronButton();
}
private void addListeneronButton() {
    btn=(Button) findViewById(R.id.btnadd);
    tv11=(TextView) findViewById(R.id.tv111);
    sharedpreferences =
getSharedPreferences(SHARED_PREF_NAME,MODE_PRIVATE);
    String name=sharedpreferences.getString(KEY_NAME,String.valueOf(0));
    tv11.setText("Name "+name);
    btn.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            Intent intent=new Intent(MainActivity.this,add.class);
            startActivity(intent);
        }
    });
}

```

Java code:

```

package com.example.todolist1;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Context;
import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;

```

```

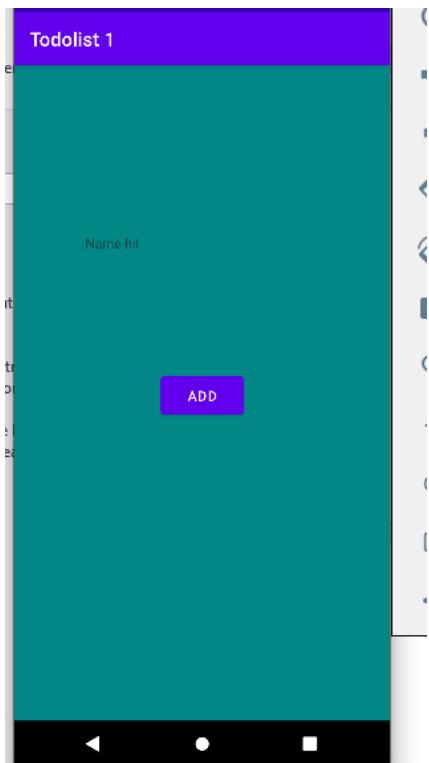
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
public class add extends AppCompatActivity {
    EditText tf;
    TextView tv;
    Button sub;
    String n1;
    SharedPreferences sharedpreferences;

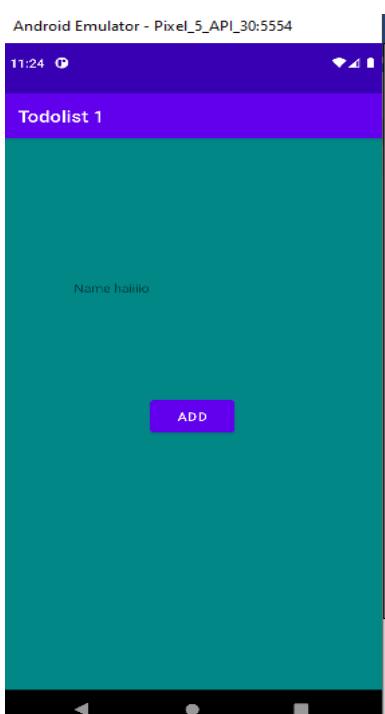
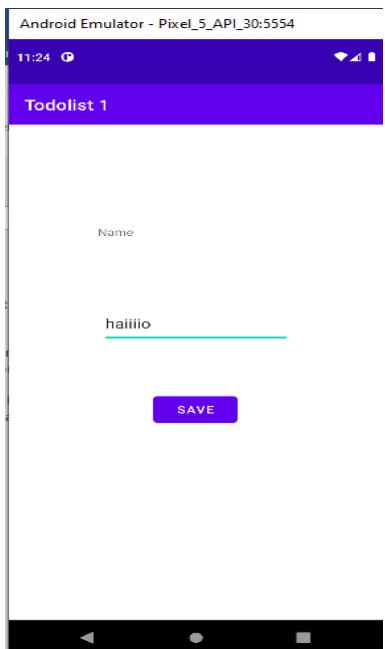
    public static final String SHARED_PREF_NAME="mypref";
    public static final String KEY_NAME="";
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_add);
        addButton();
    }
    private void addButton() {
        sub = (Button) findViewById(R.id.btnsub);
        tv = (TextView) findViewById(R.id.textviewname);
        tf = (EditText) findViewById(R.id.editTextdta);
        sharedpreferences =
        getSharedPreferences(SHARED_PREF_NAME,MODE_PRIVATE);
        String name = sharedpreferences.getString(KEY_NAME, String.valueOf(0));
        sub.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String n1= tf.getText().toString();
                SharedPreferences.Editor editor = sharedpreferences.edit();
                editor.putString(KEY_NAME,n1);
                editor.commit();
                Intent int1 = new Intent(add.this, MainActivity.class);

```

```
        startActivity(intent1);  
    }  
}  
}
```

OUTPUT





PROGRAM NO: 07

AIM: Design a simple Calculator using GridLayout and CascadedLinearLayout

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" a
    ndroid: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" 4
    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;

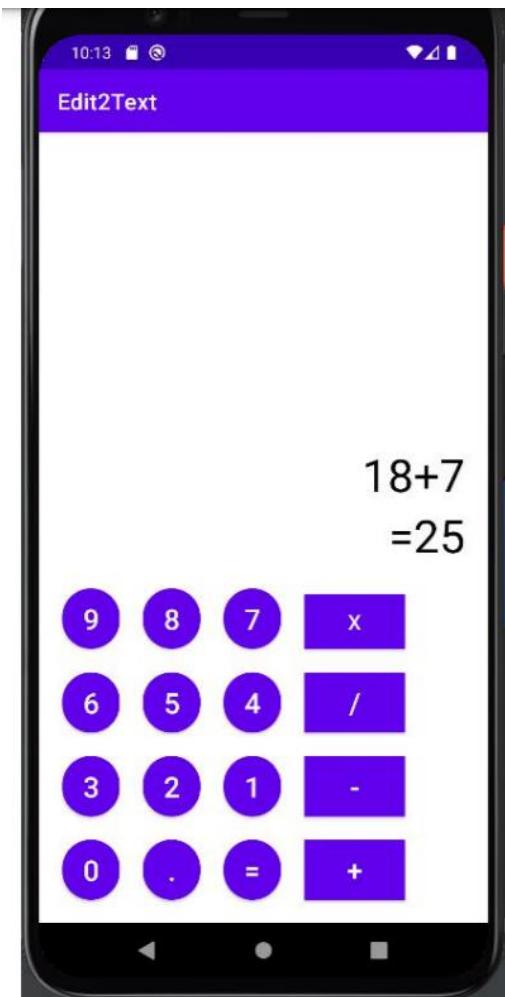
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_output);
    }
}

```

}

}

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/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent" android:layout_height="match_parent"
    android:background="@color/white"
    tools:context=".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">
            Applications<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.vaidyakare;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class facebook extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_facebook);}}
```

OUTPUT



PROGRAM NO: 09

AIM: Develop an application that toggles image using FrameLayout.

XML Code:

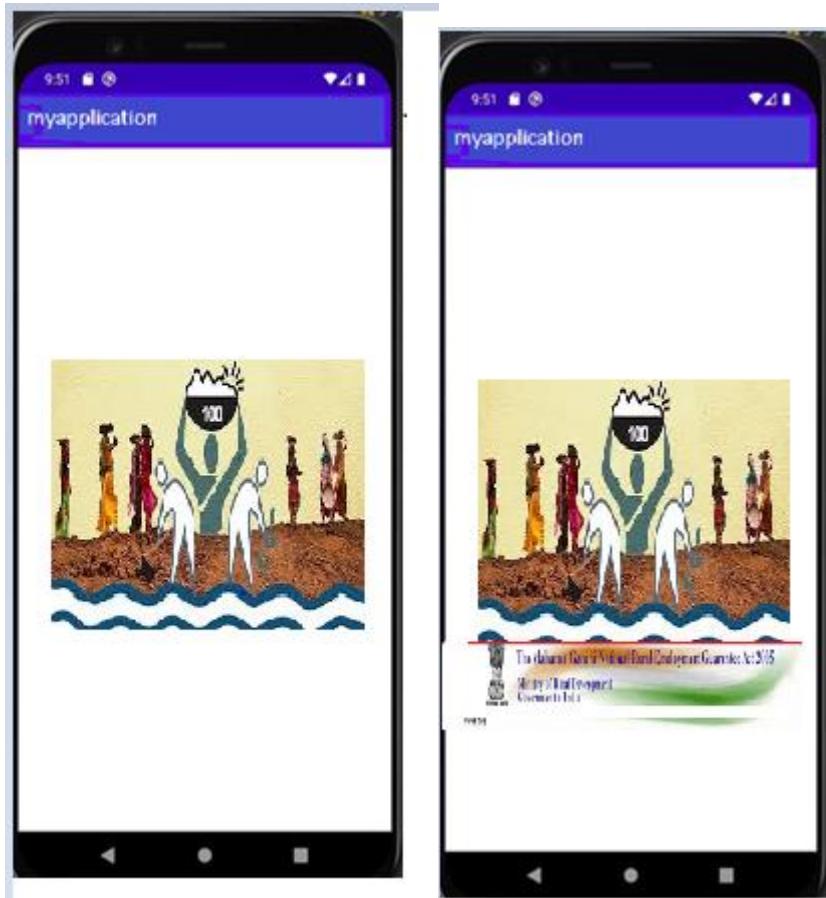
```
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_gravity="center"
    android:background="@color/bg2"
    tools:context=".image_toogle">
    <ImageView
        android:id="@+id/image2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:src="@drawable/vd"
        android:visibility="gone"/>
    <ImageView
        android:id="@+id/image1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:src="@drawable/applogo" />
</FrameLayout>
```

Java Code:

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

```
public class image_toogle extends AppCompatActivity implements View.OnClickListener
{ ImageView img1, img2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_image_toogle);
        img1 = findViewById(R.id.image1);
        img2 = findViewById(R.id.image2);
        img1.setOnClickListener(this);
        img2.setOnClickListener(this);
    }
    public void onClick(View v) {
        int id = v.getId();
        switch (id) {
            case R.id.image1:
                img1.setVisibility(View.GONE);
                img2.setVisibility(View.VISIBLE);
                break;
            case R.id.image2:
                img1.setVisibility(View.VISIBLE);
                img2.setVisibility(View.GONE);
                break;
        }
    }
}
```

OUTPUT



PROGRAM NO: 10

AIM: Implement Adapters and perform exception handling

XML Code:

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

```

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=".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 android.os.Bundle;
import android.view.View;
import android.widget.Button;
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);
}
}

```

Java Code:

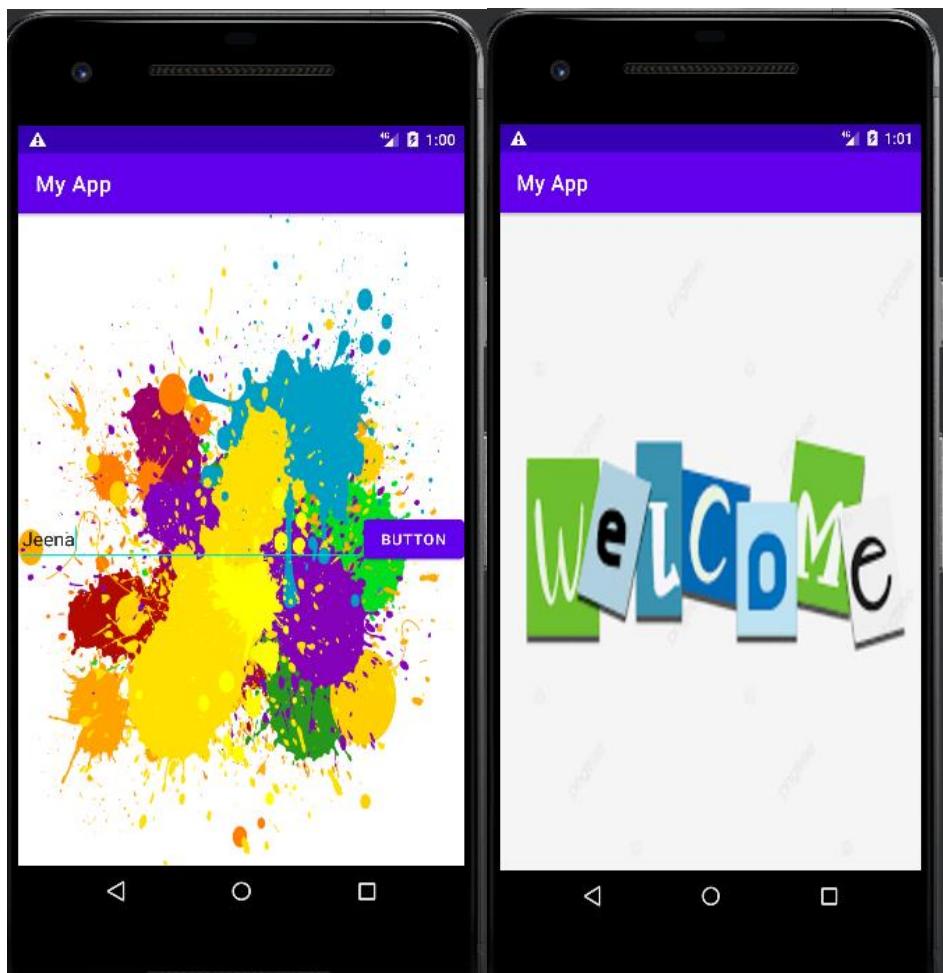
```

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

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

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

```

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

</androidx.constraintlayout.widget.ConstraintLayout>

```

Java Code:

```

package com.example.myapplication2;

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

public class MainActivity extends AppCompatActivity {

    Button button;
    EditText editText1;

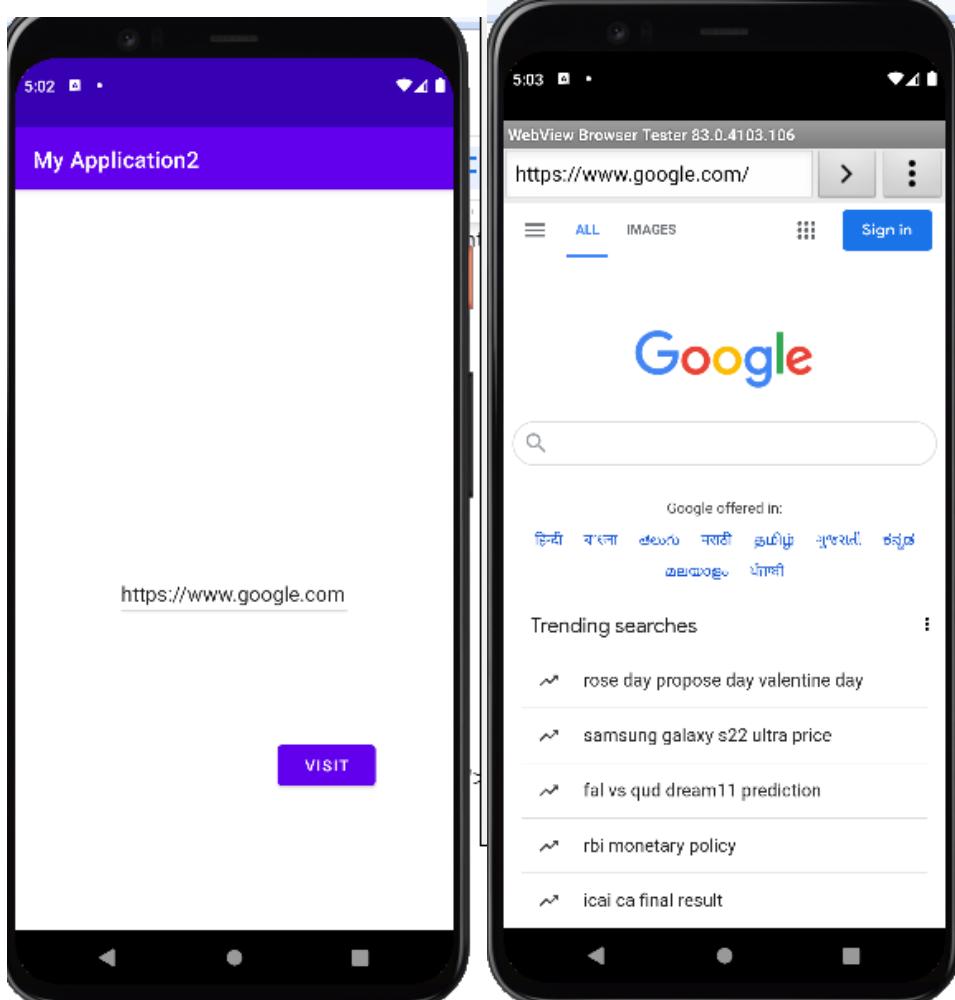
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        button = findViewById(R.id.button);
    }
}

```

```
editText1 = findViewById(R.id.editText1);

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

OUTPUT



PROGRAM NO: 13

AIM: Implement Options Menu to navigate to activities.

XML Code:

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

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

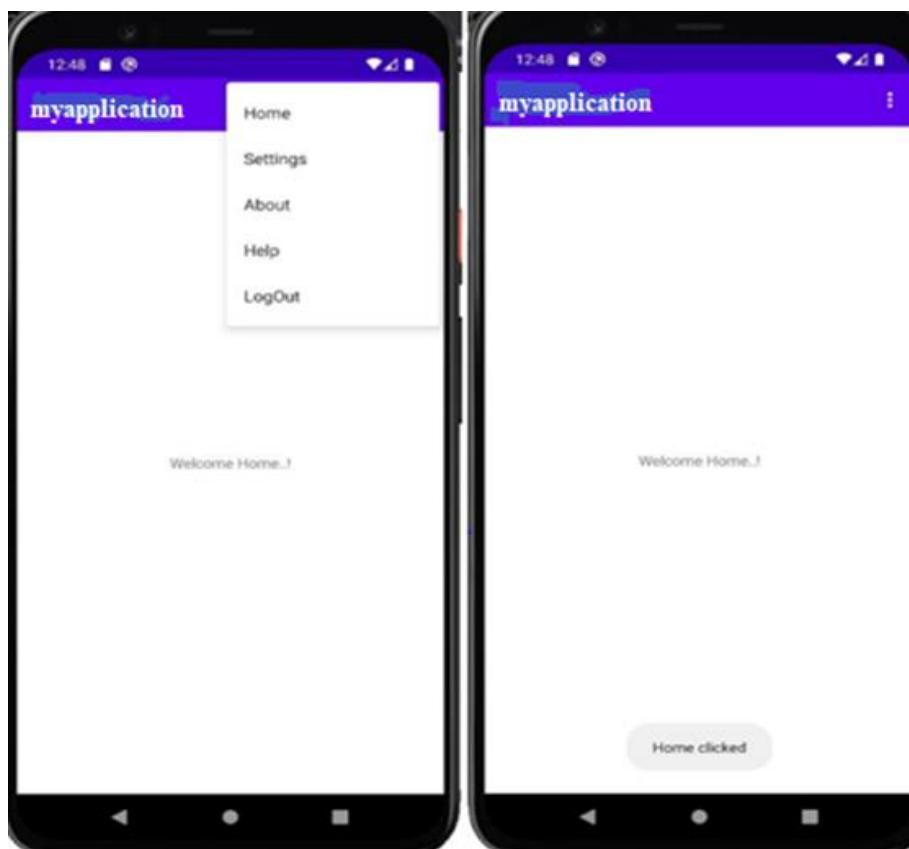
Java Code:

```
package com.example.myapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.annotation.SuppressLint;
```

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

```
case R.id.item5:  
    Toast.makeText(getApplicationContext(), "Logout clicked",  
    Toast.LENGTH_SHORT).show();  
  
    return true;  
  
default:  
  
    return super.onOptionsItemSelected(item);  
}  
}  
}
```

OUTPUT



PROGRAM NO: 14

AIM: Develop an application that uses ArrayAdapter with ListView.

XML Code:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/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=".arrayAdapter">
    <ListView
        android:id="@+id/mobile_list"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" >
    </ListView>
</LinearLayout>
```

Java Code:

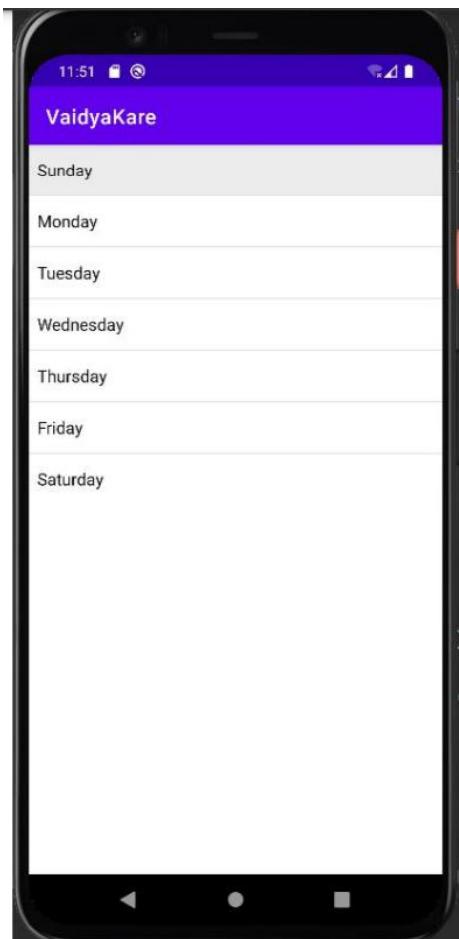
```
package com.example.vaidyakare;

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

public class arrayAdapter extends AppCompatActivity implements
    AdapterView.OnItemClickListener {
    ListView l;
```

```
String[] days = { "Sunday", "Monday", "Tuesday", "Wednesday", "Thursday", "Friday",  
"Saturday"};  
  
@Override  
  
protected void onCreate(Bundle savedInstanceState) {  
super.onCreate(savedInstanceState);  
setContentView(R.layout.activity_array_adapter);  
l = findViewById(R.id.mobile_list);  
ArrayAdapter<String> adapter = new ArrayAdapter<String>(this,  
R.layout.support_simple_spinner_dropdown_item, days);  
l.setAdapter(adapter);  
l.setOnItemClickListener(this);  
}  
  
@Override  
  
public void onItemClick(AdapterView<?> adapterView, View view, int i, long l) {  
TextView temp = (TextView) view;  
Toast.makeText(this, "You clicked " + temp.getText() + " at " + i,  
Toast.LENGTH_LONG).show();  
}  
}
```

OUTPUT



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

```

import android.widget.Toast;

public class MainActivity3 extends AppCompatActivity {

    ImageView i;

    AlertDialog.Builder builder;

    AlertDialog alertDialog;

    Button b;

    //option menu

    @Override

    public boolean onCreateOptionsMenu(Menu menu) {

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

        return true;

    }

    //return super.onCreateOptionsMenu(menu);

}

@Override

public boolean onOptionsItemSelected(@NonNull MenuItem item) {

    item.setIcon(R.drawable.about);

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

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

    //handle item selection

    switch (item.getItemId()) {

        case R.id.it3:

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

            builder.setMessage("Do you want to

close?").setTitle("AlertDialog").setPositiveButton("OK", new

```

```

DialogInterface.OnClickListener() {

@Override

public void onClick(DialogInterface dialog, int which) {

finish();

}

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

@Override

public void onClick(DialogInterface dialog, int which) {

dialog.dismiss();

}

});

alertDialog=builder.create();

alertDialog.show();

return true;

case R.id.it4:

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

View popupView=getLayoutInflater().inflate(R.layout.popup1,null);

builder.setView(popupView);

alertDialog=builder.create();

alertDialog.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"

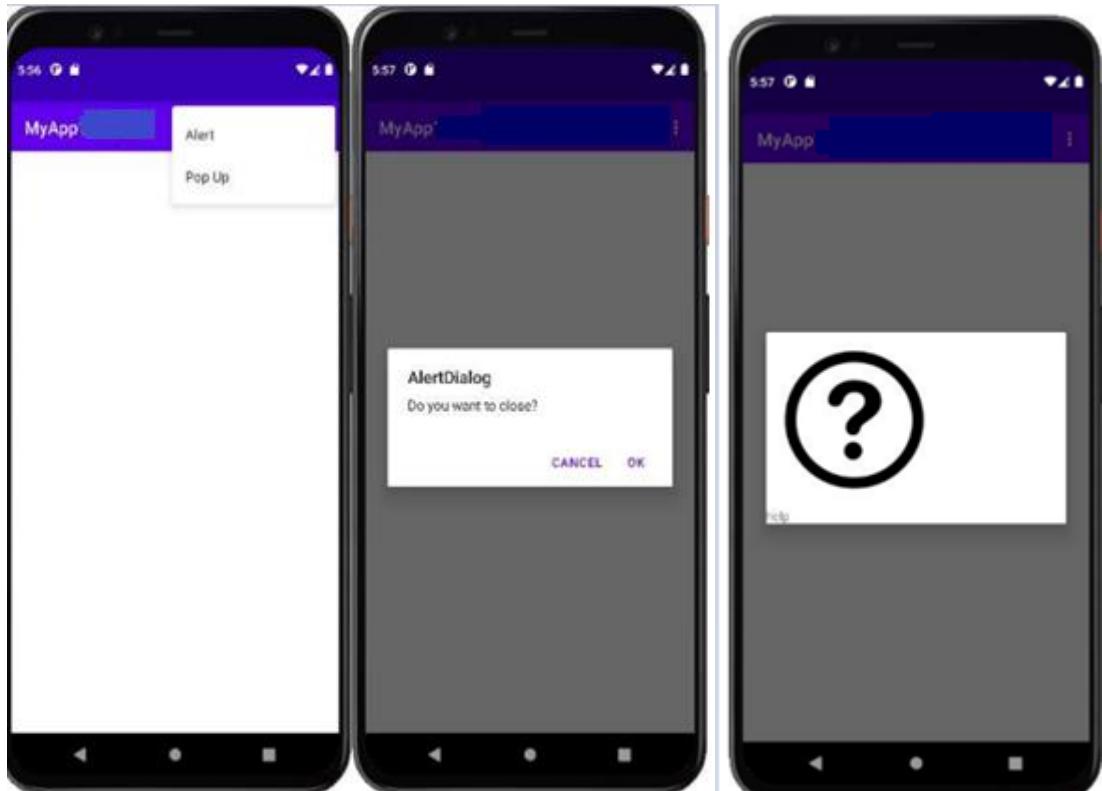
```

```
    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="197dp"
        android:layout_height="70dp"
        tools:layout_editor_absoluteX="92dp"
        tools:layout_editor_absoluteY="297dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.502"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.48"/>
</androidx.constraintlayout.widget.ConstraintLayout>
```

Java Code:

```
package com.example.spinnercomponents;

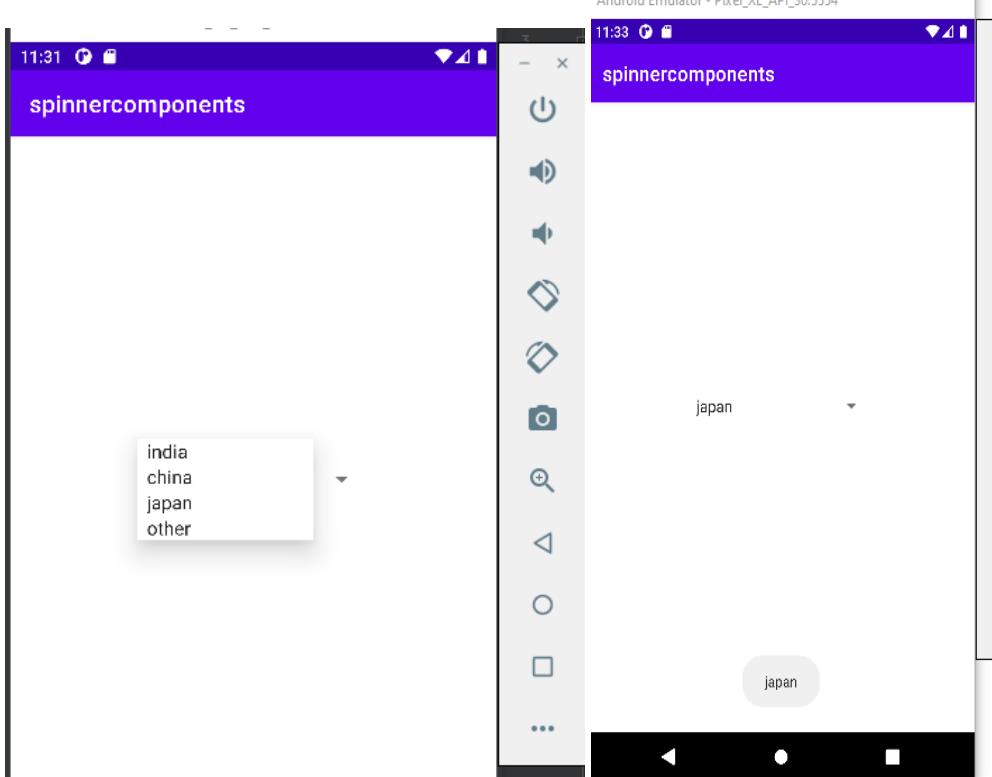
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
```

```

import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.Spinner;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity implements
    AdapterView.OnItemSelectedListener {
    String[] country = {"india", "china", "japan", "other"};
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Spinner spin = (Spinner) findViewById(R.id.spinner);
        spin.setOnItemSelectedListener(this);
        ArrayAdapter aa = new
        ArrayAdapter(this, android.R.layout.simple_spinner_item, country);
        aa.setDropDownViewResource(android.R.layout.simple_spinner_item);
        spin.setAdapter(aa);
    }
    @Override
    public void onItemSelected(AdapterView<?> arg0, View arg1, int position, long id){
        Toast.makeText(getApplicationContext(), country[position], Toast.LENGTH_LONG).sh
        ow();
    }
    @Override
    public void onNothingSelected(AdapterView<?> arg0){
    }
}

```

OUTPUT



PROGRAM NO:17

AIM: Apply themes vis code and manifest file .

XML Code:

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/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>

```

#AndroidManifest.xml

```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.themes" >
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android: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

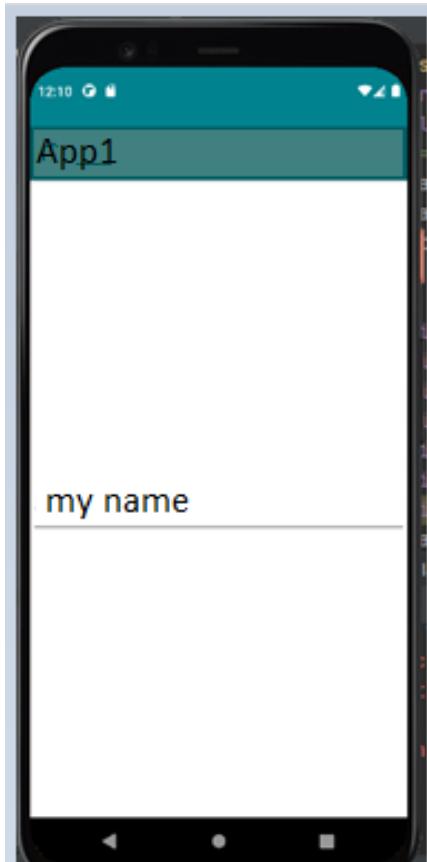
```

<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 an 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/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@color/purple_700"
    tools:context=".fragment1">
```

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

```

<TextView
    android:layout_width="wrap_content"
```

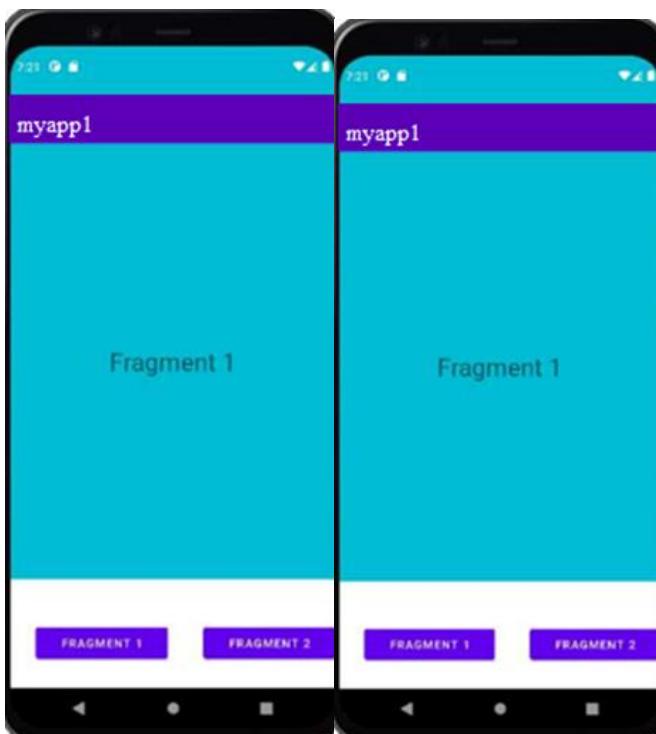
```
    android:layout_height="wrap_content"  
    android:layout_centerInParent="true"  
    android:textSize="30dp"  
    android:text="Fragment 1" />
```

```
</RelativeLayout>
```

fragment_fragment2.xml

```
<?xml version="1.0" encoding="utf-8"?>  
<RelativeLayout  
    xmlns:android="http://schemas.android.com/apk/re  
s/android"  
    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 --&gt;<br/>    <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"
        android:layout_height="match_parent"
        android:id="@+id/navigation_view"
        app:menu="@menu/navigation_menu"
        android:layout_gravity="start"/>

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

Java Code:

```

package com.example.drawernavigation;

import androidx.annotation.NonNull;
import androidx.appcompat.app.ActionBarDrawerToggle;
import androidx.appcompat.app.AppCompatActivity;
import androidx.drawerlayout.widget.DrawerLayout;
import android.app.ActionBar;
import android.os.Bundle;
import android.view.MenuItem;
import android.widget.Toast;
import com.google.android.material.navigation.NavigationView;

public class MainActivity extends AppCompatActivity implements NavigationView.OnNavigationItemSelectedListener {

    public DrawerLayout drawerLayout;
    public ActionBarDrawerToggle actionBarDrawerToggle;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        drawerLayout = findViewById(R.id.drawer);
        actionBarDrawerToggle = new ActionBarDrawerToggle(this, drawerLayout,
R.string.nav_open, R.string.nav_close);
        drawerLayout.addDrawerListener(actionBarDrawerToggle);
        actionBarDrawerToggle.syncState();
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
        NavigationView navigationView = findViewById(R.id.navigation_view);
        navigationView.setNavigationItemSelectedListener(this);
    }

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

```

```

        return super.onOptionsItemSelected(item);
    }

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

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

#strings.xml
<resources>

```

```

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

#build.gradle(:app)

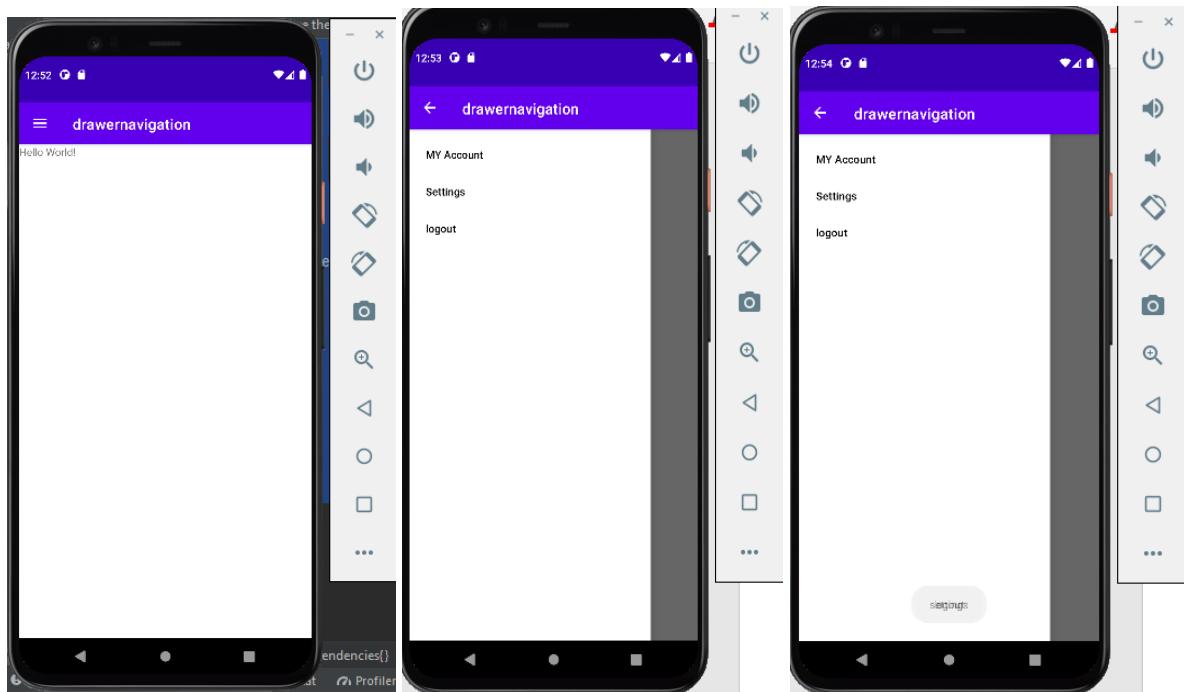
plugins {
    id 'com.android.application'
}

android {
    compileSdk 31
    defaultConfig {
        applicationId "com.example.drawernavigation"
        minSdk 21
        targetSdk 31
        versionCode 1
        versionName "1.0"
        testInstrumentationRunner "androidx.test.runner.AndroidJUnitRunner"
    }
    buildTypes {
        release {
            minifyEnabled false
            proguardFiles getDefaultProguardFile('proguard-android-optimize.txt'), 'proguard-rules.pro'
        }
    }
    compileOptions {
        sourceCompatibility JavaVersion.VERSION_1_8
        targetCompatibility JavaVersion.VERSION_1_8
    }
}
dependencies {
    implementation 'androidx.appcompat:appcompat:1.4.1'
}

```

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

OUTPUT



PROGRAM NO:20

AIM: Write a program that demonstrates Activity Lifecycle.

XML Code:

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

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

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

    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

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

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

Java Code

```
package com.example.myapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;
import com.example.myapplication.R;

public class MainActivity extends AppCompatActivity {

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

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

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

    @Override
    protected void onPause() {
```

```
super.onPause();

Log.i("State","onCreate");

}

@Override

protected void onRestart() {

super.onRestart();

Log.i("State","onRestart");

}

@Override

protected void onStop() {

super.onStop();

Log.i("State","onStop");

}

@Override

protected void onDestroy() {

super.onDestroy();

Log.i("State","onDestroy");

}

}
```

OUTPUT

```
2022-03-03 11:51:50.642 7632-7644/com.example.myapplication I/e.myapplication: Background young concurrent copying GC freed 14816(1328KB) AllocSpace objec
2022-03-03 11:51:50.953 7632-7653/com.example.myapplication I/OpenGLRender: Davey! duration=713ms; Flags=1, IntendedVsync=30119275487723, Vsync=3011927
2022-03-03 11:51:54.248 7632-7644/com.example.myapplication I/e.myapplication: WaitForGcToComplete blocked RunEmptyCheckpoint on ProfileSaver for 5.591ms
2022-03-03 11:52:55.797 7632-7632/com.example.myapplication I/State: onCreate
2022-03-03 11:52:56.821 7632-7632/com.example.myapplication I/State: onStop
2022-03-03 11:52:56.828 7632-7632/com.example.myapplication I/State: onDestroy
2022-03-03 11:53:50.852 7632-7632/com.example.myapplication I/State: onCreate
2022-03-03 11:53:50.861 7632-7632/com.example.myapplication I/State: onStart
2022-03-03 11:53:50.862 7632-7632/com.example.myapplication I/State: onResume
2022-03-03 11:53:57.002 7632-7632/com.example.myapplication I/State: onCreate
2022-03-03 11:53:57.912 7632-7632/com.example.myapplication I/State: onStop
2022-03-03 11:54:07.265 7632-7632/com.example.myapplication I/State: onRestart
2022-03-03 11:54:07.274 7632-7632/com.example.myapplication I/State: onStart
2022-03-03 11:54:07.275 7632-7632/com.example.myapplication I/State: onResume
2022-03-03 11:54:10.704 7632-7632/com.example.myapplication I/State: onCreate
2022-03-03 11:54:11.651 7632-7632/com.example.myapplication I/State: onStop
2022-03-03 11:54:11.653 7632-7632/com.example.myapplication I/State: onDestroy
2022-03-03 11:54:17.578 7632-7632/com.example.myapplication I/State: onCreate
2022-03-03 11:54:17.587 7632-7632/com.example.myapplication I/State: onStart
2022-03-03 11:54:17.588 7632-7632/com.example.myapplication I/State: onResume
```

PROGRAM NO:21

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

XML Code:

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

<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="10dp"
    tools:context=".MainActivity">

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

    <EditText
        android:id="@+id/name"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
```

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

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

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

Java Code:

```
package com.example.sqlite_app;

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

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

public class MainActivity extends AppCompatActivity {
    EditText name, contact, dob;
```

```

Button insert, update, delete, view;
 DBHelper DB;

@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
name=findViewById(R.id.name);
contact=findViewById(R.id.contact);
dob=findViewById(R.id.dob);
insert=findViewById(R.id.buttonInsert);
update=findViewById(R.id.buttonUpdate);
delete=findViewById(R.id.buttonDelete);
view=findViewById(R.id.buttonView);
DB=new DBHelper(this);

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

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

```

```

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

else

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

else

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

}

});

delete.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

```

```

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

Boolean checkdeletedata=DB.deletedata(nameTXT);

if(checkdeletedata==true)

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

else

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

}

});

view.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

Cursor res=DB.getdata();

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

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

return;

}

StringBuffer buffer=new StringBuffer();

while(res.moveToNext()){

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

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

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

}

}

```

```

AlertDialog.Builder builder=new AlertDialog.Builder(MainActivity.this);
builder.setCancelable(true);
builder.setTitle("User Entries");
builder.setMessage(buffer.toString());
builder.show();

}

});

}
}
}

```

DBhelper

```

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

