20MCA243 MOBILE APPLICATION DEVELOPMENT LAB

Lab Report Submitted By

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In Partial fulfillment for the Award of the Degree Of

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(MCA)
APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

AMAL JYOTHI COLLEGE OF ENGINEERING

KANJIRAPPALLY

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DEPARTMENT OF COMPUTER APPLICATIONS
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CERTIFICATE

This is to certify that the lab report, "**20MCA243 MOBILE APPLICATION DEVELOPMENT LAB**" is the bonafide work of **ANAND K ANIL (Reg.No:AJC20MCA-2015)** in partial fullfilment of the requirements for the award of the Degree of Master of Computer Applications under APJ Abdul Kalam Technological University during the year 2021-22.

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Program no: 01

Aim: Program to develop the android mobile application which consist of GUI components.

XML Code:

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

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

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    tools:context=".MainActivity"

    android:orientation="vertical"

    android:background="@color/black">

    <LinearLayout

        android:layout_width="match_parent"

        android:layout_height="175dp"

        android:background="#04B3F8"

        android:layout_gravity="center"

        android:gravity="center">

        <TextView

            android:layout_width="wrap_content"

            android:layout_height="wrap_content"

            style="@style/TextAppearance.AppCompat.Large"
```

```
            android:text="HOME PAGE"

            android:textStyle="bold"

            android:textColor="@color/white"/>


    </LinearLayout>

    <androidx.cardview.widget.CardView

        android:layout_gravity="center"

        android:padding="75dp"

        app:cardCornerRadius="50dp"

        android:layout_margin="20dp"

        android:layout_width="match_parent"

        android:layout_height="match_parent"

        android:layout_marginTop="-175dp">

        <LinearLayout

            android:layout_width="match_parent"

            android:layout_height="wrap_content"

            android:orientation="vertical"

            android:layout_gravity="center"

            android:padding="30dp"

            android:gravity="center">


            <TextView

                android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"

    android:text="Login Page"

    android:textColor="#01A9F4"

    android:textStyle="bold"

    style="@style/TextAppearance.AppCompat.Medium"

    android:layout_marginBottom="20dp"/>

<TextView

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:text="Username"

    android:layout_marginBottom="15dp"/>

<EditText

    android:id="@+id/username"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:layout_marginBottom="20dp"/>

<TextView

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:layout_marginBottom="15dp"

    android:text="Password"/>

<EditText

    android:layout_width="match_parent"

    android:layout_height="wrap_content"
```

```
                android:layout_marginBottom="20dp"/>

            <TextView

                android:layout_width="match_parent"

                android:layout_height="wrap_content"

                android:layout_marginBottom="20dp"

                android:text="Forgot password?"

                android:gravity="end"/>

            <Button

                android:id="@+id/b1"

                android:layout_width="match_parent"

                android:layout_height="wrap_content"

                android:background="@drawable/bg_button"

                android:text="Login"

                android:layout_marginBottom="20dp"

                android:textAllCaps="false"/>

            <TextView

                android:layout_width="wrap_content"

                android:layout_height="wrap_content"

                android:text="SignUp?"

                android:textColor="#01A9F4"

                android:textStyle="bold"/>

        </LinearLayout>

    </androidx.cardview.widget.CardView>

</LinearLayout>
```

Java Code:

```java
package com.example.login2;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {


    @Override
    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        getSupportActionBar().hide();

        EditText username = findViewById(R.id.username);

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

        b1.setOnClickListener(new View.OnClickListener() {

            @Override
            public void onClick(View v) {

                Toast.makeText(MainActivity.this, "Successfully Logged in",
Toast.LENGTH_SHORT).show();

            }

        });

    }}
```
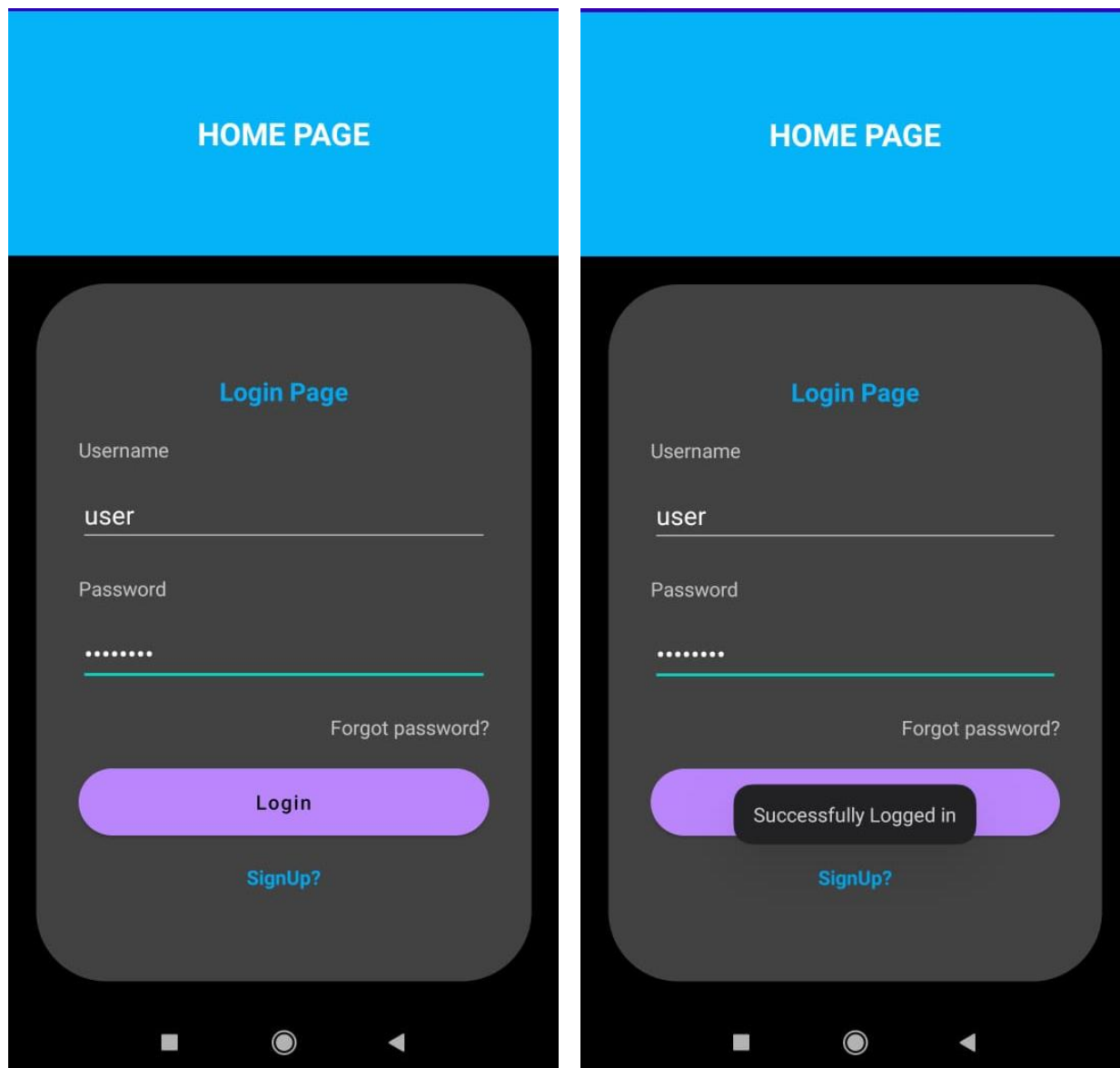
Output:

Program no: 02

Aim:

Program to display the content of EditText in TextViewon buttonclick.

XML Code:

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

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

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    tools:context=".MainActivity"

    android:layout_gravity="center"

    android:gravity="center"

    android:padding="30dp"

    android:background="#F44336">

    <androidx.cardview.widget.CardView

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:padding="25dp">

        <LinearLayout

            android:layout_width="wrap_content"

            android:layout_height="wrap_content"

            android:orientation="vertical"

            android:layout_gravity="center"
```

```
    android:padding="25dp">


    <EditText

        android:id="@+id/in"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:hint="Enter"

        android:textColor="@color/black"

        android:layout_marginBottom="15dp"/>

    <TextView

        android:id="@+id/out"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:textColor="@color/black"

        style="@style/TextAppearance.AppCompat.Large"

        android:layout_marginBottom="15dp"/>

    <Button

        android:id="@+id/b1"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="Get Text"/>

  </LinearLayout>

 </androidx.cardview.widget.CardView>

</LinearLayout>
```

Java Code:

```java
package com.example.textview2;

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 org.w3c.dom.Text;

public class MainActivity extends AppCompatActivity {

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        getSupportActionBar().hide();

        EditText in =findViewById(R.id.in);

        TextView out =findViewById(R.id.out);

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

        b1.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                String input =in.getText().toString();

                out.setText(input);

            }
```
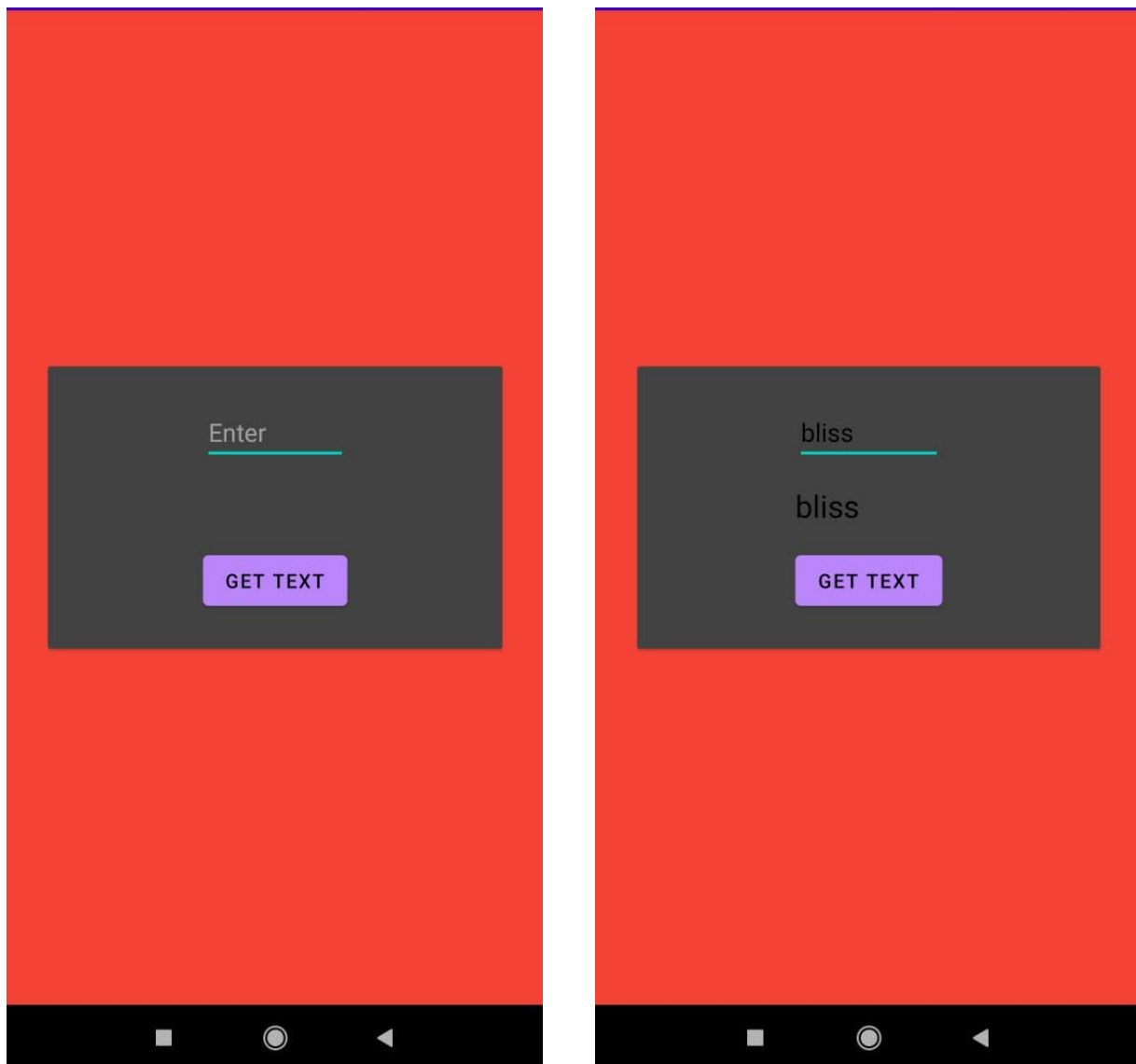
```
        });

    }

}
```

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:layout_height="match_parent"

    android:background="#504B4B"

    tools:context=".MainActivity">


    <LinearLayout

        android:layout_width="match_parent"

        android:layout_height="match_parent"

        android:layout_gravity="center"

        android:gravity="left|center"

        android:orientation="vertical"

        android:padding="80dp">


        <androidx.cardview.widget.CardView

            android:layout_width="wrap_content"

            android:layout_height="wrap_content"

            android:layout_gravity="center"
```

```
        android:layout_marginBottom="40dp"

        app:cardCornerRadius="25dp">

        <ImageView

            android:layout_width="80dp"

            android:layout_height="64dp"

            android:layout_gravity="center"

            android:src="@drawable/login" />

</androidx.cardview.widget.CardView>

<TextView

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_marginBottom="20dp"

        android:text="Username"

        android:textColor="#A4BABA" />


<EditText

        android:id="@+id/username"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:layout_marginBottom="20dp" />

<TextView

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_marginBottom="20dp"
```

```
        android:text="Password"

        android:textColor="#A4BABA" />

    <EditText

        android:id="@+id/password"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:layout_marginBottom="20dp"

        android:inputType="textPassword" />

    <TextView

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_gravity="end"

        android:layout_marginBottom="20dp"

        android:text="Forgot Password?"

        android:textColor="#A4BABA" />


    <Button

        android:id="@+id/b1"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:layout_marginBottom="20dp"

        android:background="@drawable/bg_button"

        android:text="Login"

        android:textAllCaps="false" />
```

```xml
<LinearLayout

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:gravity="center"

    android:orientation="horizontal">


    <TextView

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_marginRight="15dp"

        android:text="New User?"

        android:textColor="#A4BABA" />


    <TextView

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="SignUp?"

        android:textColor="#48B34C"

        android:textStyle="bold" />

</LinearLayout>

<EditText

    android:layout_width="match_parent"

    android:layout_height="wrap_content" />
```

</LinearLayout>

</LinearLayout>

Java Code:

```
package com.example.loginpage;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        EditText username =findViewById(R.id.username);

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

        b1.setOnClickListener(new View.OnClickListener() {

            @Override
            public void onClick(View v) {

                String user=username.getText().toString();

                Toast.makeText(MainActivity.this, "Welcome "+user,
Toast.LENGTH_LONG).show();
```
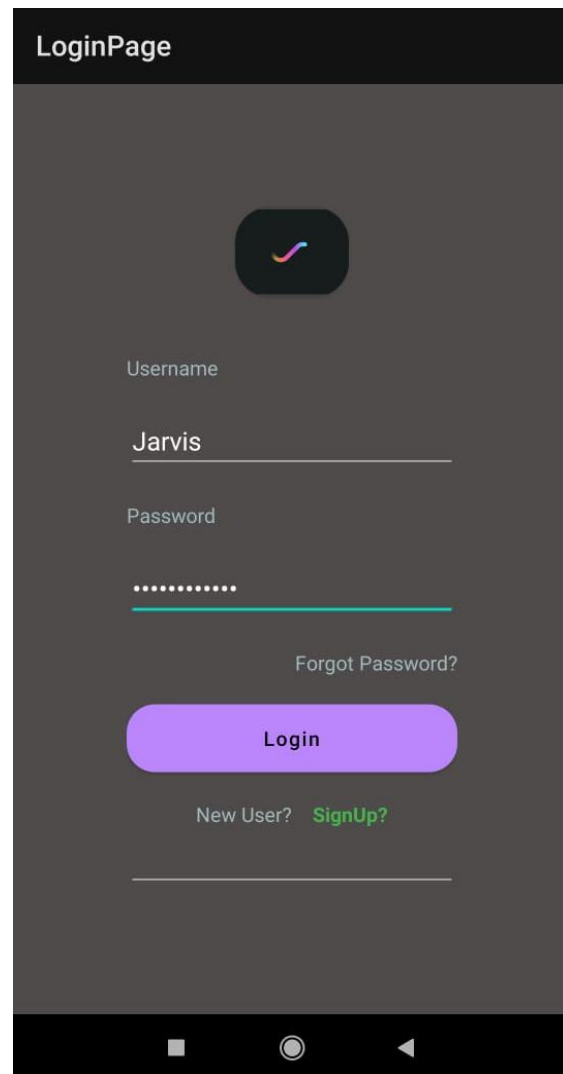
```
        }

    });

  }

}
```

Output
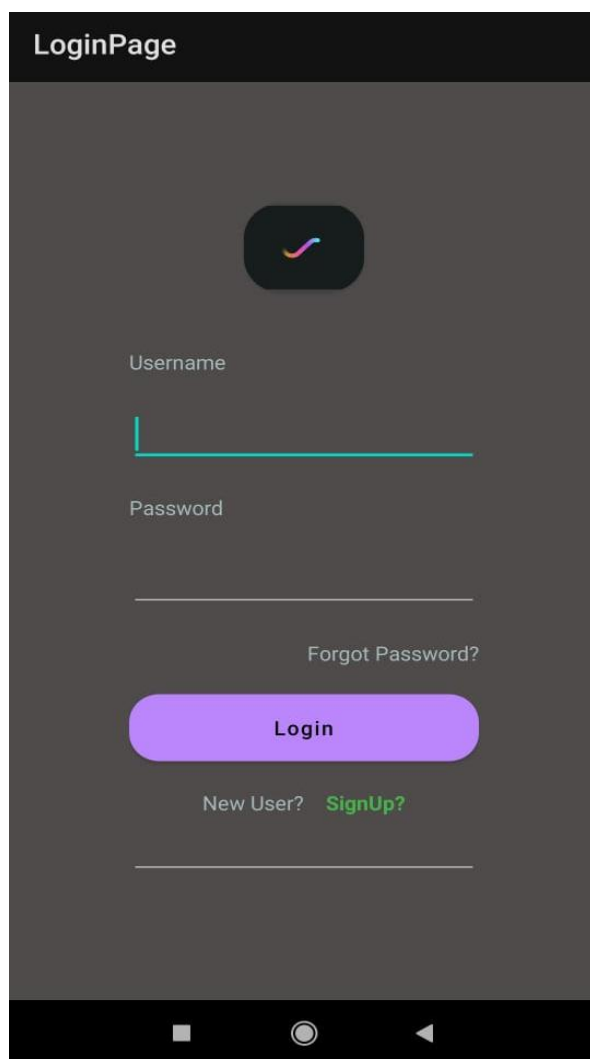
Program no: 04

Aim:

Implementing basic arithmetic operations of a simple calculator

XML Code:

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

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center">

        <EditText
            android:id="@+id/op1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="20dp"
```

```
        android:hint="Operand 1" />


    <EditText

        android:id="@+id/op2"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_margin="20dp"

        android:hint="Operand 2" />


</LinearLayout>


<LinearLayout

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:gravity="center">


    <Button

        android:id="@+id/add"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_marginRight="10dp"

        android:text="+"

        android:textSize="20dp" />
```

```xml
    <Button

        android:id="@+id/minus"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_marginRight="10dp"

        android:text="-"

        android:textSize="20dp" />

</LinearLayout>

<LinearLayout

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:layout_gravity="center"

    android:layout_marginTop="25dp">


    <Button

        android:id="@+id/mul"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_marginRight="10dp"

        android:text="*"

        android:textSize="20dp" />


    <Button

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

```
        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="/"

        android:textSize="20dp" />

    </LinearLayout>


    <LinearLayout

      android:layout_width="wrap_content"

      android:layout_height="wrap_content"

      android:layout_gravity="center"

      android:layout_marginTop="25dp">


      <Button

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="="

        android:textSize="20dp" />

    </LinearLayout>


    <LinearLayout

      android:layout_width="match_parent"

      android:layout_height="wrap_content"

      android:layout_marginTop="30dp"

      android:gravity="center">
```

```
    <TextView

        android:id="@+id/output"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:hint="Output"

        android:textSize="30dp" />

    </LinearLayout>

</LinearLayout>
```

Java Code:

```java
package com.example.calculator;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.TextView;

import android.widget.Toast;

public class simpleCal extends AppCompatActivity {

        EditText no1, no2;

        Button add, mul, div, sub, equal;

        TextView answer;

        double ans = 0;
```

```
@Override protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState); setContentView(R.layout.activity_simple_cal); // for
        text views no1 = findViewById(R.id.first_no);

        no2 = findViewById(R.id.second_no);

        // for button with operations

        add = findViewById(R.id.add);

         mul = findViewById(R.id.mul);

        div = findViewById(R.id.div);

        sub = findViewById(R.id.sub);

        // for equal to button

        equal = findViewById(R.id.equals);

        // for answer field

        answer = findViewById(R.id.answer);

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

        public void onClick(View v)

        {

         String num1 = no1.getText().toString();

        String num2 = no2.getText().toString();

        if (num1.isEmpty() || num2.isEmpty()) {

        Toast.makeText(getApplicationContext(), "Enter Numbers",
        Toast.LENGTH_SHORT).show();

        }

         else

        {

         double a = Double.parseDouble(no1.getText().toString());
```

```
double b = Double.parseDouble(no2.getText().toString());

ans = a + b;

                }

        }

});

sub.setOnClickListener(new View.OnClickListener()

{

@Override public void onClick(View v)

{

        String num1 = no1.getText().toString();

        String num2 = no2.getText().toString();

        if (num1.isEmpty() || num2.isEmpty())


{

Toast.makeText(getApplicationContext(), "Enter Numbers",
Toast.LENGTH_SHORT).show(); }

Else

{

double a = Double.parseDouble(no1.getText().toString());

double b = Double.parseDouble(no2.getText().toString());

ans = a - b;

        }

}

});

mul.setOnClickListener(new View.OnClickListener()
```

```
{

 @Override public void onClick(View v) {

 String num1 = no1.getText().toString();

String num2 = no2.getText().toString();

if (num1.isEmpty() || num2.isEmpty())

 {

 Toast.makeText(getApplicationContext(), "Enter Numbers",
Toast.LENGTH_SHORT).show();

 }

 Else

 {

 double a = Double.parseDouble(no1.getText().toString());

double b = Double.parseDouble(no2.getText().toString());

ans = a * b;

        }

 }

 });

 div.setOnClickListener(new View.OnClickListener()

{

 @Override public void onClick(View v) {

String num1 = no1.getText().toString();

String num2 = no2.getText().toString();

if (num1.isEmpty() || num2.isEmpty())

 {
```

```
 Toast.makeText(getApplicationContext(), "Enter Numbers",
Toast.LENGTH_SHORT).show();

 }

 else

 {

 double a = Double.parseDouble(no1.getText().toString());

 double b = Double.parseDouble(no2.getText().toString());

 if (b != 0){

ans = a / b;

 else Toast.makeText(getApplicationContext(), "Enter Valid Numbers",
Toast.LENGTH_SHORT).show();

                    }

              }

 });

 equal.setOnClickListener(new View.OnClickListener()

 { @Override public void onClick(View v) {

String ans1 = String.valueOf(ans);

 answer.setText(ans1); ans = 0;

                    }

              });

        }

}
```
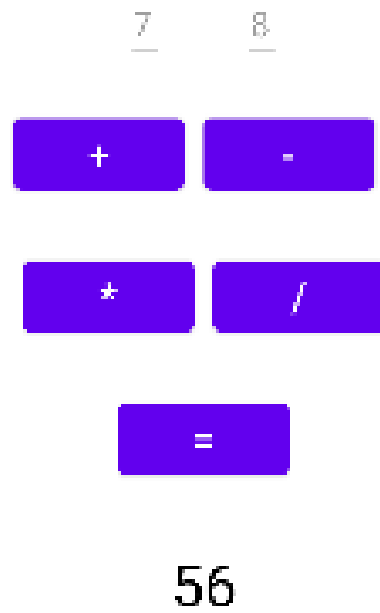
Output

---

7   8

+   -

*   /

=

56

Program no: 05

Aim:

Implement validations on various UI controls

XML Code:

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

<LinearLayout

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:orientation="vertical"

    tools:context=".Ui_validation"

    tools:ignore="HardcodedText">

    <EditText

        android:id="@+id/firstName"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:layout_marginStart="16dp"

        android:layout_marginTop="16dp"

        android:layout_marginEnd="16dp"

        android:hint="First Name"
```

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


    <EditText

        android:id="@+id/lastName"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:layout_marginStart="16dp"

        android:layout_marginTop="16dp"

        android:layout_marginEnd="16dp"

        android:hint="Last Name"

        android:inputType="text" />


    <EditText

        android:id="@+id/email"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:layout_marginStart="16dp"

        android:layout_marginTop="16dp"

        android:layout_marginEnd="16dp"

        android:hint="Email"

        android:inputType="textEmailAddress" />


    <EditText

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

```
android:layout_width="match_parent"

android:layout_height="wrap_content"

android:layout_marginStart="16dp"

android:layout_marginTop="16dp"

android:layout_marginEnd="16dp"

android:hint="Password"

android:inputType="textPassword" />


<LinearLayout

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:layout_marginTop="8dp"

    android:gravity="end"

    android:orientation="horizontal">


    <Button

        android:id="@+id/cancelButton"

        style="@style/Widget.AppCompat.Button.Borderless"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_marginEnd="4dp"

        android:text="CANCEL"

        android:textColor="@color/white" />
```

```
        <Button

            android:id="@+id/proceedButton"

            android:layout_width="wrap_content"

            android:layout_height="wrap_content"

            android:layout_marginEnd="16dp"

            android:backgroundTint="@color/black"

            android:text="PROCEED"

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

            tools:ignore="ButtonStyle" />

    </LinearLayout>

</LinearLayout>
```

Java Code:

```java
package com.example.adaptor;

import android.os.Bundle;

import android.view.Menu;

import android.view.MenuInflater;

import android.view.MenuItem;

import android.view.View;

import android.widget.AdapterView;

import android.widget.Button;

import android.widget.EditText;

import android.widget.TextView;

import android.widget.Toast;
```

```
import androidx.annotation.NonNull;

import androidx.appcompat.app.AppCompatActivity;


public class MainActivity extends AppCompatActivity {

    Button bCancel, bProceed;

    EditText etFirstName, etLastName, etEmail, etPassword;

 boolean isAllFieldsChecked = false;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        bProceed = findViewById(R.id.proceedButton);

        bCancel = findViewById(R.id.cancelButton);

        etFirstName = findViewById(R.id.firstName);

        etLastName = findViewById(R.id.lastName);

        etEmail = findViewById(R.id.email);

        etPassword = findViewById(R.id.password);


        bProceed.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                if (isAllFieldsChecked) {

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

```
            startActivity(i);

          }

        }

     });



     bCancel.setOnClickListener(new View.OnClickListener() {

        @Override

        public void onClick(View v) {

          Ui_validation.this.finish();

          System.exit(0);

        }

     });

  }



  private boolean CheckAllFields() {

     if (etFirstName.length() == 0) {

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

        return false;

     }

     if (etLastName.length() == 0) {

        etLastName.setError("This field is required");

        return false;

     }

     if (etEmail.length() == 0) {
```
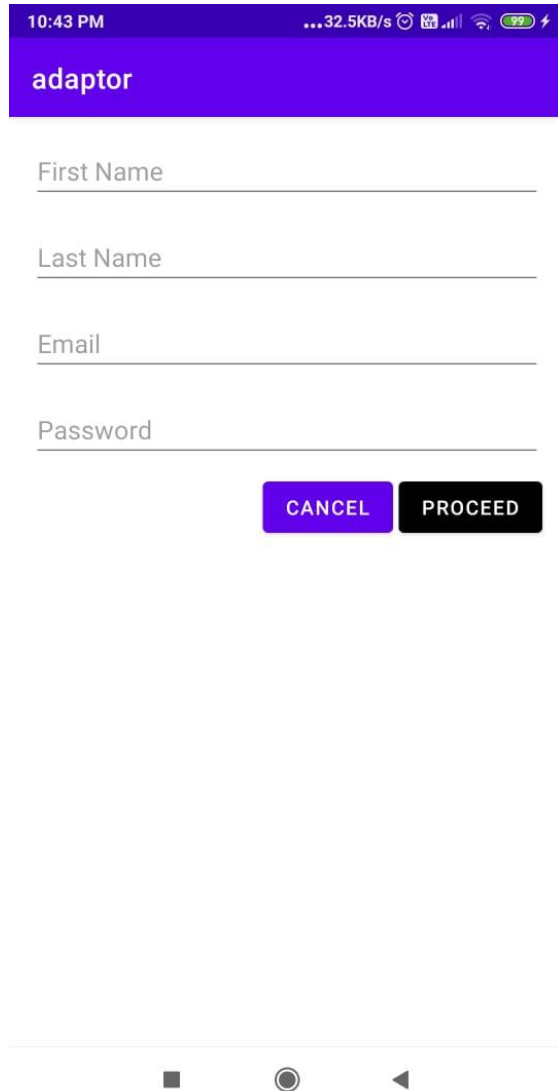
```
            etEmail.setError("Email is required");

            return false;

        }

    if (etPassword.length() == 0) {

            etPassword.setError("Password is required");

            return false;

        } else if (etPassword.length() < 8) {

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

            return false;

        }

    }

}
```

Output

Program no: 06

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

XML Code:

activity_main.xml

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

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:layout_gravity="center"

    android:orientation="vertical"

    tools:context=".MainActivity">


    <TextView

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_gravity="center"

        android:text="Intent Form"

        android:textColor="#0A5D83"

        android:textSize="40dp" />


    <EditText

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

```
    android:layout_width="150dp"

    android:layout_height="wrap_content"

    android:layout_gravity="center"

    android:layout_margin="40dp"

    android:hint="Name"

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


<EditText

    android:id="@+id/iemail"

    android:layout_width="150dp"

    android:layout_height="wrap_content"

    android:layout_gravity="center"

    android:layout_marginBottom="40dp"

    android:hint="email"

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


<TextView

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:layout_gravity="center"

    android:text="SharedPreference Form"

    android:textColor="#0A5D83"

    android:textSize="30dp" />
```

```
<EditText

    android:id="@+id/sname"

    android:layout_width="150dp"

    android:layout_height="wrap_content"

    android:layout_gravity="center"

    android:layout_margin="40dp"

    android:hint="Name"

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


<EditText

    android:id="@+id/semail"

    android:layout_width="150dp"

    android:layout_height="wrap_content"

    android:layout_gravity="center"

    android:layout_marginBottom="40dp"

    android:hint="email"

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


<Button

    android:id="@+id/save"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:layout_gravity="center"

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

</LinearLayout>

activity_main2.xml

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

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:layout_gravity="center"

    android:orientation="vertical"

    tools:context=".MainActivity2">



    <TextView

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_gravity="center"

        android:text="Intent Form"

        android:textColor="#0A5D83"

        android:textSize="40dp" />


    <LinearLayout

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_gravity="center"
```

```
android:orientation="horizontal">


<TextView

    android:layout_width="150dp"

    android:layout_height="wrap_content"

    android:layout_gravity="center"

    android:gravity="center"

    android:text="Name"

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


<TextView

    android:id="@+id/ioname"

    android:layout_width="150dp"

    android:layout_height="wrap_content"

    android:layout_gravity="center"

    android:layout_margin="40dp"

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



</LinearLayout>


<LinearLayout

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"
```

```
android:layout_gravity="center"

android:orientation="horizontal">


<TextView

    android:layout_width="150dp"

    android:layout_height="wrap_content"

    android:layout_gravity="center"

    android:gravity="center"

    android:text="email"

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


<TextView

    android:id="@+id/ioemail"

    android:layout_width="150dp"

    android:layout_height="wrap_content"

    android:layout_gravity="center"

    android:layout_margin="40dp"

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


</LinearLayout>


<TextView
```

```
android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_gravity="center"

android:text="SharedPreference Form"

android:textColor="#0A5D83"

android:textSize="30dp" />


<LinearLayout

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_gravity="center"

android:orientation="horizontal">


<TextView

android:layout_width="150dp"

android:layout_height="wrap_content"

android:layout_gravity="center"

android:gravity="center"

android:text="Name"

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


<TextView

android:id="@+id/soname"

android:layout_width="150dp"
```

```
      android:layout_height="wrap_content"

      android:layout_gravity="center"

      android:layout_margin="40dp"

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




  </LinearLayout>

  <LinearLayout

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:layout_gravity="center"

    android:orientation="horizontal">


    <TextView

      android:layout_width="150dp"

      android:layout_height="wrap_content"

      android:layout_gravity="center"

      android:gravity="center"

      android:text="email"

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


    <TextView

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

```
android:layout_width="150dp"

android:layout_height="wrap_content"

android:layout_gravity="center"

android:layout_margin="40dp"

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

```
    </LinearLayout>

</LinearLayout>
```

Java Code:

MainActivity.java

```java
package com.example.adaptor;


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 androidx.appcompat.app.AppCompatActivity;


public class MainActivity extends AppCompatActivity {
```

```
@Override

protected void onCreate(Bundle savedInstanceState) {

  super.onCreate(savedInstanceState);

  setContentView(R.layout.activity_main);

  EditText iname = findViewById(R.id.iname);

  EditText sname = findViewById(R.id.sname);

  EditText iemail = findViewById(R.id.iemail);

  EditText semail = findViewById(R.id.semail);

  Button save = findViewById(R.id.save);

  save.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

      Intent i1 = new Intent(MainActivity.this, MainActivity2.class);

      i1.putExtra("name", iname.getText().toString());

      i1.putExtra("email", iemail.getText().toString());


      SharedPreferences sharedPreferences = getSharedPreferences("MySharedPref",

          MODE_PRIVATE);

      SharedPreferences.Editor myEdit = sharedPreferences.edit();

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

      myEdit.putString("email", semail.getText().toString());

      myEdit.apply();

      startActivity(i1);
```

```
            }

        });

    }

}
```

MainActivity2.java

```
package com.example.adaptor;


import androidx.appcompat.app.AppCompatActivity;


import android.content.Intent;

import android.content.SharedPreferences;

import android.os.Bundle;

import android.widget.TextView;


public class MainActivity2 extends AppCompatActivity {


    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main2);

        TextView ioname = findViewById(R.id.ioname);

        TextView ioemail = findViewById(R.id.ioemail);

        TextView soname = findViewById(R.id.soname);

        TextView soemail = findViewById(R.id.soemail);
```

```
Intent i1 = getIntent();

ioname.setText(i1.getStringExtra("name"));

ioemail.setText(i1.getStringExtra("email"));

SharedPreferences sharedPreferences = getSharedPreferences("MySharedPref",

    MODE_PRIVATE);

String Name = sharedPreferences.getString("name", "");

String Email = sharedPreferences.getString("email", "");

soname.setText(Name);

soemail.setText(Email);


    }
}
```

Output:

Program no: 07

Aim:

Design a simple calculator using Grid Layout and Cascaded LinearLayout.

XML Code:

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

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

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:background="#323030"

    android:layout_gravity="bottom"

    android:gravity="bottom"

    android:orientation="vertical"

    tools:context=".MainActivity">


    <LinearLayout

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:orientation="vertical">

        <LinearLayout

            android:layout_width="match_parent"

            android:layout_height="wrap_content"

            android:layout_gravity="end"
```

```
    android:orientation="vertical">


    <TextView

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:layout_marginEnd="20dp"

        android:text="9+10"

        android:textAlignment="textEnd"

        android:textColor="@color/white"

        android:textSize="40dp" />


    <TextView

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:layout_marginEnd="20dp"

        android:text="=19"

        android:textAlignment="textEnd"

        android:textColor="@color/white"

        android:textSize="40dp" />

</LinearLayout>


<GridLayout

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"
```

```
        android:layout_margin="10dp"

        android:layout_weight="1"

        android:columnCount="4"

        android:gravity="bottom"

        android:rowCount="4">


    <Button

        android:id="@+id/b9"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_margin="10dp"

        android:background="@drawable/bg_button"

        android:text="9"

        android:textColor="@color/white"

        android:textSize="25dp" />


    <Button

        android:id="@+id/b8"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_margin="10dp"

        android:background="@drawable/bg_button"

        android:text="8"
```

```
            android:textColor="@color/white"

            android:textSize="25dp" />



    <Button

        android:id="@+id/b7"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_margin="10dp"

        android:background="@drawable/bg_button"

        android:text="7"

        android:textColor="@color/white"

        android:textSize="25dp" />


    <Button

        android:id="@+id/bmult"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_margin="10dp"

        android:background="#F86605"

        android:text="x"

        android:textColor="@color/white"

        android:textSize="18dp" />
```

```
<Button

    android:id="@+id/b6"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:layout_margin="10dp"

    android:background="@drawable/bg_button"

    android:text="6"

    android:textColor="@color/white"

    android:textSize="25dp" />


<Button

    android:id="@+id/b5"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:layout_margin="10dp"

    android:background="@drawable/bg_button"

    android:text="5"

    android:textColor="@color/white"

    android:textSize="25dp" />

<Button

    android:id="@+id/b4"
```

```
android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_margin="10dp"

android:background="@drawable/bg_button"

android:text="4"

android:textColor="@color/white"

android:textSize="25dp" />


<Button

    android:id="@+id/bdiv"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:layout_margin="10dp"

    android:background="#F86605"

    android:text="/"

    android:textColor="@color/white"

    android:textSize="25dp" />


<Button

    android:id="@+id/b3"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:layout_margin="10dp"
```

```
android:background="@drawable/bg_button"

android:text="3"

android:textColor="@color/white"

android:textSize="25dp" />


<Button

    android:id="@+id/b2"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:layout_margin="10dp"

    android:background="@drawable/bg_button"

    android:text="2"

    android:textColor="@color/white"

    android:textSize="25dp" />


<Button

    android:id="@+id/b1"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:layout_margin="10dp"

    android:background="@drawable/bg_button"

    android:text="1"

    android:textColor="@color/white"

    android:textSize="25dp" />
```

```xml
<Button

    android:id="@+id/bminus"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:layout_margin="10dp"

    android:background="#F86605"

    android:text="-"

    android:textColor="@color/white"

    android:textSize="25dp" />



<Button

    android:id="@+id/b0"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:layout_margin="10dp"

    android:background="@drawable/bg_button"

    android:text="0"

    android:textColor="@color/white"

    android:textSize="25dp" />


<Button

    android:id="@+id/b."
```

```
    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:layout_margin="10dp"

    android:background="@drawable/bg_button"

    android:text="."

    android:textColor="@color/white"

    android:textSize="25dp" />


<Button

    android:id="@+id/bequal"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:layout_margin="10dp"

    android:background="@drawable/bg_button"

    android:text="="

    android:textColor="@color/white"

    android:textSize="25dp" />


<Button

    android:id="@+id/bplus"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:layout_margin="10dp"

    android:background="#F86605"
```

android:text="+"

android:textColor="@color/white"

android:textSize="25dp" />

</GridLayout>

</LinearLayout>

</LinearLayout>

Java Code:

package com.example.grid_layout;

import androidx.appcompat.app.AppCompatActivity;
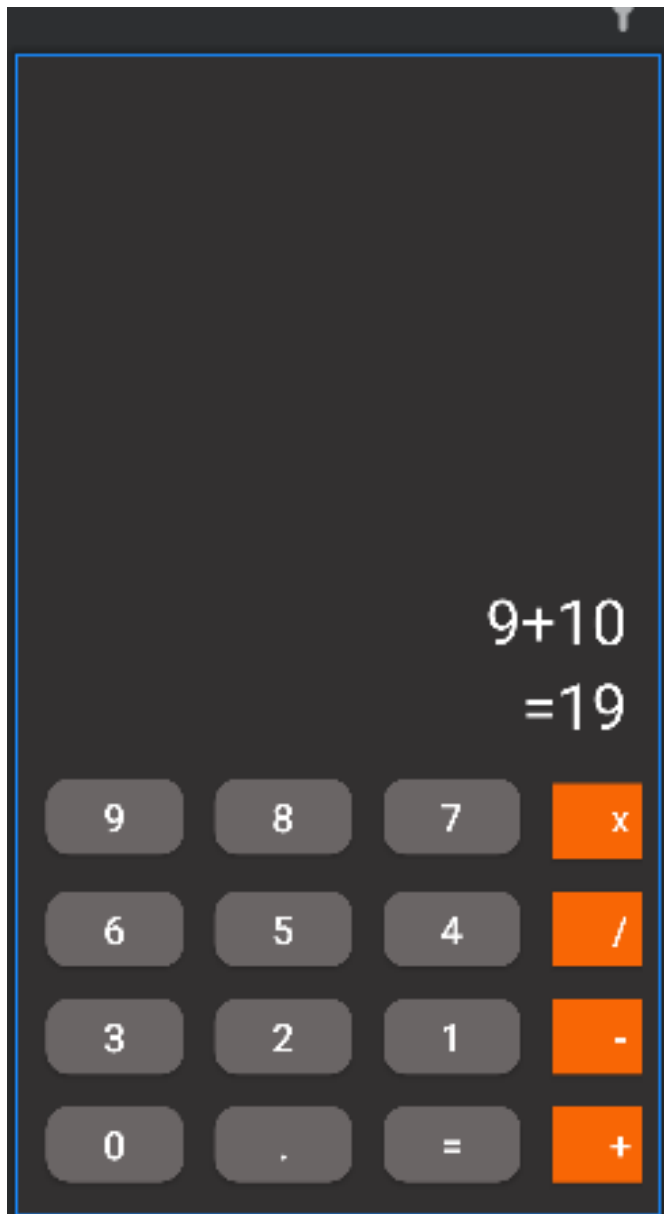
import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

  @Override

  protected void onCreate(Bundle savedInstanceState) {

    super.onCreate(savedInstanceState);

    setContentView(R.layout.activity_main);

  }

}

Output

Program no: 08

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

XML Code:

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

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

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:background="@color/white"

    tools:context=".MainActivity">

    <LinearLayout

        android:layout_width="match_parent"

        android:layout_height="match_parent"

        android:background="#29487D"

        android:gravity="center|top"

        android:orientation="vertical">


    <LinearLayout

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_marginTop="70dp"

        android:layout_marginBottom="100dp"

        android:orientation="vertical">
```

```xml
<TextView

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:fontFamily="@font/fb"

    android:text="facebook"

    android:textSize="36dp"

    android:padding="10dp"

    android:textColor="@color/white" />


</LinearLayout>
<LinearLayout

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:padding="15dp"

    android:orientation="vertical"

    android:layout_margin="20dp">

    <EditText

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:hint="Email or Phone"

        android:layout_marginBottom="30dp"

        android:textColorHint="#594F4F"

        android:background="@drawable/bg_box"/>
```

```xml
<EditText

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:layout_marginBottom="30dp"

    android:background="@drawable/bg_box"

    android:hint="password"

    android:textColorHint="#594F4F"/>


<Button

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:text="Log In"

    android:background="@color/design_default_color_primary"

    android:textAllCaps="false"/>


</LinearLayout>
<LinearLayout

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:orientation="horizontal"

    android:layout_marginTop="180dp"

    android:layout_gravity="bottom"

    android:gravity="center">
```

```xml
    <TextView

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:gravity="end"

        android:textStyle="bold"

        android:textColor="@color/white"

        android:layout_marginRight="75dp"

        android:layout_weight="50"

        android:text="SignUp for Facebook"/>


    <TextView

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:gravity="end"

        android:textColor="@color/white"

        android:layout_marginEnd="50dp"

        android:layout_weight="1"

        android:textStyle="bold"

        android:text="?"/>

  </LinearLayout>

  </LinearLayout>

</LinearLayout>
```

Java code:
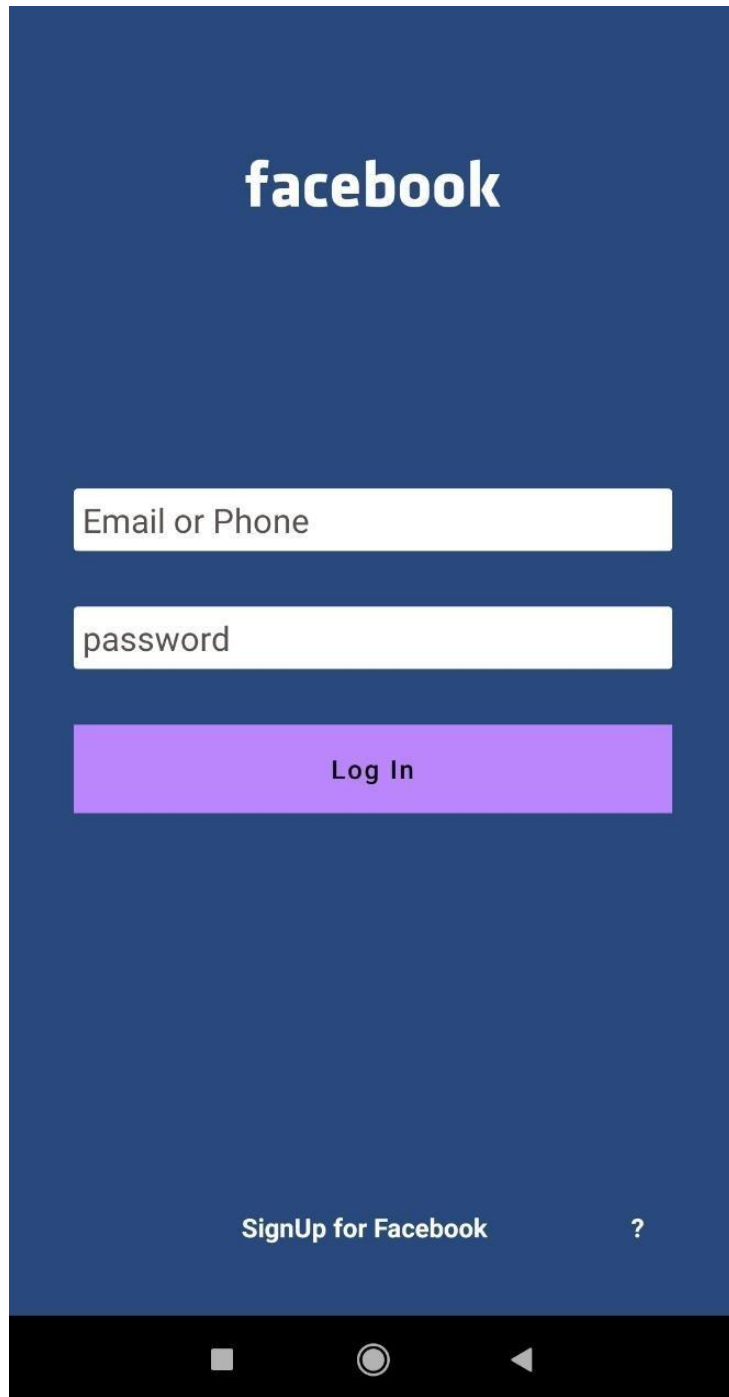
```java
package com.example.facebook;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

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

Output

Program no: 09

Aim:

   Develop an application that toggles image using FrameLayout

XML Code:

```xml
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_gravity="center"
    android:background="@color/teal_700"
    tools:context=".MainActivity">
    <ImageView
        android:id="@+id/image2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:src="@drawable/image2"
        android:visibility="gone"/>
    <ImageView
        android:id="@+id/image1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
```

android:src="@drawable/image1"/>

</FrameLayout>

Java code:

```
package com.example.frame_layout;


import androidx.appcompat.app.AppCompatActivity;


import android.os.Bundle;

import android.view.View;

import android.widget.ImageView;


public class MainActivity extends AppCompatActivity implements View.OnClickListener {

    ImageView img1,img2;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        img1 =findViewById(R.id.image1);

        img2 =findViewById(R.id.image2);

        img1.setOnClickListener(this);

        img2.setOnClickListener(this);

    }
```

```
    public void onClick(View v)

    {

        int id=v.getId();

        switch (id){

            case R.id.image1:

                img1.setVisibility(View.GONE);

                img2.setVisibility(View.VISIBLE);

                break;

            case R.id.image2:

                img1.setVisibility(View.VISIBLE);

                img2.setVisibility(View.GONE);

                break;

        }

    }

}
```

Output:
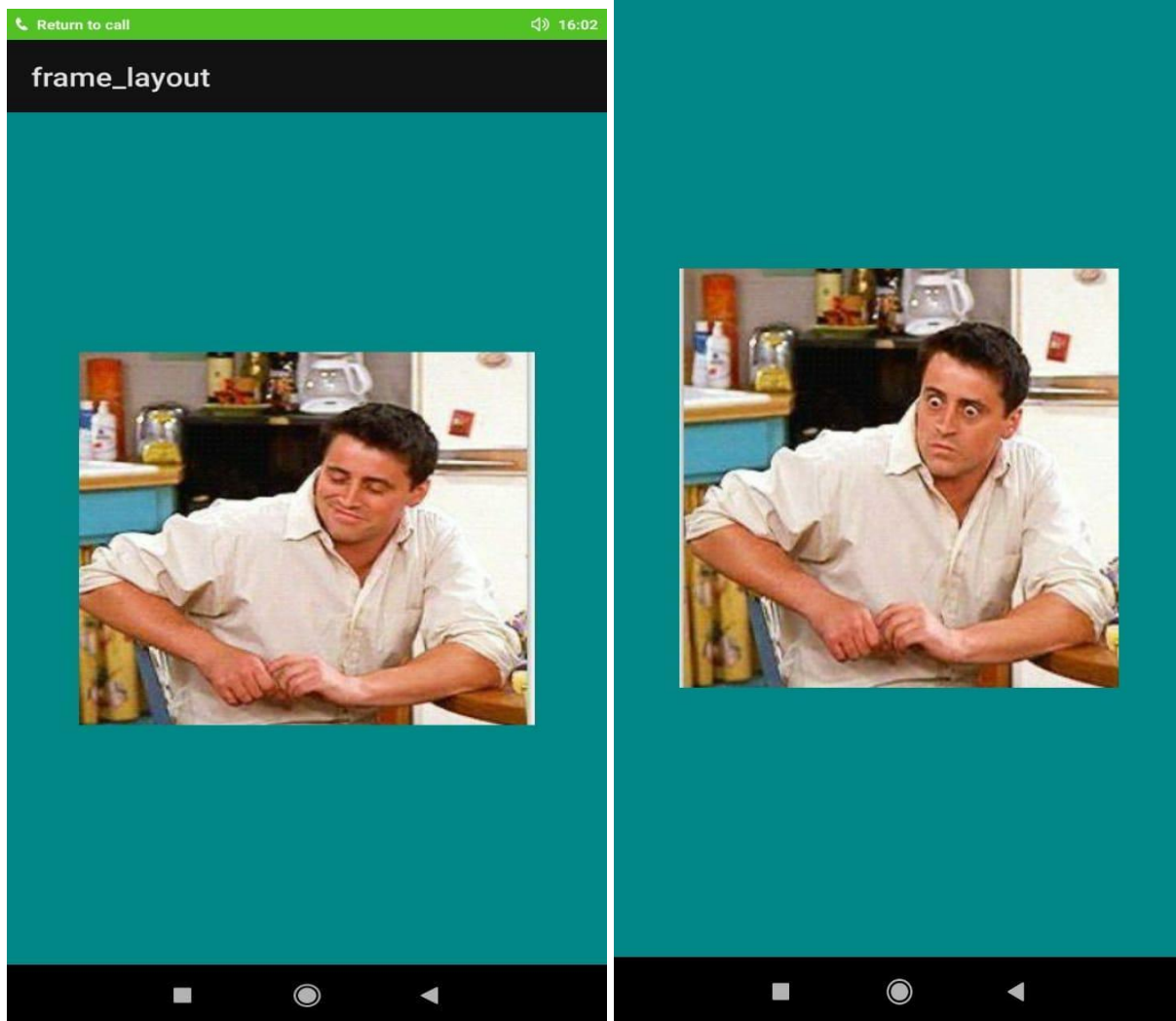
Program no: 10

Aim:

   Implement Adapters and perform exception handling

XML Code:

```xml
<?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:

```java
package com.example.exception;

import androidx.appcompat.app.AppCompatActivity;


import android.os.Bundle;
```

```java
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:

Activity_main.xml

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

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:orientation="vertical"

    tools:context=".MainActivity"

    android:background="#4CAF50"

    android:gravity="center">


    <TextView

        android:id="@+id/textView"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="Page1"

        android:textColor="@color/black"

        android:textSize="50dp" />


    <Button
```

```
        android:id="@+id/page1"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="Go to page 2" />

</LinearLayout>
```

Activity_main2.xml

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

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

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:background="#FFEB3B"

    android:gravity="center"

    android:orientation="vertical"

    tools:context=".MainActivity2">


    <TextView

        android:id="@+id/textView"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="Page2"

        android:textColor="@color/black"

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

```
<Button

    android:id="@+id/page2"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:text="Go to page 1" />


</LinearLayout>
```

Java Code:

Main Activiy.java

```java
package com.example.adaptor;


import androidx.appcompat.app.AppCompatActivity;


import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;


public class MainActivity extends AppCompatActivity {


  @Override

  protected void onCreate(Bundle savedInstanceState) {

    super.onCreate(savedInstanceState);
```

```java
        setContentView(R.layout.activity_main);

        Button page1=findViewById(R.id.page1);

        page1.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                Intent i1=new Intent(MainActivity.this,MainActivity2.class);

                startActivity(i1);

            }

        });

    }

}
```

Main Activiy2.java

```java
package com.example.adaptor;


import androidx.appcompat.app.AppCompatActivity;


import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;


public class MainActivity2 extends AppCompatActivity {


    @Override
```
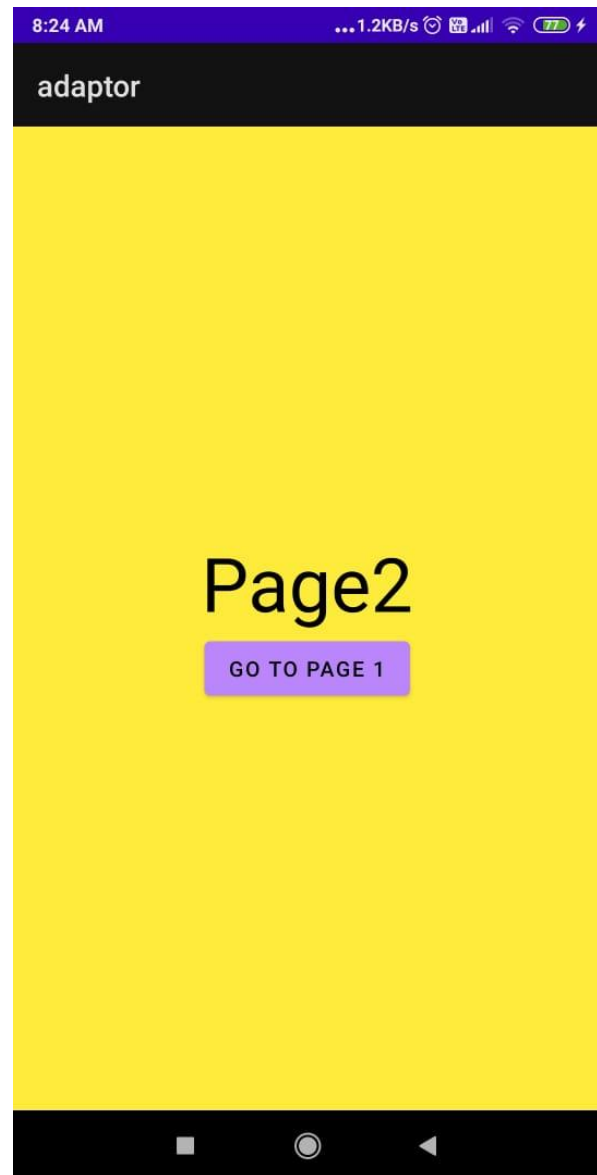
```java
    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main2);

        Button page2 = findViewById(R.id.page2);

        page2.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                Intent i2 = new Intent(MainActivity2.this, MainActivity.class);

                startActivity(i2);

            }

        });

    }

}
```

Output

Program no: 12

Aim: Develop an application that works with explicit intents

XML Code:

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

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:orientation="vertical"

    tools:context=".MainActivity"

    android:background="#4CAF50"

    android:gravity="center">


    <TextView

        android:id="@+id/textView"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="Explicit Intent"

        android:textColor="@color/black"

        android:textSize="50dp" />


    <Button

        android:id="@+id/page1"

        android:layout_width="wrap_content"
```

android:layout_height="wrap_content"

android:text="Go to Gooogle" />

</LinearLayout>

Java Code:

package com.example.adaptor;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.net.Uri;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

public class MainActivity extends AppCompatActivity {

  @Override

  protected void onCreate(Bundle savedInstanceState) {

    super.onCreate(savedInstanceState);

    setContentView(R.layout.activity_main);

    Button page1=findViewById(R.id.page1);

    page1.setOnClickListener(new View.OnClickListener() {

      @Override

      public void onClick(View v) {

```
            Intent i1=new Intent(Intent.ACTION_VIEW, Uri.parse("https://www.google.com/"));

            startActivity(i1);

        }

    });

  }

}
```

Output:
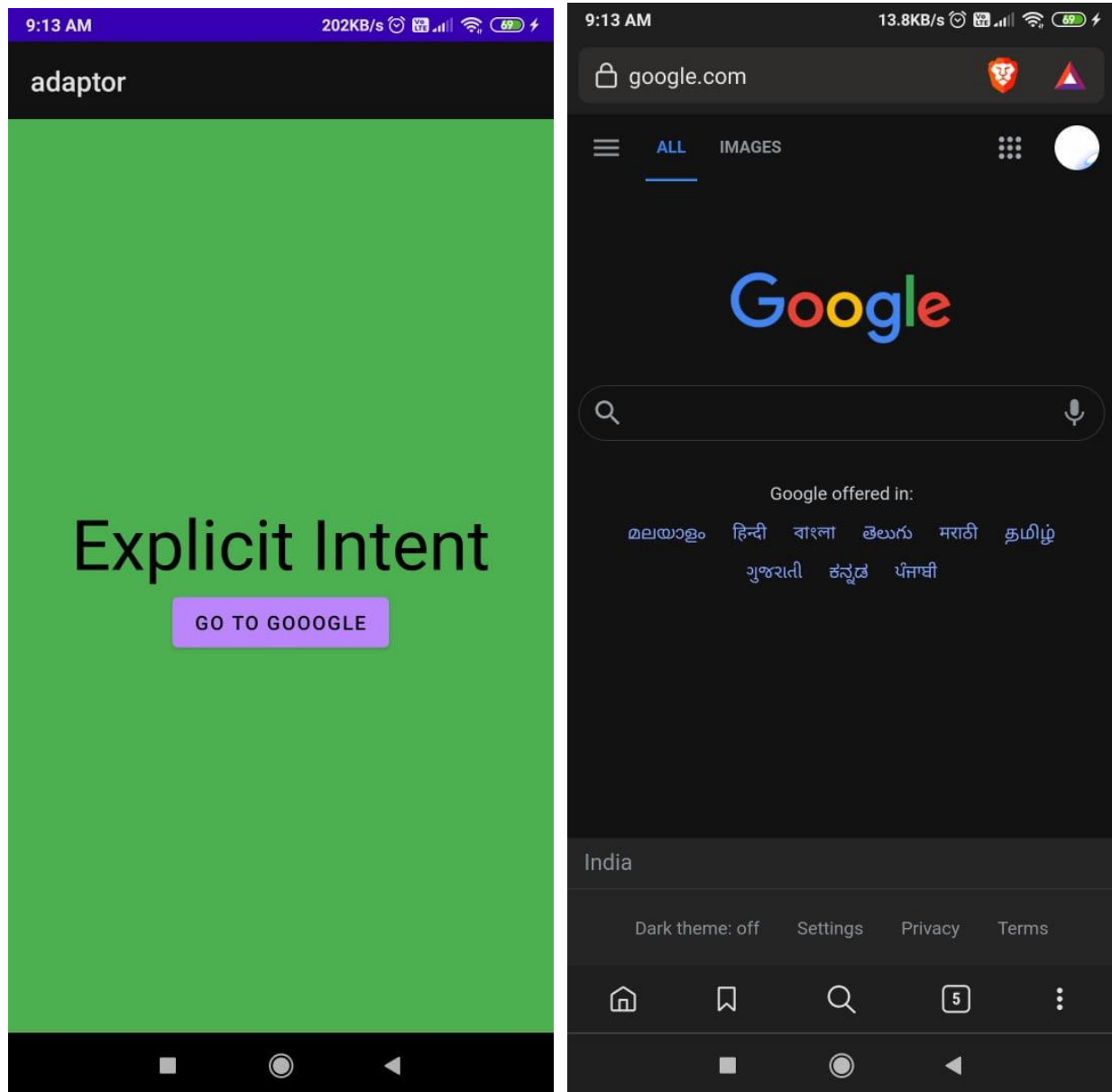
Program no: 13

Aim: Implement Options Menu to navigate to activities

XML Code:

```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"

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:orientation="vertical"

    tools:context=".MainActivity">

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

Menu.xml

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

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

    <item

        android:title="Home page"

        android:id="@+id/op1"/>

    <item

        android:title="Login Page"

        android:id="@+id/op2"/>

    <item

        android:title="Registration Page"
```

android:id="@+id/op3"/>

</menu>

JavaCode:

package com.example.adaptor;

import android.os.Bundle;

import android.view.Menu;

import android.view.MenuInflater;

import android.view.MenuItem;

import android.widget.Toast;

import androidx.annotation.NonNull;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

  @Override

  protected void onCreate(Bundle savedInstanceState) {

    super.onCreate(savedInstanceState);

    setContentView(R.layout.activity_main);

  }

```java
@Override
public boolean onCreateOptionsMenu(Menu menu) {

    MenuInflater menuInflater = getMenuInflater();

    menuInflater.inflate(R.menu.example_menu, menu);

    return true;

}


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

    switch (item.getItemId()){

        case R.id.op1:

            Toast.makeText(this, "Home page selected", Toast.LENGTH_SHORT).show();

            break;

        case R.id.op2:

            Toast.makeText(this, "Login page selected", Toast.LENGTH_SHORT).show();

            break;

        case R.id.op3:

            Toast.makeText(this, "Registration page selected", Toast.LENGTH_SHORT).show();

            break;


    }

    return super.onOptionsItemSelected(item);

}
```
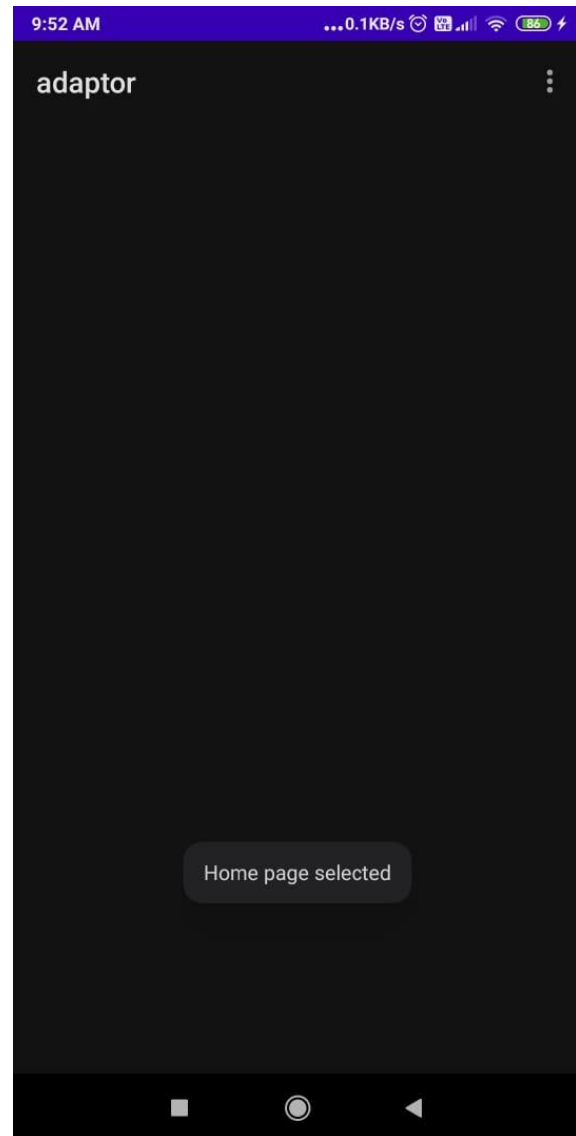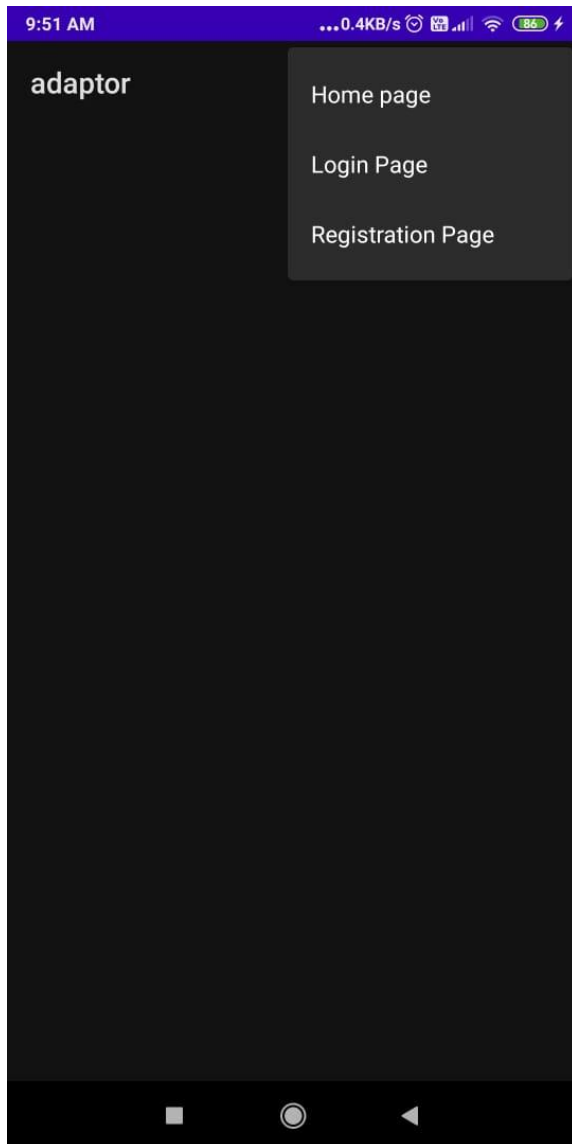
}

Output:

Program no: 14

Aim: Develop an application that uses ArrayAdapter with ListView

XML Code:

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


    <ListView
        android:id="@+id/mobile_list"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" >
    </ListView>
</LinearLayout>
```

Java Code:

```java
package com.example.adaptor;


import androidx.appcompat.app.AppCompatActivity;


import android.content.Intent;
```

```java
import android.net.Uri;

import android.os.Bundle;

import android.view.View;

import android.widget.AdapterView;

import android.widget.ArrayAdapter;

import android.widget.Button;

import android.widget.ListView;

import android.widget.TextView;

import android.widget.Toast;


public class MainActivity extends AppCompatActivity implements

    AdapterView.OnItemClickListener {

  ListView l;

  String[] days = {"Sunday", "Monday", "Tuesday", "Wednesday", "Thursday", "Friday",

      "Saturday"};


  @Override

  protected void onCreate(Bundle savedInstanceState) {

    super.onCreate(savedInstanceState);

    setContentView(R.layout.activity_main);

    l = findViewById(R.id.mobile_list);

    ArrayAdapter<String> adapter = new ArrayAdapter<String>(this,

        androidx.appcompat.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:
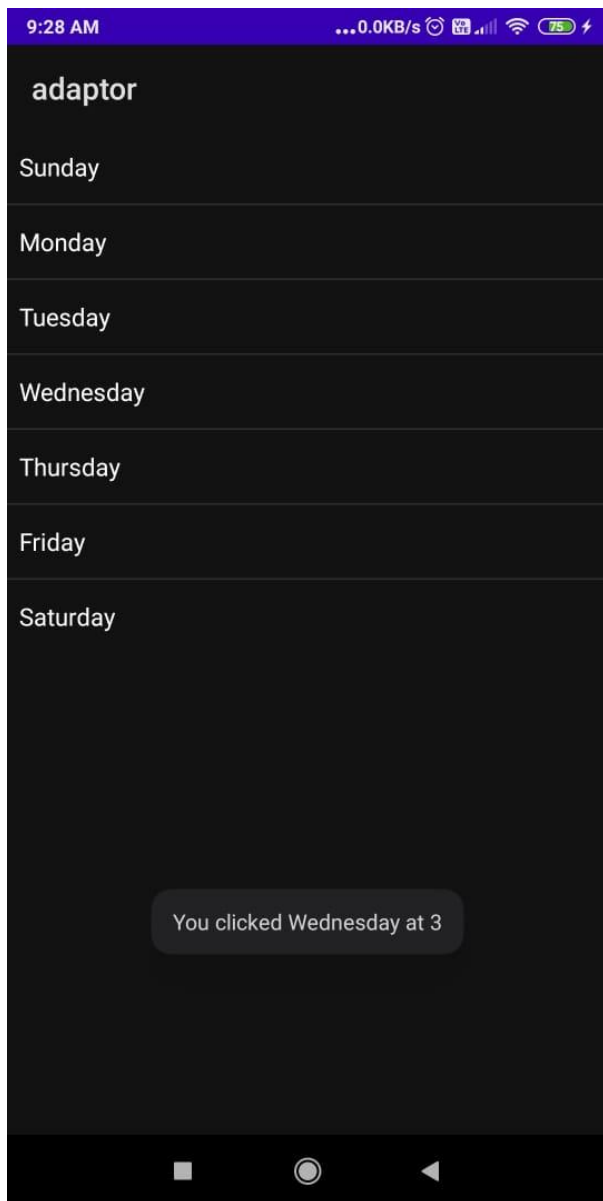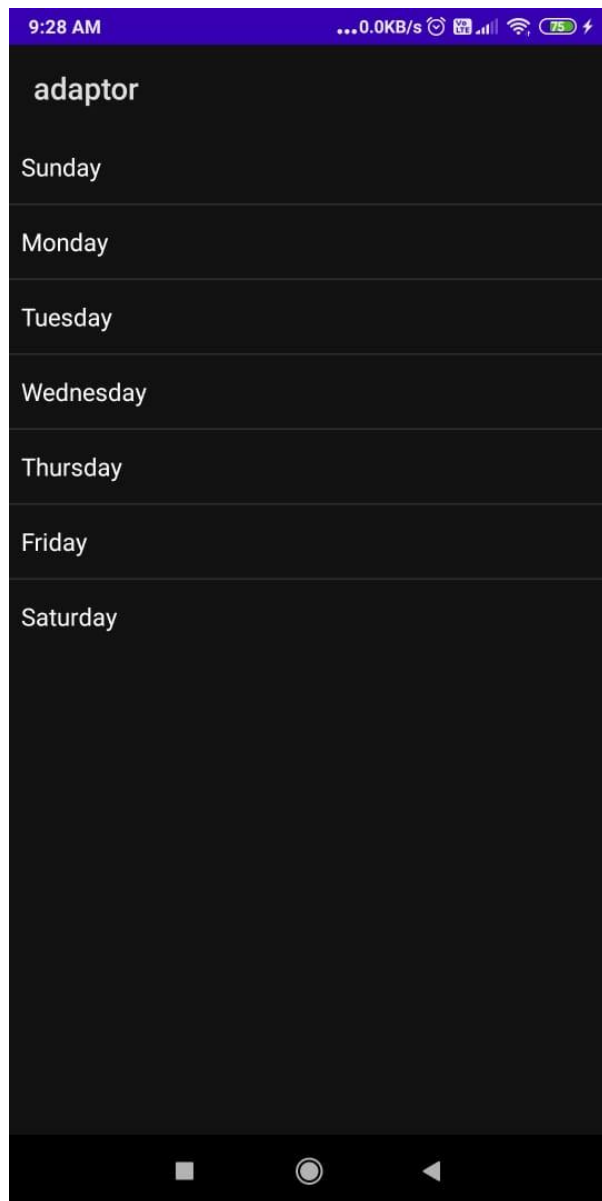
Program no: 15

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

XML Code:

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

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

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:background="#B5A830"

    tools:context=".MainActivity">


    <GridView

        android:id="@+id/gridView"

        android:layout_width="fill_parent"

        android:layout_height="wrap_content"

        android:footerDividersEnabled="false"

        android:numColumns="3"

        android:padding="1dp" />

</LinearLayout>
```

ImageAdaptor.java

```java
package com.example.pg15;

import android.content.Context;

import android.view.View;
```

```java
import android.view.ViewGroup;

import android.widget.BaseAdapter;

import android.widget.GridView;

import android.widget.ImageView;


public class ImageAdapter extends BaseAdapter {

    private Context mContext;

    public ImageAdapter(Context c) {

        mContext = c;

    }

    public int getCount() {

        return thumbImages.length;

    }

    public Object getItem(int position) {

        return null;

    }

    public long getItemId(int position) {

        return 0;

    }

    public View getView(int position, View convertView, ViewGroup parent) {

        ImageView imageView = new ImageView(mContext);

        imageView.setLayoutParams(new GridView.LayoutParams(200, 200));

        imageView.setScaleType(ImageView.ScaleType.CENTER_CROP);
```

```
imageView.setPadding(8, 8, 8, 8);

imageView.setImageResource(thumbImages[position]);

return imageView;

}


public Integer[] thumbImages = {

    R.drawable.cl1,

    R.drawable.cl2,

    R.drawable.cl3,

    R.drawable.cl4,

    R.drawable.cl5,

    R.drawable.cl6

};

}
```

Java Code:

```java
package com.example.pg15;


import android.content.Context;

import android.content.DialogInterface;

import android.os.Bundle;

import android.view.View;

import android.widget.AdapterView;

import android.widget.GridView;
```

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

import androidx.appcompat.app.AppCompatActivity;


public class MainActivity extends AppCompatActivity {

    GridView gd;

    int logos[] = {R.drawable.cl1, R.drawable.cl2, R.drawable.cl3, R.drawable.cl4};

    String[] names = {"bird", "pup", "kitten", "nasa", "panda", "peacock",};

    final Context context = this;

    AlertDialog.Builder builder;


    @Override
    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        GridView gv = (GridView) findViewById(R.id.gridView);

        gv.setAdapter(new ImageAdapter(this));

        builder = new AlertDialog.Builder(this);


        gv.setOnItemClickListener(new AdapterView.OnItemClickListener() {

            public void onItemClick(AdapterView<?> parent, View v, int position, long id) {


                builder.setMessage("Name : " + String.valueOf(names[position]))

                        .setCancelable(false)

                        .setPositiveButton("Ok", new DialogInterface.OnClickListener() {
```
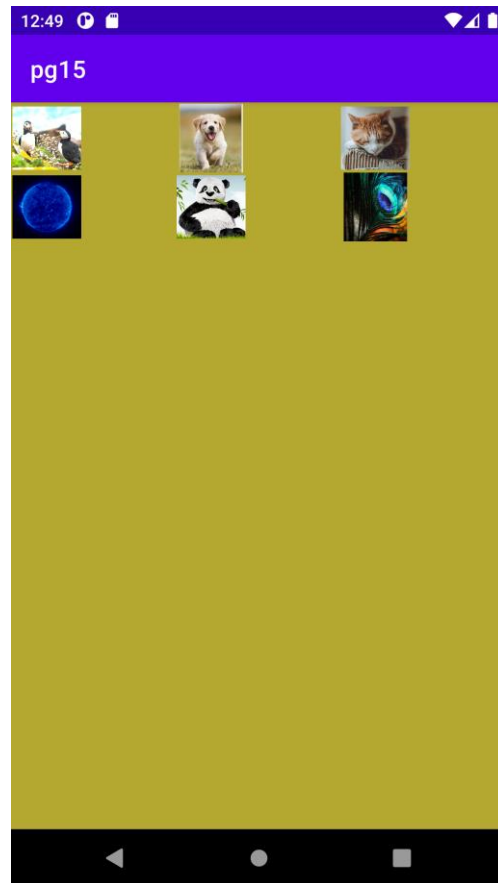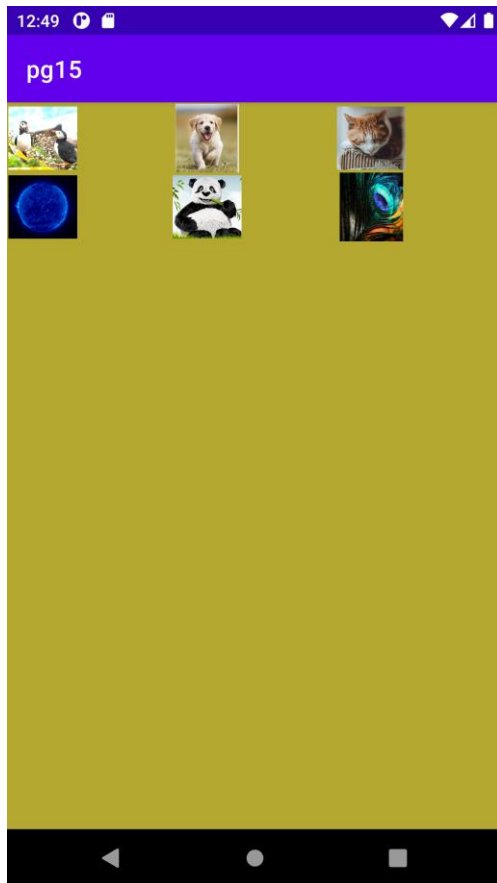
```
                public void onClick(DialogInterface dialog, int id) {

                    }
            });



        AlertDialog alert = builder.create();



        alert.setTitle("Info Alert");

        alert.show();

    }




    });



  }
}
```

Output

Program no: 16

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

XML Code:

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center"
    android:background="#6F657C"
    tools:context=".MainActivity">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Spinner"
        android:textSize="30dp"
        android:textStyle="bold"
        android:textColor="@color/black"/>
    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="25dp"
```

```
        android:orientation="horizontal">

    <TextView

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:textColor="@color/white"

        android:textSize="25dp"

        android:text="Language " />


    <Spinner

        android:id="@+id/spinner"

        android:layout_width="160dp"

        android:layout_height="50dp" />

    </LinearLayout>

</LinearLayout>
```

Java code:

```
package com.example.recordremaining;


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[] Languages = {"Python", "Java", "C++", "DJango", "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);


        //Creating the ArrayAdapter instance having the country list

        ArrayAdapter aa = new ArrayAdapter(this, android.R.layout.simple_spinner_item,
Languages);

        aa.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);

        //Setting the ArrayAdapter data on the Spinner

        spin.setAdapter(aa);


    }
```

//Performing action onItemSelected and onNothing selected

@Override

public void onItemSelected(AdapterView<?> arg0, View arg1, int position, long id) {

    Toast.makeText(getApplicationContext(), Languages[position], Toast.LENGTH_LONG).show();
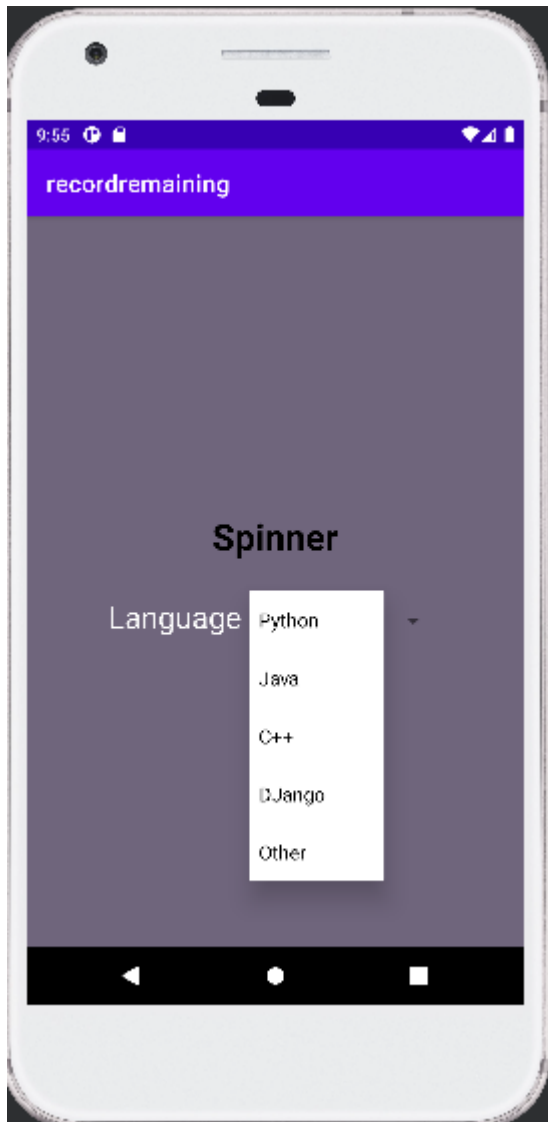
}

@Override

public void onNothingSelected(AdapterView<?> arg0) {

    // TODO Auto-generated method stub

}

}

Output

Program no: 17

Aim: Apply themes via code and manifest file

XML Code:

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

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

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:orientation="vertical"

    android:gravity="center"

    android:background="#6F657C"

    tools:context=".MainActivity">

    <EditText

        android:id="@+id/editTextTextPersonName"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:ems="10"

        android:inputType="textPersonName"

        android:text="Name"/>

</LinearLayout>
```

//colors.xml

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

```xml
<resources>

    <color name="orange">#6076F1</color>

    <color name="teal">#6076F1</color>

    <color name="blue">#00BCD4</color>

</resources>
```

//themes.xml

```xml
<resources xmlns:tools="http://schemas.android.com/tools">

    <!-- Base application theme. -->

    <style name="Theme.VaidyaKare"
parent="Theme.MaterialComponents.DayNight.DarkActionBar">


        <item name="colorPrimary">@color/black</item>

        <item name="colorPrimaryDark">@color/orange</item>

        <item name="colorAccent">@color/teal</item>

        <item name="android:textColorPrimary">@color/blue</item>

    </style>

</resources>
```

//AndroidManifest.xml

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

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

    package="com.example.vaidyakare">
```

```xml
    <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.VaidyaKare">

    <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>

    <meta-data
        android:name="preloaded_fonts"
        android:resource="@array/preloaded_fonts" />
</application></manifest>
```

Java Code:

```java
package com.example.recordremaining;

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 {

    @Override
    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

    }
}
```
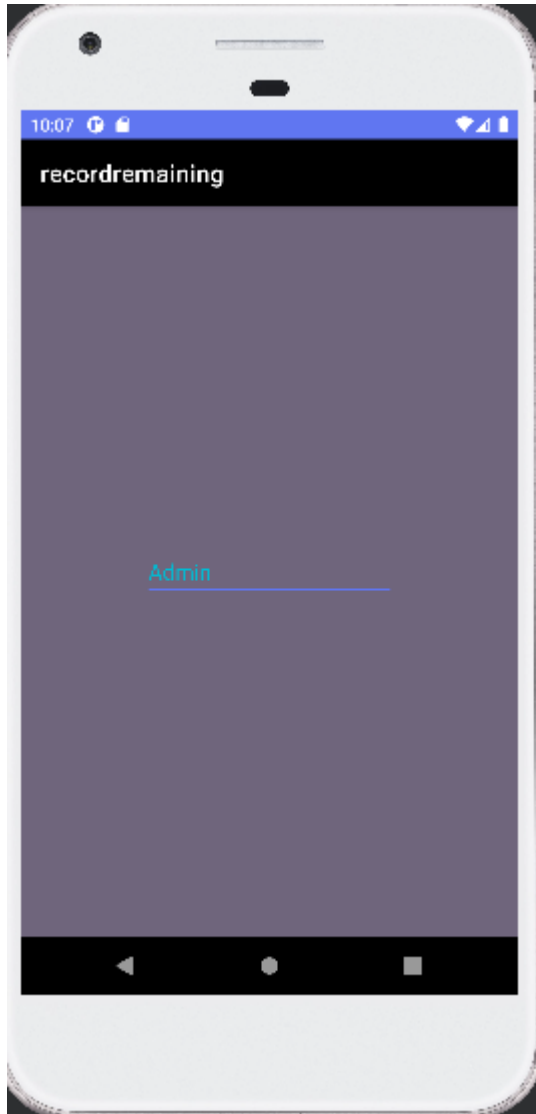
Output:

Program no: 18

Aim: Develop application using Fragments

XML Code:

Activity_main.xml

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

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

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

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

    android:layout_width="match_parent"

    android:orientation="vertical"


    android:layout_height="match_parent"

    tools:context=".MainActivity">


    <RelativeLayout

        android:layout_width="match_parent"

        android:layout_height="0dp"

        android:layout_weight="1">


        <Button

            android:id="@+id/b1"

            android:layout_width="160dp"

            android:layout_height="50dp"

            android:layout_alignParentBottom="true"
```

```
    android:layout_marginStart="30dp"

    android:layout_marginBottom="30dp"

    android:backgroundTint="#000000"

    android:text="Fragment1" />


<Button

    android:id="@+id/b2"

    android:layout_width="160dp"

    android:layout_height="50dp"

    android:layout_alignParentRight="true"

    android:layout_alignParentBottom="true"

    android:layout_marginStart="30dp"

    android:layout_marginBottom="30dp"

    android:backgroundTint="#0AFFDA"

    android:text="Fragment2" />


</RelativeLayout>


<FrameLayout

    android:id="@+id/frameLayout"

    android:layout_width="match_parent"

    android:layout_height="0dp"

    android:layout_weight="4"

    android:background="@color/teal_200"/>
```

</LinearLayout>

Fragement1.xml

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

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

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    tools:context=".fragment1">

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

    <TextView

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_centerInParent="true"

        android:background="#1959bf"

        android:text="Fragment1"

        android:textSize="50dp" />

</RelativeLayout>
```

Fragement1.xml

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

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

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

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

```
android:layout_width="match_parent"

android:layout_height="match_parent"

tools:context=".fragment2">

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

<TextView

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:layout_centerInParent="true"

    android:background="#5EBF19"

    android:text="Fragment2"

    android:textSize="50dp" />



</RelativeLayout>
```

Java code:

```java
package com.example.pg19;


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;
```

```java
import android.widget.Button;

public class MainActivity extends AppCompatActivity {

    Button b1, b2;

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

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

        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                replaceFragment(new fragment1());
            }
        });
        b2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                replaceFragment(new fragment2());
            }
```

```
        });

    }


    private void replaceFragment(Fragment fragment) {

        FragmentManager fragmentManager = getSupportFragmentManager();

        FragmentTransaction fragmentTransaction = fragmentManager.beginTransaction();

        fragmentTransaction.replace(R.id.frameLayout, fragment);

        fragmentTransaction.commit();

    }

}
```

Fragment1.java

```
package com.example.pg19;


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.activity_fragment1, container, false);

    }

}
```

Fragment2.java

```
package com.example.pg19;

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.activity_fragment2, container, false);
```
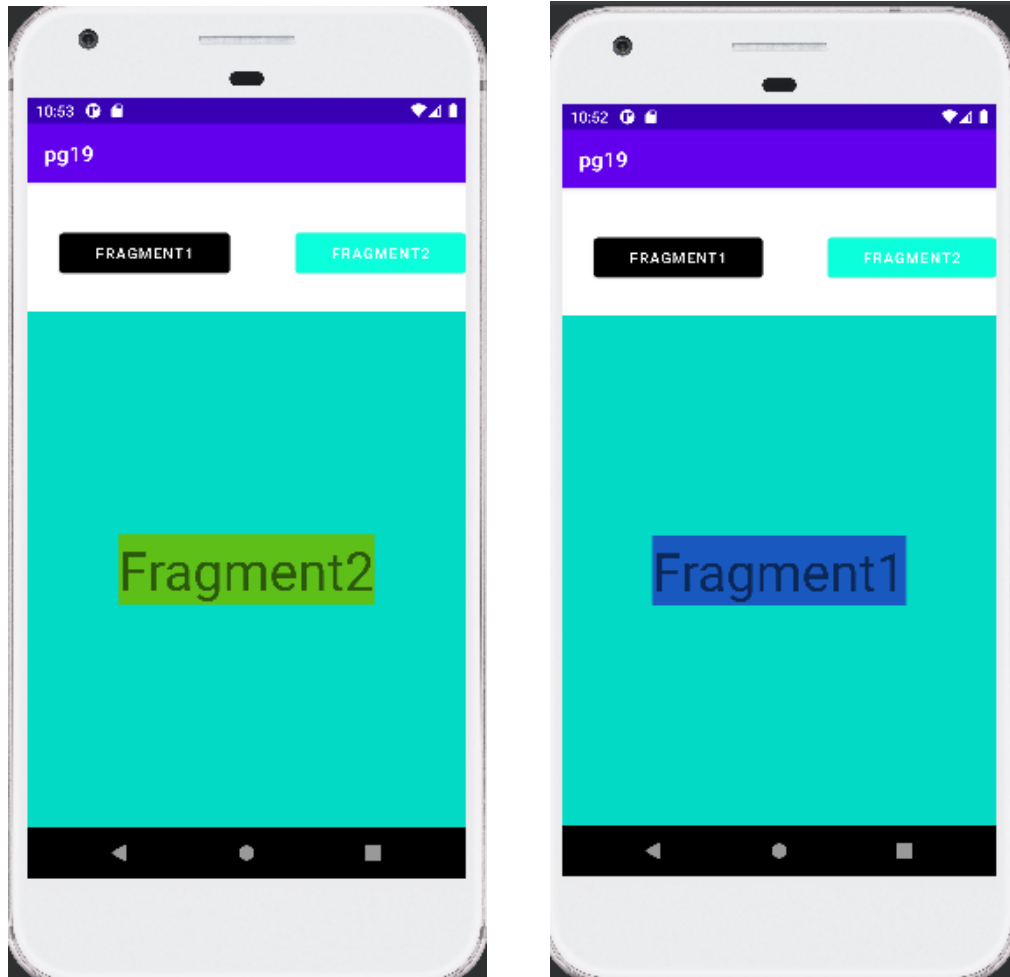
```
    }
}
```

Output

Program no: 19

Aim: Implement Navigation drawer

XML Code:

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

<androidx.drawerlayout.widget.DrawerLayout
xmlns:android="http://schemas.android.com/apk/res/android"

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

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

    android:id="@+id/drawer"

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:background="#6A6363"

    tools:context=".MainActivity">


    <LinearLayout

        android:layout_width="match_parent"

        android:layout_height="match_parent">


        <TextView

            android:layout_width="match_parent"

            android:layout_height="match_parent"

            android:text="Navigation bar"

            android:textColor="@color/white"

            android:textSize="30dp"></TextView>

    </LinearLayout>
```

```
<com.google.android.material.navigation.NavigationView

    android:id="@+id/navigation_view"

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:layout_gravity="start"

    app:menu="@menu/menu"></com.google.android.material.navigation.NavigationView>

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

menu.xml

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

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

  <item

    android:id="@+id/account"

    android:title="User Page"/>

  <item

    android:id="@+id/profile"

    android:title="Cart"/>

  <item

    android:id="@+id/logout"

    android:title="log out"/>

</menu>
```

Java Code:

```java
package com.example.program20;
```

```
import androidx.annotation.NonNull;

import androidx.annotation.NonNull;

import androidx.appcompat.app.ActionBarDrawerToggle;

import androidx.appcompat.app.AppCompatActivity;

import androidx.drawerlayout.widget.DrawerLayout;

import android.os.Bundle;

import android.view.MenuItem;

import android.widget.Toast;

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

public class MainActivity extends AppCompatActivity implements

    NavigationView.OnNavigationItemSelectedListener {

  public DrawerLayout drawerLayout;

  public ActionBarDrawerToggle actionBarDrawerToggle;

  @Override

  protected void onCreate(Bundle savedInstanceState) {

    super.onCreate(savedInstanceState);

    setContentView(R.layout.activity_main);

    drawerLayout = findViewById(R.id.drawer);

    actionBarDrawerToggle = new ActionBarDrawerToggle(this,drawerLayout,
R.string.nav_open, R.string.nav_close);

    drawerLayout.addDrawerListener(actionBarDrawerToggle);

    actionBarDrawerToggle.syncState();

    getSupportActionBar().setDisplayHomeAsUpEnabled(true);

    NavigationView navigationView = findViewById(R.id.navigation_view);

    navigationView.setNavigationItemSelectedListener(this);
```

```java
    }

    @Override

    public boolean onOptionsItemSelected(@NonNull MenuItem item) {

        if (actionBarDrawerToggle.onOptionsItemSelected(item)){

            return true;

        }

        return super.onOptionsItemSelected(item);

    }

    @Override

    public boolean onNavigationItemSelected(@NonNull MenuItem item) {

        int id=item.getItemId();

        if(id == R.id.account){

            Toast.makeText(this, "User", Toast.LENGTH_SHORT).show();

        }

        if(id == R.id.profile){

            Toast.makeText(this, "Cart",

                    Toast.LENGTH_SHORT).show();

        }

        if(id == R.id.logout){

            Toast.makeText(this, "Logout", Toast.LENGTH_SHORT).show();

        }

        return false;

    }

}
```
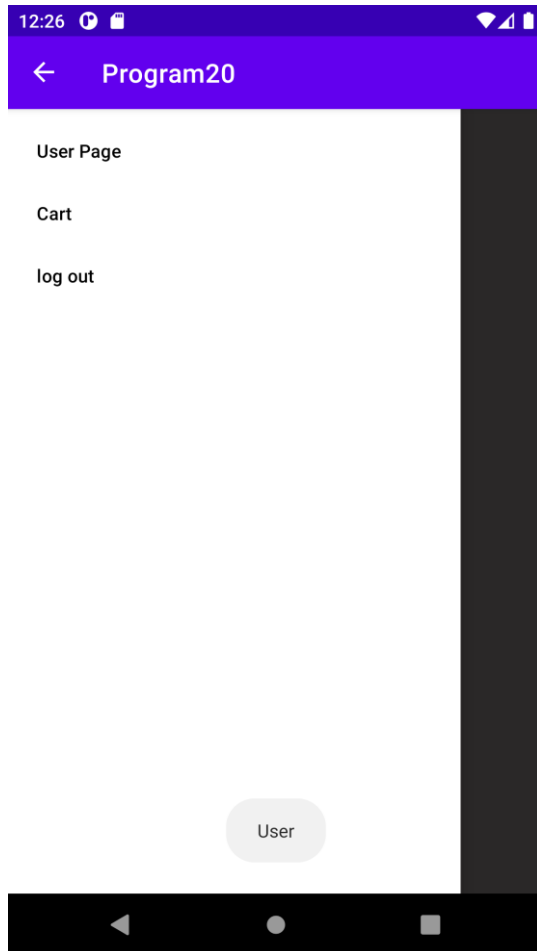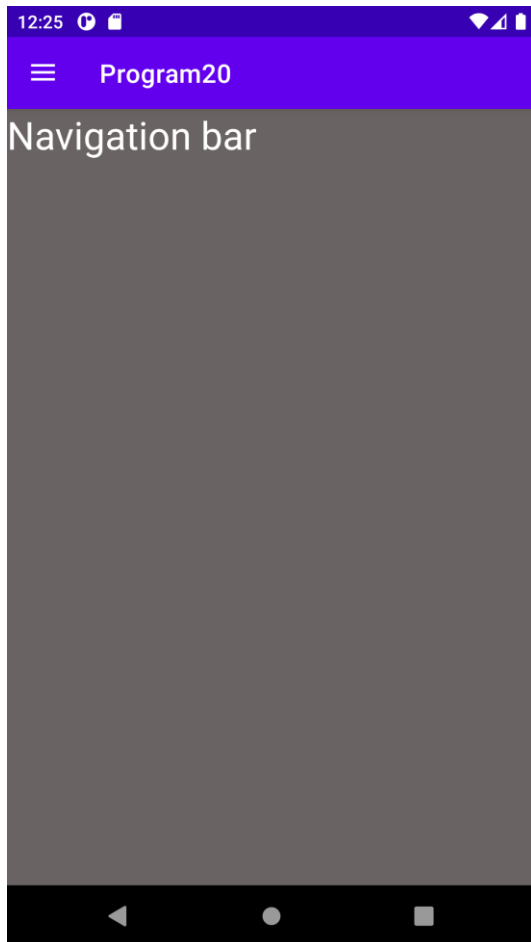
Output:

Program no: 20

Aim: Program to implement activity life cycle.

XML Code:

Activity_main.xml:

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

Java code:

MainActivity.Java:

```
package com.example.lifecycle;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;
public class MainActivity extends AppCompatActivity {
```

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

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

Output:

```
2022-02-26 12:38:19.502 13856-13856/com.example.lifecycle D/lifecycle: onRestart invoked
2022-02-26 12:38:19.504 13856-13856/com.example.lifecycle D/lifecycle: onStart invoked
2022-02-26 12:38:19.507 13856-13856/com.example.lifecycle D/lifecycle: onResume invoked
2022-02-26 12:38:22.426 13856-13856/com.example.lifecycle W/ActivityThread: SCHED: com.example.
2022-02-26 12:38:22.426 13856-13856/com.example.lifecycle D/lifecycle: onPause invoked
2022-02-26 12:38:22.467 13856-13856/com.example.lifecycle D/lifecycle: onStop invoked
2022-02-26 12:38:22.946 13856-13856/com.example.lifecycle D/lifecycle: onDestroy invoked
```
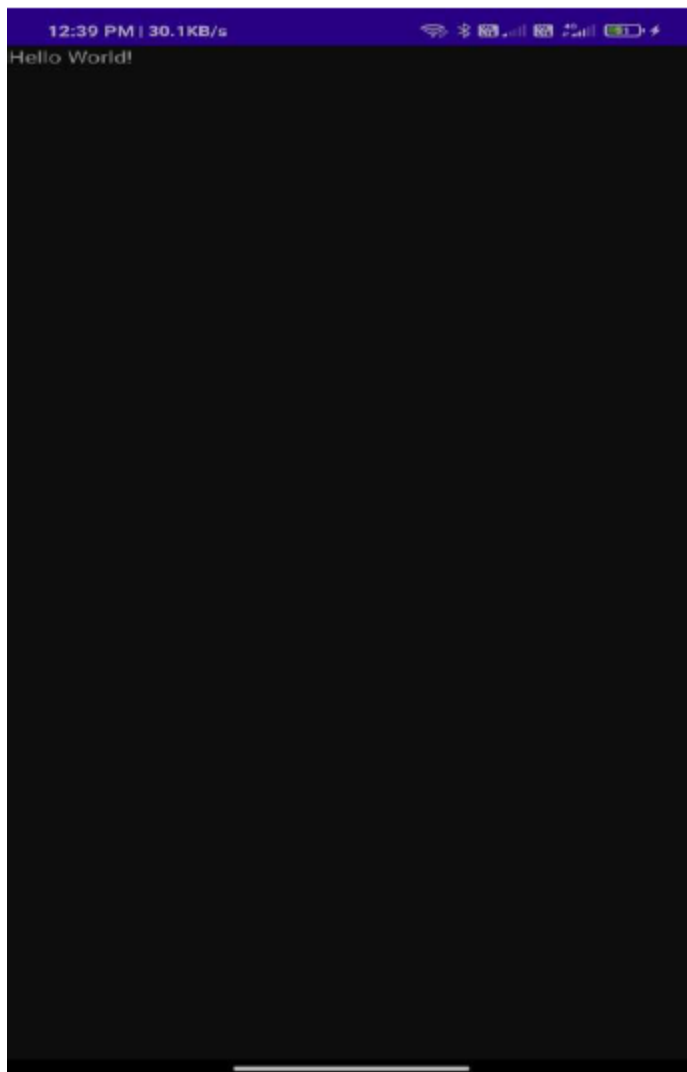
Program no: 21

Aim: Program to Perform INSERT UPDATE,DELETE and VIEW on SQLite database

XML Code:

```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:layout_gravity="center"
    android:background="#7253b0"
    android:gravity="center"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <androidx.cardview.widget.CardView
        android:layout_width="300dp"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        app:cardCornerRadius="15dp">

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

            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_gravity="center"
                android:layout_marginTop="7dp"
                android:layout_marginBottom="10dp"
                android:text="SQLite"
                android:textColor="#3F51B5"
                android:textSize="40dp"
                android:textStyle="bold" />
```

```
<EditText
    android:id="@+id/uid"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:hint="id" />

<EditText
    android:id="@+id/name"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:hint="name"/>
<EditText
    android:id="@+id/email"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:hint="amail"/>



<Button
    android:id="@+id/insert"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="20dp"
    android:text="Insert" />
<Button
    android:id="@+id/update"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="20dp"
    android:text="update" />
<Button
    android:id="@+id/delete"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
```

```xml
            android:text="delete" />
        <Button
            android:id="@+id/view"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_margin="10dp"
            android:text="view" />


    </LinearLayout>

  </androidx.cardview.widget.CardView>


</LinearLayout>
```

Java code:

```java
package com.example.adaptor;


import android.database.Cursor;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.Toast;


import androidx.appcompat.app.AlertDialog;

import androidx.appcompat.app.AppCompatActivity;


public class MainActivity extends AppCompatActivity {
```

```java
@Override
protected void onCreate(Bundle savedInstanceState) {

    super.onCreate(savedInstanceState);

    setContentView(R.layout.activity_main);

    DBHelper DB = new DBHelper(this);

    EditText name = findViewById(R.id.name);

    EditText id = findViewById(R.id.uid);

    EditText email = findViewById(R.id.email);

    Button insert = findViewById(R.id.insert);

    Button update = findViewById(R.id.update);

    Button delete = findViewById(R.id.delete);

    Button view = findViewById(R.id.view);

    insert.setOnClickListener(new View.OnClickListener() {

        @Override

        public void onClick(View v) {

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

            String idtxt = id.getText().toString();

            String emailtxt = email.getText().toString();

            Boolean checkinsertdata = DB.insertuserdata(idtxt, nametxt, emailtxt);

            if (checkinsertdata) {

                Toast.makeText(MainActivity.this, "Data inserted",
Toast.LENGTH_LONG).show();

            }

            else {
```

```
        Toast.makeText(MainActivity.this, "Nothing Happened",
Toast.LENGTH_SHORT).show();

        }

      }

    });

    update.setOnClickListener(new View.OnClickListener() {

      @Override

      public void onClick(View v) {

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

        String idtxt = id.getText().toString();

        String emailtxt = email.getText().toString();

        Boolean checkinsertdata = DB.updatedata(idtxt, nametxt, emailtxt);

        if (checkinsertdata) {

          Toast.makeText(MainActivity.this, "Data updated",
Toast.LENGTH_LONG).show();

        }

        else {

          Toast.makeText(MainActivity.this, "Nothing Happened",
Toast.LENGTH_SHORT).show();

        }

      }

    });

    delete.setOnClickListener(new View.OnClickListener() {

      @Override

      public void onClick(View v) {

        String nametxt = name.getText().toString();
```

```
        String idtxt = id.getText().toString();

        String emailtxt = email.getText().toString();

        Boolean checkinsertdata = DB.deletedata(idtxt);

        if (checkinsertdata) {

            Toast.makeText(MainActivity.this, "Data deleted",
Toast.LENGTH_LONG).show();

        }

        else {

            Toast.makeText(MainActivity.this, "Nothing Happened",
Toast.LENGTH_SHORT).show();

        }

    }

});

view.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        Cursor res = DB.getdata();

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

            Toast.makeText(MainActivity.this, "No entry Exist",
Toast.LENGTH_SHORT).show();

        } else {

            StringBuffer buffer = new StringBuffer();

            while (res.moveToNext()) {

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

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

                buffer.append("email : " + 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.adaptor;

import android.content.ContentValues;

import android.content.Context;

import android.database.Cursor;

import android.database.sqlite.SQLiteDatabase;

import android.database.sqlite.SQLiteOpenHelper;


public class DBHelper extends SQLiteOpenHelper {

  public DBHelper(Context context) {

    super(context, "Userdata.db", null, 1);

  }
```

```java
@Override

public void onCreate(SQLiteDatabase DB) {

   DB.execSQL("create Table Userdetails(id TEXT primary key,name text,email text)");



}



@Override

public void onUpgrade(SQLiteDatabase DB, int oldVersion, int newVersion) {

   DB.execSQL("DROP TABLE if exists Userdetails");



}



public Boolean insertuserdata(String id, String name, String email) {

   SQLiteDatabase DB = this.getWritableDatabase();

   ContentValues contentValues = new ContentValues();

   contentValues.put("id", id);

   contentValues.put("name", name);

   contentValues.put("email", email);

   long result = DB.insert("Userdetails", null, contentValues);

   if (result == -1) {

      return false;

   } else {

      return true;

   }
```

```
    }


    public Boolean updatedata(String id, String name, String email) {

        SQLiteDatabase DB = this.getWritableDatabase();

        ContentValues contentValues = new ContentValues();

        contentValues.put("name", name);

        contentValues.put("email", email);

        Cursor cursor = DB.rawQuery("select * from Userdetails where id=?", new String[]{id});

        if (cursor.getCount() > 0) {

            long result = DB.update("Userdetails", contentValues, "id=?", new String[]{id});

            if (result == -1) {

                return false;

            } else {

                return true;

            }


        } else{

            return false;}


    }


    public Boolean deletedata(String id) {

        SQLiteDatabase DB = this.getWritableDatabase();

        Cursor cursor = DB.rawQuery("Select * from Userdetails where id=?", new String[]{id});
```

```
if (cursor.getCount() > 0) {

    long result = DB.delete("Userdetails", "id=?", new String[]{id});

    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: