

20MCA243 MOBILE APPLICATION DEVELOPMENT LAB

Lab Report Submitted By

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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 **ADARSH S (Reg.No:AJC20MCA-2003)** in partial fulfillment of the requirements for the award of the Degree of Master of Computer Applications under APJ Abdul Kalam Technological University during the year 2021-22.

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CONTENT

S.No	Content	Date	Page No:
1	Program to develop the android mobile application which consist of GUI components for Login Page creation.	25/11/2021	1
2	Program to display the content of EditText in TextView on button click.	21/12/2021	7
3	Program to design a Login Form with username and password using LinearLayout and toast valid credentials	21/12/2021	11
4	Program to implementing basic arithmetic operations of a simple calculator	21/12/2021	17
5	Program to implement validations on various UI controls	09/01/2022	26
6	Program to design a registration activity and store registration details in local memory of phone using Intents and SharedPreferences	16/01/2022	35
7	Program to design a simple Calculator using GridLayout and Cascaded LinearLayout	16/01/2022	46
8	Program to create a Facebook page using RelativeLayout; set properties using .xml file	16/01/2022	56
9	Program to develop an application that toggles image using FrameLayout	16/01/2022	61
10	Program to implement Adapters and perform exception handling	06/01/2022	65
11	Program to implement Intent to navigate between multiple activities (Explicit Intent)	06/01/2022	68
12	Program to develop an application that works with Implicit intents	17/02/2022	73
13	Program to implement Options Menu to navigate to activities	17/02/2022	76
14	Program to develop an application that uses ArrayAdapter with ListView	17/02/2022	80
15	Program to develop an application that use GridView with images and display Alert box on selection	17/02/2022	84
16	Program to develop an application that implements Spinner component and perform event handling	17/02/2022	93
17	Program to apply themes via code from manifest file	17/02/2022	98
18	Program to develop application using Fragments	24/02/2022	103
19	Program to implement Navigation drawer	24/02/2022	112

20	Program to implement activity life cycle		
21	Program to implement various SQLite operations : (INSERT, UPDATE ,DELETE ,SELECT)	24/02/2022	

Program no: 01

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

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="@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:

```

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

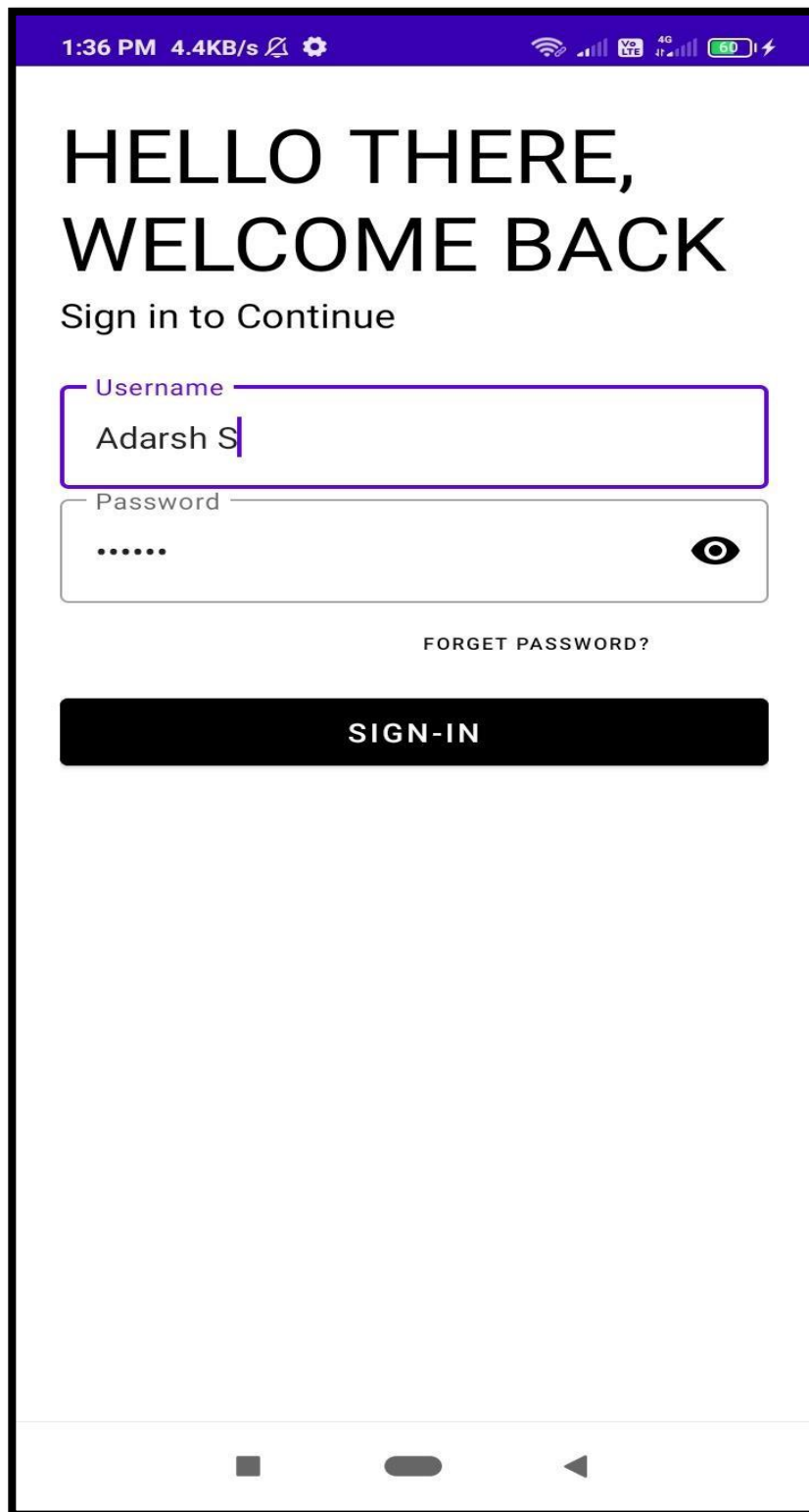
        public void onClick(View v) { Toast.makeText(MainActivity.this,

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

        }

    });
}
}

```

Output:

A mobile application login screen mockup. The top status bar is purple and displays '1:36 PM', '4.4KB/s', a bell icon, a gear icon, signal strength bars, 'Vo LTE', '4G', and a battery icon. The main content area has a white background with the text 'HELLO THERE, WELCOME BACK' in large black font, followed by 'Sign in to Continue' in a smaller black font. Below this are two input fields: 'Username' with the text 'Adarsh S' and a purple border, and 'Password' with masked dots and a toggle eye icon. A 'FORGET PASSWORD?' link is centered below the password field. A large black 'SIGN-IN' button is at the bottom of the form area. The bottom of the screen shows a white bar with three Android navigation icons.

1:36 PM 4.4KB/s

HELLO THERE, WELCOME BACK

Sign in to Continue

Username

Adarsh S

Password

.....

FORGET PASSWORD?

SIGN-IN

Program no: 02

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

XML Code:

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

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity" android: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:

```

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" />

```

```

<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

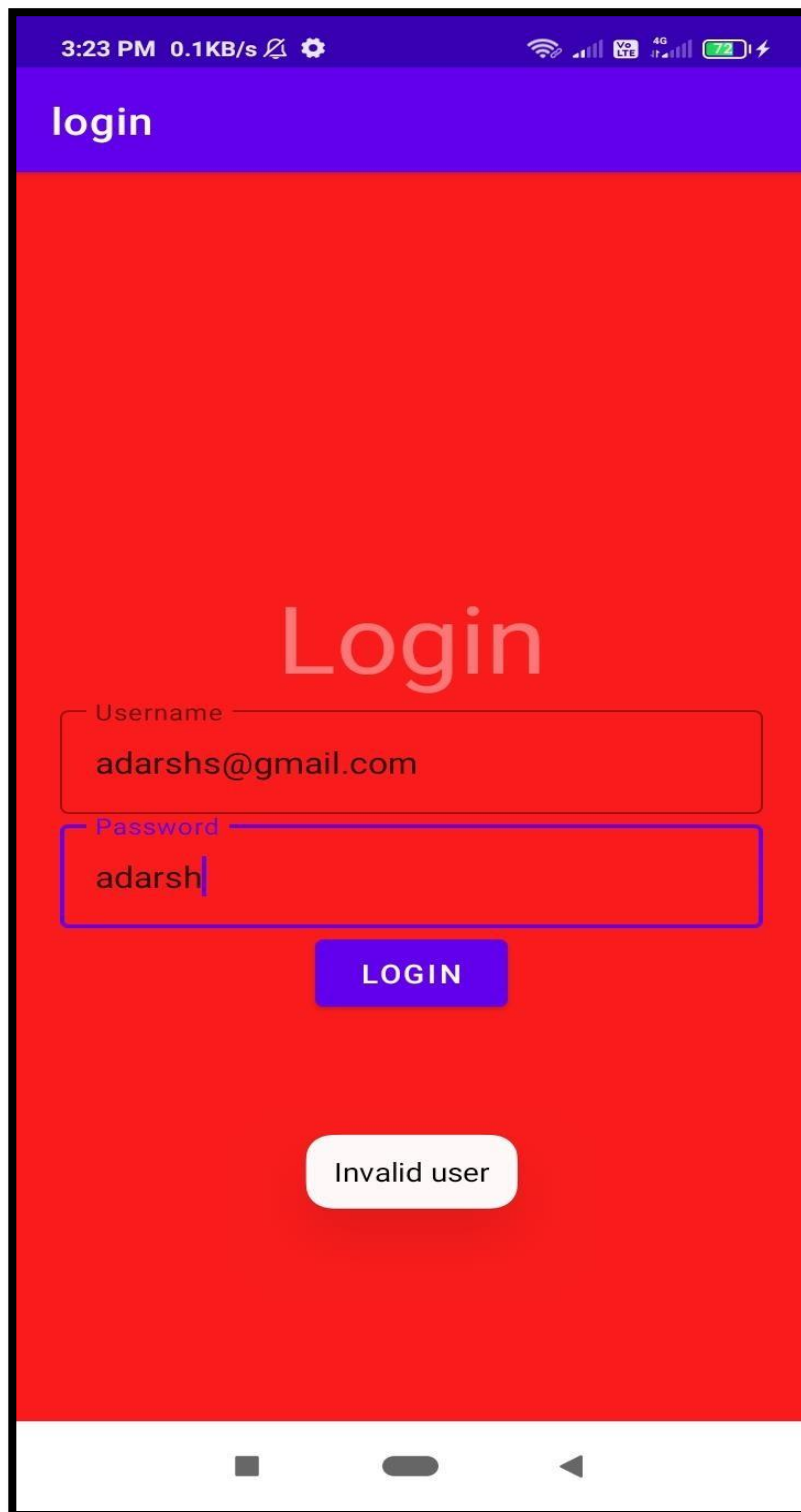
    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState); setContentView(R.layout.activity_main);
    }
}

```

```
EditText username =findViewById(R.id.username); Button b1
=findViewByIdById(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 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" />
```

```
    <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:

```

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(),"EnterNumbers",
            Toast.LENGTH_SHORT).show();

        }
    }
}

```

```

else
{
    double a = Double.parseDouble(no1.getText().toString()); double
b = Double.parseDouble(no2.getText().toString());ans = a + b;
        }
    }
});
sub.setOnClickListener(new View.OnClickListener()
{
    @Override public void onClick(View v)
    {
        String num1 = no1.getText().toString();
        String num2 = no2.getText().toString(); if
        (num1.isEmpty() || num2.isEmpty())

        {
            Toast.makeText(getApplicationContext(), "Enter Numbers",
            Toast.LENGTH_SHORT).show(); }
        Else
        {
            double a = Double.parseDouble(no1.getText().toString()); double
b = Double.parseDouble(no2.getText().toString());ans = a - b;
                }
    }
}

```

```

    }

    });

    mul.setOnClickListener(new View.OnClickListener()
    {

        @Override public void onClick(View v) {String
        num1 = no1.getText().toString();
        String num2 = no2.getText().toString();if
        (num1.isEmpty() || num2.isEmpty())
        {

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

        Else
        {

            double a = Double.parseDouble(no1.getText().toString()); double
            b = Double.parseDouble(no2.getText().toString());ans = a * b;
            }

        }

    });

    div.setOnClickListener(new View.OnClickListener()
    {

        @Override public void onClick(View v) {

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

```

```

num2 = no2.getText().toString(); if
(num1.isEmpty() || num2.isEmpty())
{
    Toast.makeText(getApplicationContext(), "Enter Numbers",
    Toast.LENGTH_SHORT).show();
}
else
{
    double a = Double.parseDouble(no1.getText().toString()); double
    b = Double.parseDouble(no2.getText().toString()); if (b != 0){
ans = a / b;

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

        }

    }

});

equal.setOnClickListener(new View.OnClickListener()

{ @Override public void onClick(View v) {
String ans1 = String.valueOf(ans);
answer.setText(ans1); ans = 0;

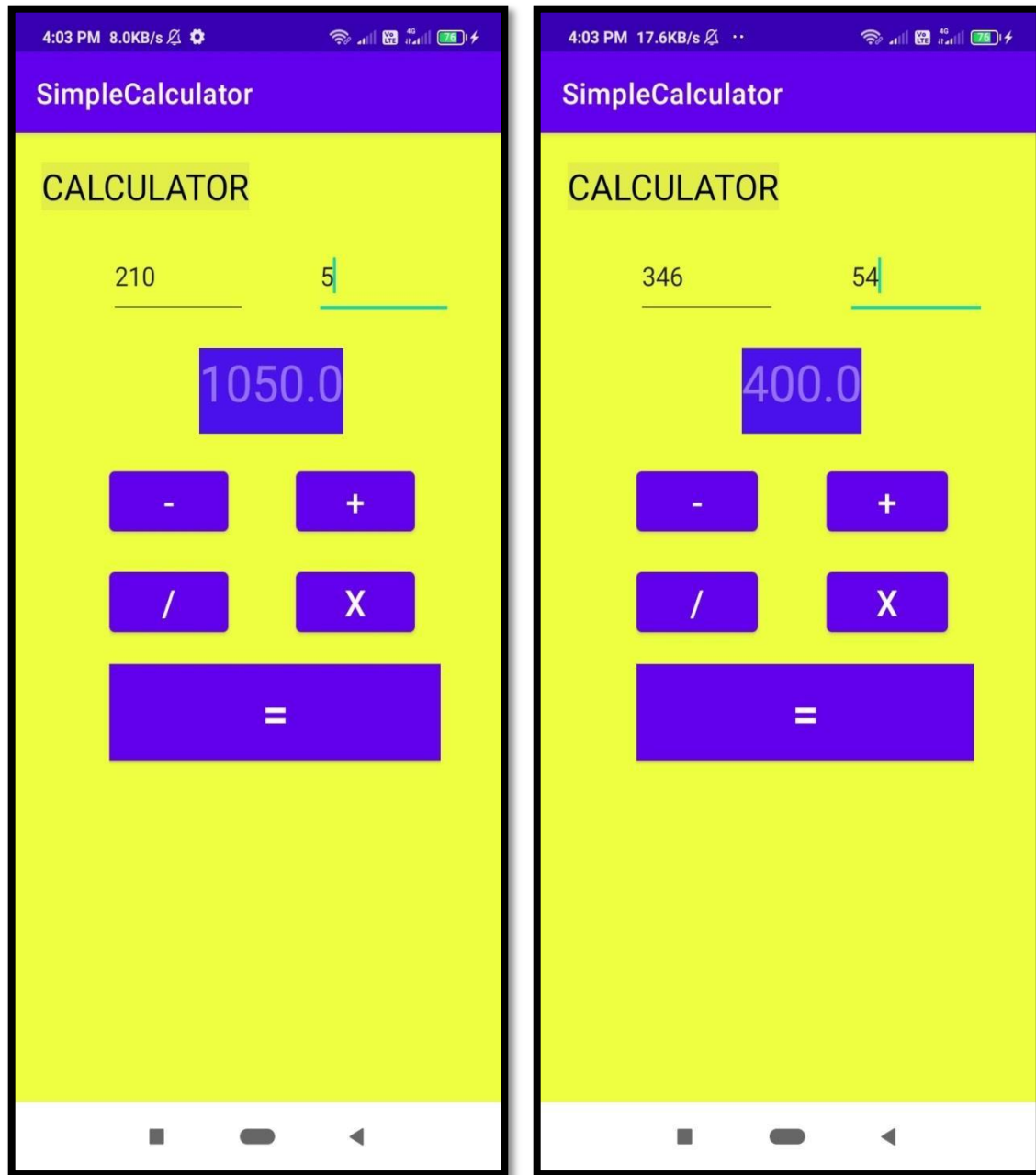
    }

});

}
}

```

Output



Program no: 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/andro
```

```
id" 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_pare
```

```
nt"
```

```
    android:layout_height="wrap_conte
```

```
nt"
```

```
    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.Borderl

ess" 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/bla

```
ck" android:text="PROCEED"
```

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

```
ite" tools:ignore="ButtonStyle" />
```

```
</LinearLayout>
```

```
</LinearLayout>
```

Java Code:

```
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

4:23 PM 2.0KB/s

UiControl

First Name

Last Name

Email

Password

PROCEED

This field is required

The screenshot shows a mobile application interface with a purple header labeled 'UiControl'. Below the header are four text input fields: 'First Name', 'Last Name', 'Email', and 'Password'. The 'First Name' field is highlighted with a red underline and a red exclamation mark icon. A black tooltip with the text 'This field is required' is positioned over the 'First Name' field. At the bottom right, there is a black button labeled 'PROCEED'.

4:24 PM 51.8KB/s

UiControl

Adarsh

S

Email

Password

PROCEED

Email is required

The screenshot shows the same mobile application interface. The 'First Name' field now contains the text 'Adarsh' and the 'Last Name' field contains the text 'S'. The 'Email' field is highlighted with a red underline and a red exclamation mark icon. A black tooltip with the text 'Email is required' is positioned over the 'Email' field. At the bottom right, there is a black button labeled 'PROCEED'.

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 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/ieemail"
    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 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="SharedPreferences 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**

```
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",

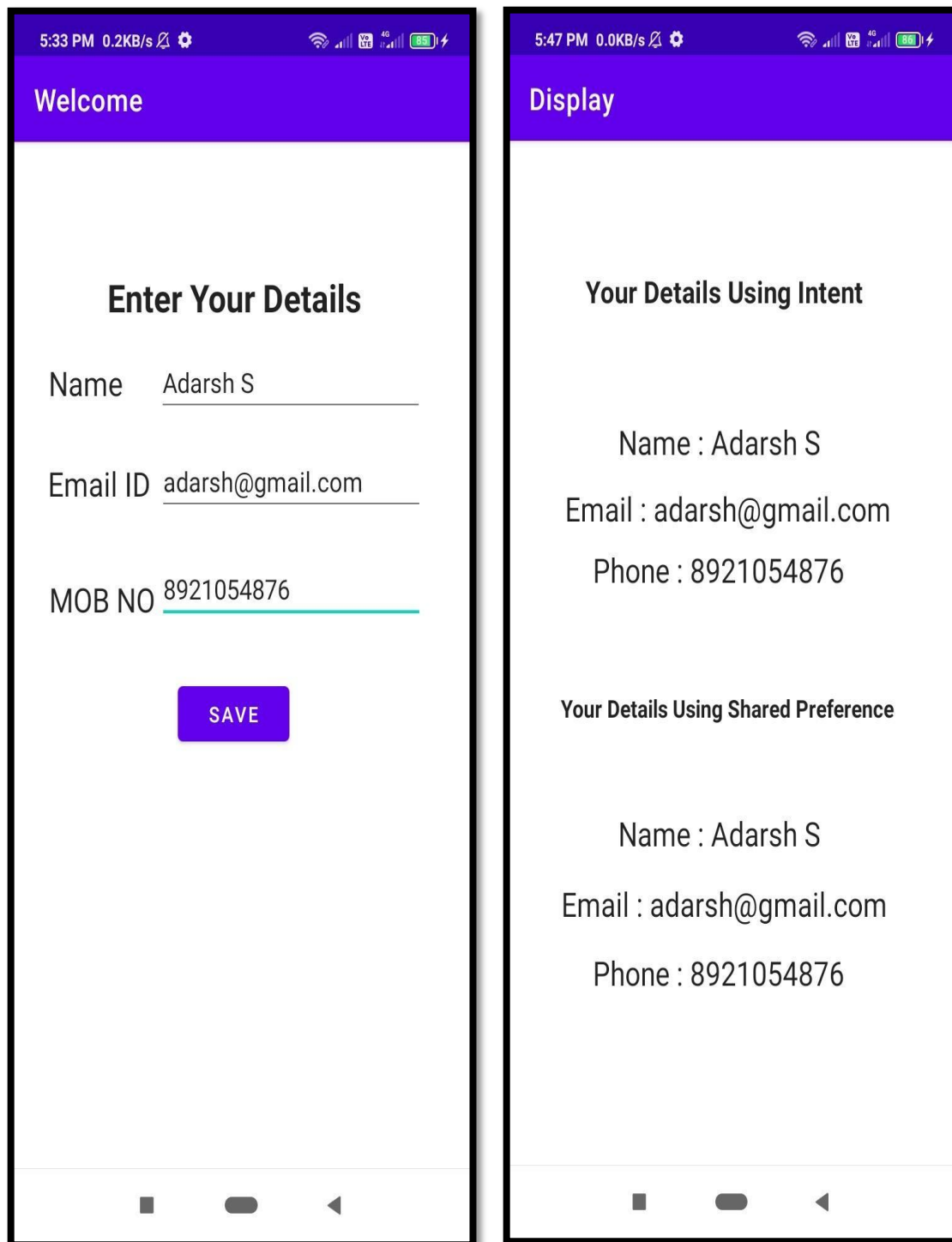
        MODE_PRIVATE);

        String Name = sharedPreferences.getString("name", ""); String
        Email      =      sharedPreferences.getString("email",      "");
        soname.setText(Name);
        soemail.setText(Email);

    }

}

```


Output:

Program no: 07

Aim: Program to 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" />
<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

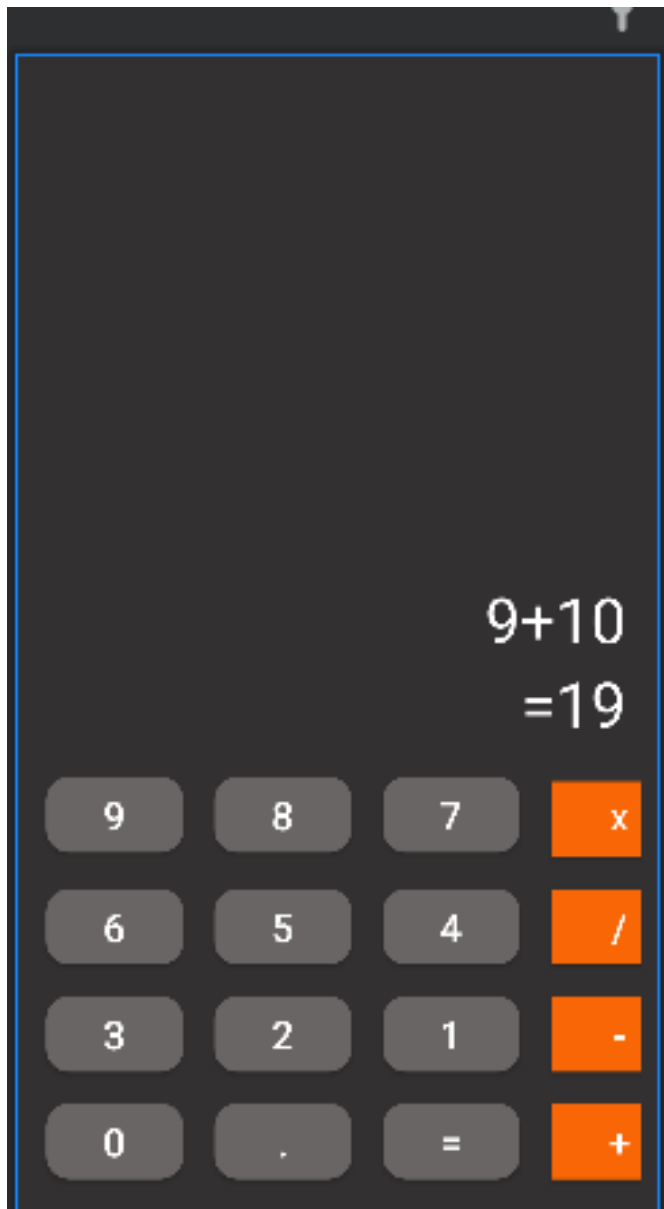
    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState); setContentView(R.layout.activity_main);

    }

}
```

Output



Program no: 08**Aim:**

Create a Facebook page using RelativeLayout; set properties using .xmlfile

XML Code:

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

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent" android:layout_height="match_parent"
    android:background="@color/white" tools:context=".MainActivity">

    <LinearLayout android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:background="#29487D"
        android:gravity="center|top"
        android:orientation="vertical">

        <LinearLayout android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginTop="70dp"
            android:layout_marginBottom="100dp"
            android:orientation="vertical">

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

```

    android:fontFamily="@font/fb"
    android:text="facebook" android:textSize="36dp"
    android:padding="10dp"
    android:textColor="@color/white" />

```

```

</LinearLayout>

```

```

<LinearLayout android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:padding="15dp" android:orientation="vertical"
    android:layout_margin="20dp">
    <EditText android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Email or Phone"
        android:layout_marginBottom="30dp"
        android:textColorHint="#594F4F"
        android:background="@drawable/bg_box"/>

```

```

    <EditText android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginBottom="30dp"
        android:background="@drawable/bg_box"
        android:hint="password"
        android:textColorHint="#594F4F"/>

```

```

<Button android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Log In"
    android:background="@color/design_default_color_primary"
    android:textAllCaps="false"/>

</LinearLayout>

<LinearLayout android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:layout_marginTop="180dp"
    android:layout_gravity="bottom"
    android:gravity="center">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:gravity="end" android:textStyle="bold"
        android:textColor="@color/white"
        android:layout_marginRight="75dp"
        android:layout_weight="50" android:text="SignUp
        for Facebook"/>

    <TextView android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:gravity="end"

```

```

        android:textColor="@color/white"
        android:layout_marginEnd="50dp"
        android:layout_weight="1"
        android:textStyle="bold" android:text="?"/>
</LinearLayout>

```

```

</LinearLayout>

```

```

</LinearLayout>

```

Java code:

```

package com.example.facebook;

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

public class MainActivity extends AppCompatActivity {

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

```

Output



Program no: 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/teal_700"
    tools:context=".MainActivity">

    <ImageView
        android:id="@+id/image2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:src="@drawable/image2" android:visibility="gone"/>

    <ImageView
        android:id="@+id/image1"
        android:layout_width="wrap_content" android:layout_height="wrap_content"
        android:layout_gravity="center" android:src="@drawable/image1"/>

</FrameLayout>
```

Java code:

```
package com.example.frame_layout;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity implements
View.OnClickListener {

    ImageView img1,img2;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState); setContentView(R.layout.activity_main);

        img1 =findViewById(R.id.image1);
        img2 =findViewById(R.id.image2);
        img1.setOnClickListener(this);
        img2.setOnClickListener(this);

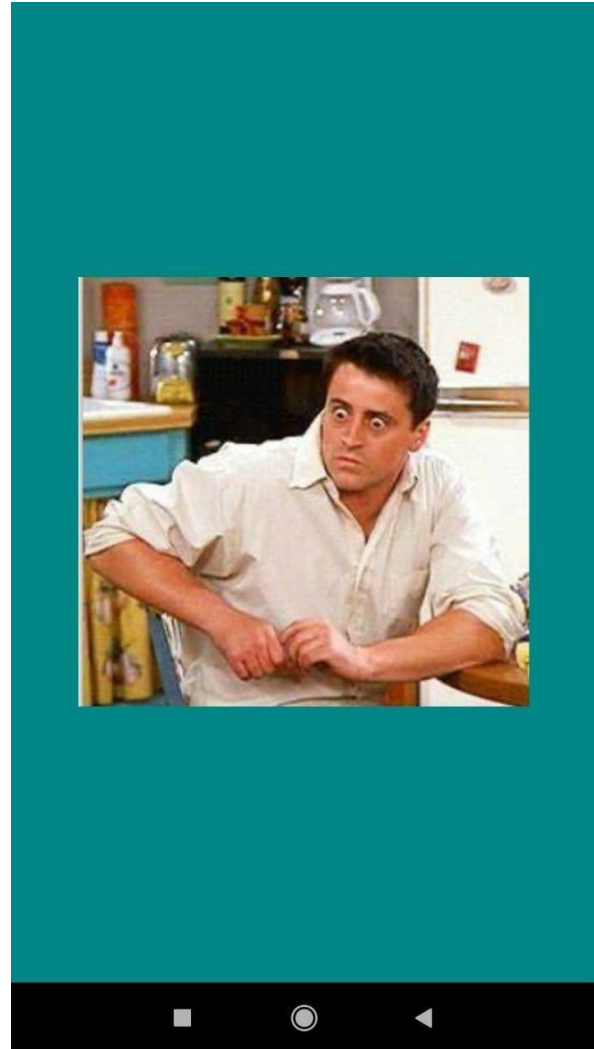
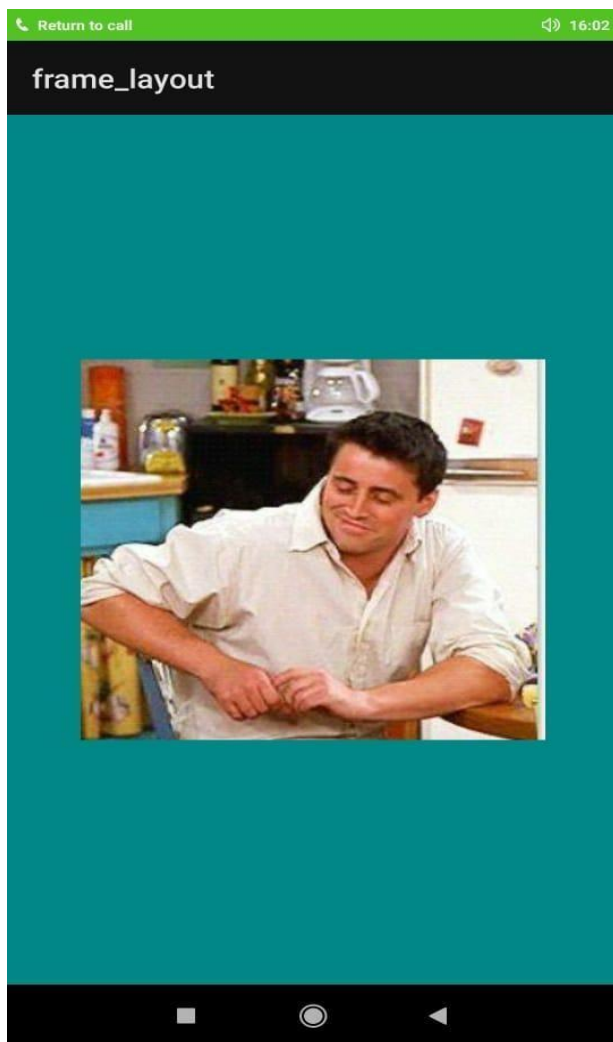
    }

    public void onClick(View v)

    {

        int id=v.getId();
```

```
switch (id){  
    case R.id.image1:  
        img1.setVisibility(View.GONE);  
        img2.setVisibility(View.VISIBLE);  
        break;  
    case R.id.image2:  
        img1.setVisibility(View.VISIBLE);  
        img2.setVisibility(View.GONE); break;  
}  
  
}  
  
}
```

Output:

Program no: 10**Aim:**

Implement Adapters and perform exception handling

XML Code:

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

<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.exception;

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:**Activity_main.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**

```

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); 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

```

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;

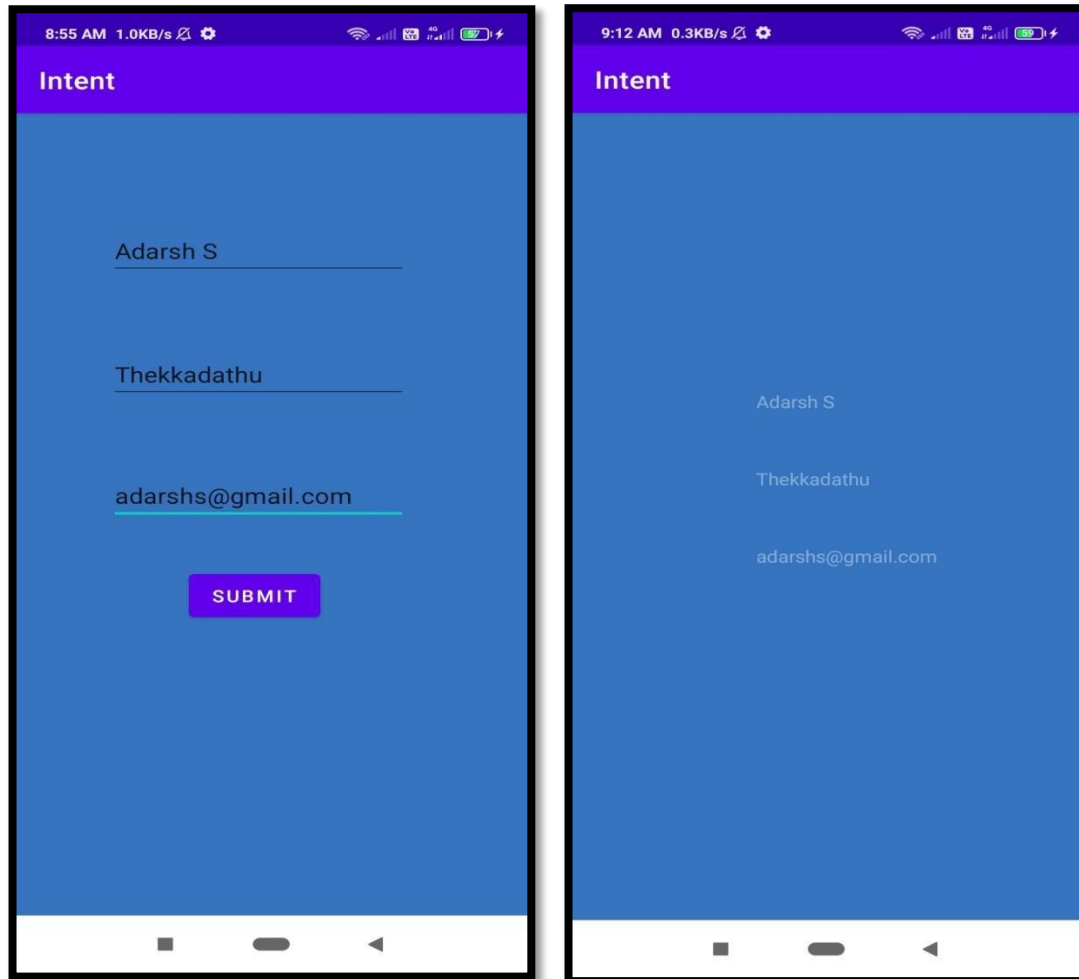
public class MainActivity2 extends AppCompatActivity {

    @Override

    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 implicit intents

XML Code:

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

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

</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) {

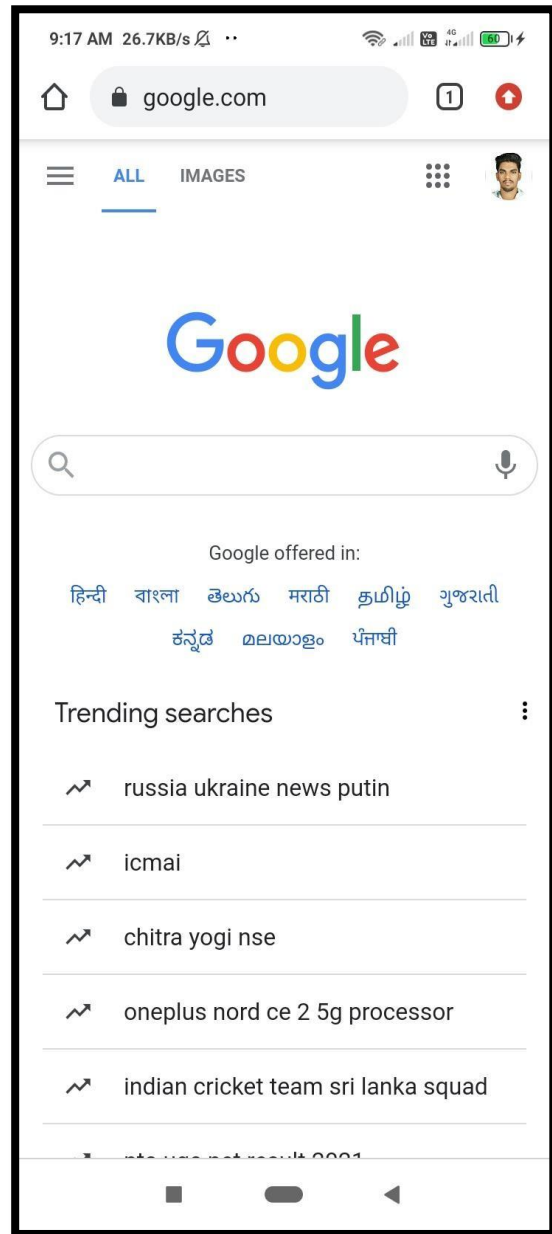
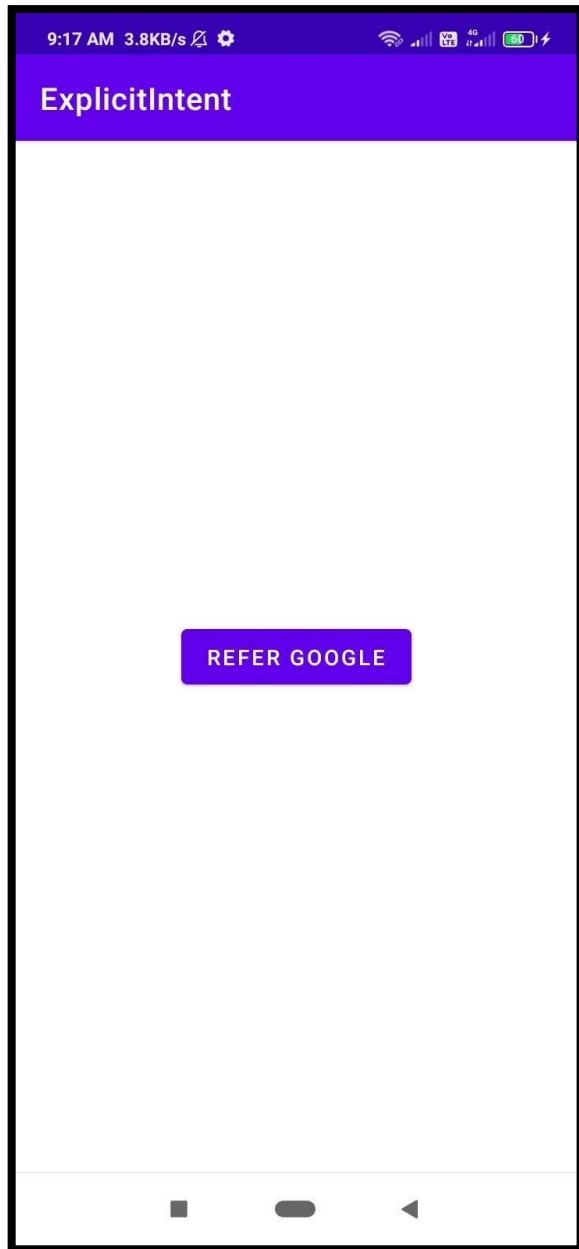
                Intent i1=new Intent(Intent.ACTION_VIEW,
                Uri.parse("https://www.google.com/"));

                startActivity(i1);

            }

        });
    }
}

```

Output:

Program no: 13**Aim:** Implement Options Menu to navigate to activities**XML Code:**

```

<?xml 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 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);
    }

    @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:

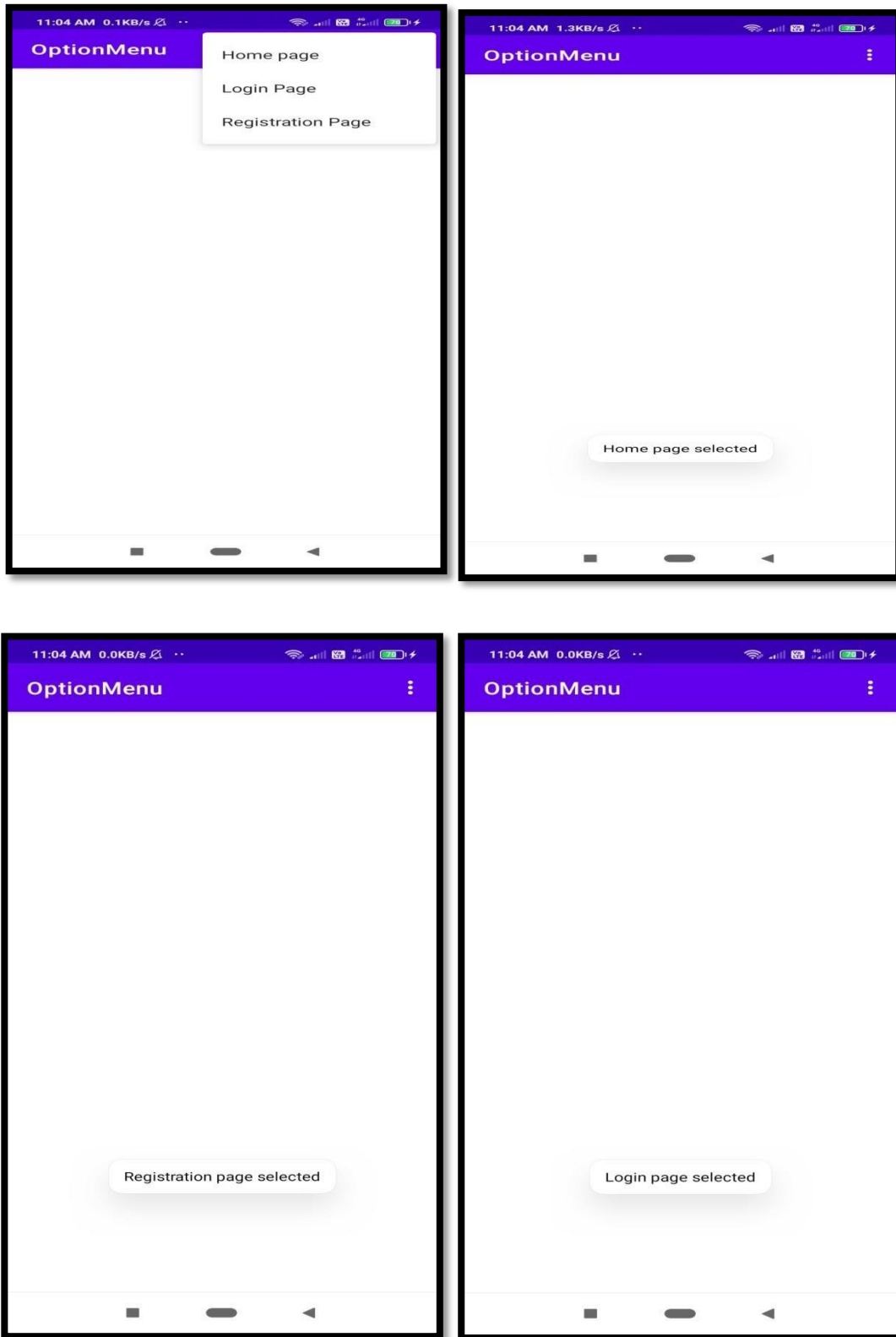
            Toast.makeText(this, "Registration page selected",
Toast.LENGTH_SHORT).show();

            break;

    }

    return super.onOptionsItemSelected(item);

}
```

Output:

Program no: 14

Aim: Develop an application that uses ArrayAdapter with ListView

XML Code:

```
<?xml 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:

```
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.AdapterView;
import android.widget.AdapterView.OnItemClickListener;
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,
```

```
    android.support.design.widget.support_simple_spinner_dropdown_item, days);
```

```
    l.setAdapter(adapter); l.setOnItemClickListener(this);
```

```
}
```

```
@Override
```

```
public void onItemClick(AdapterView<?> adapterView, View view, int i, long l)
```

```
{
```

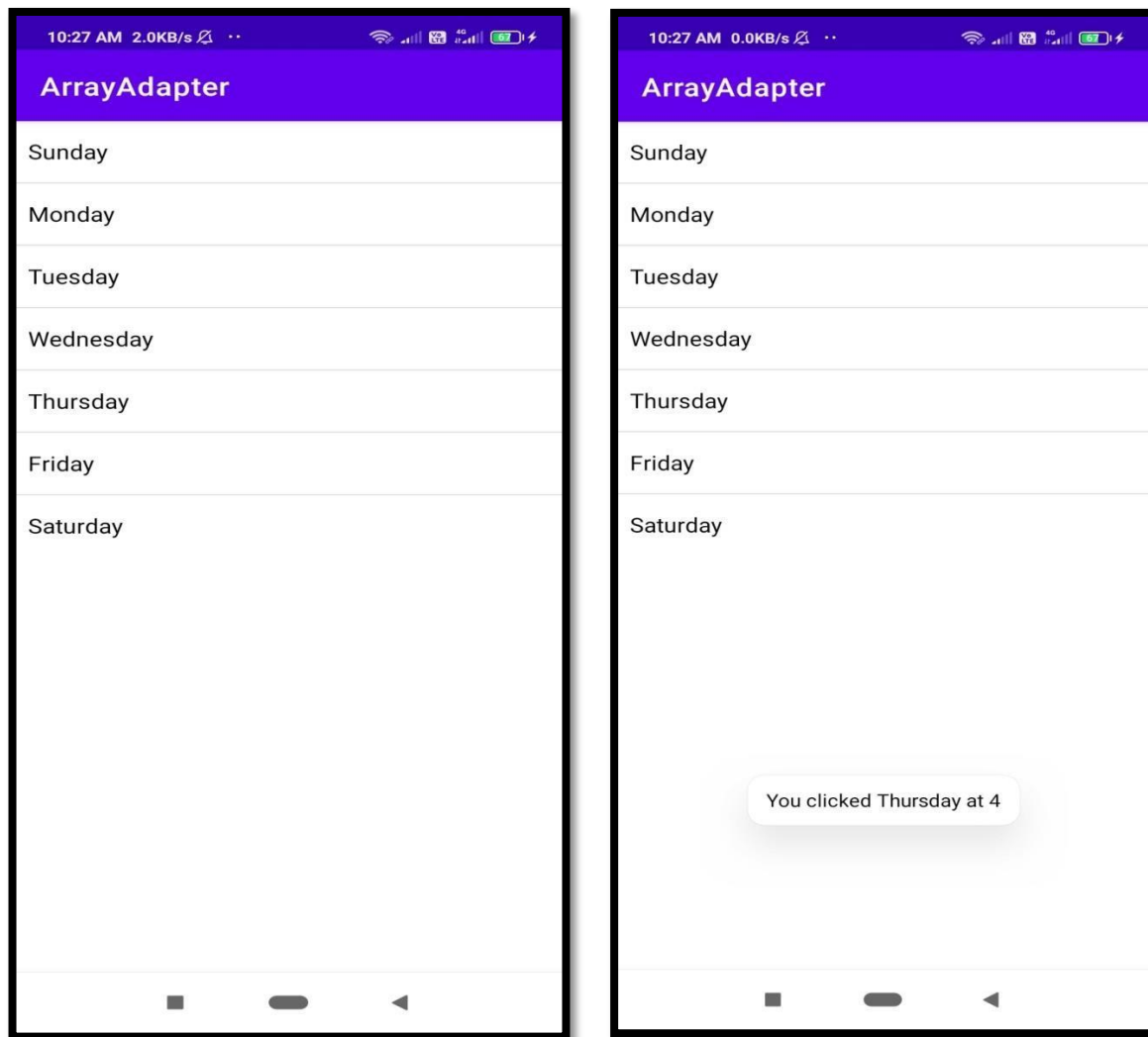
```
    TextView temp = (TextView) view;
```

```
    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:

```
<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" >

    <GridView
        android:numColumns="auto_fit"
        android:gravity="center"
        android:columnWidth="100dp"
        android:stretchMode="columnWidth"
        android:layout_width="fill_parent"
        android:layout_height="fill_parent"
        android:id="@+id/grid"

        />

</LinearLayout>
```



```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:padding="5dp" >
```

```
<ImageView
    android:id="@+id/grid_image"
    android:layout_width="50dp"
    android:layout_height="50dp">
```

```
</ImageView>
```

```
<TextView
    android:id="@+id/grid_text"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="15dp"
    android:textSize="9sp" >
```

```
</TextView>
```

```
</LinearLayout>
```

Java Code:

```
package com.example.gridview_image_text_example;

import android.content.Context;

import android.view.LayoutInflater;

import android.view.View;

import android.view.ViewGroup;

import android.widget.BaseAdapter;

import android.widget.ImageView;

import android.widget.TextView;

public class CustomGrid extends BaseAdapter{

    private Context mContext;

    private final String[] web;

    private final int[] Imageid;

    public CustomGrid(Context c,String[] web,int[] Imageid ) {

        mContext = c;

        this.Imageid = Imageid;

        this.web = web;

    }
```

@Override

```
public int getCount() {  
    // TODO Auto-generated method stub  
    return web.length;  
}
```

@Override

```
public Object getItem(int position) {  
    // TODO Auto-generated method stub  
    return null;  
}
```

@Override

```
public long getItemId(int position) {  
    // TODO Auto-generated method stub  
    return 0;  
}
```

@Override

```
public View getView(int position, View convertView, ViewGroup parent) {  
    // TODO Auto-generated method stub
```

```

View grid;

LayoutInflater inflater = (LayoutInflater) mContext
    .getSystemService(Context.LAYOUT_INFLATER_SERVICE);

if (convertView == null) {

    grid = new View(mContext);

    grid = inflater.inflate(R.layout.grid_single, null);

    TextView textView = (TextView) grid.findViewById(R.id.grid_text);

    ImageView imageView = (ImageView) grid.findViewById(R.id.grid_image);

    textView.setText(web[position]);

    imageView.setImageResource(Imageid[position]);

} else {

    grid = (View) convertView;

}

return grid;

}

}

package com.example.gridview_image_text_example;

```

```
import android.os.Bundle;

import android.app.Activity;

import android.view.View;

import android.widget.AdapterView;

import android.widget.GridView;

import android.widget.Toast;


public class MainActivity extends Activity {

    GridView grid;

    String[] web = {

        "Google",

        "Github",

        "Instagram",

        "Facebook",

        "Twitter",

        "WordPress",

        "Youtube",

        "Whatsapp",

        "Blogger"

    };
};
```

```
int[] imageId = {  
    R.drawable.image1,  
    R.drawable.image2,  
    R.drawable.image3,  
    R.drawable.image4,  
    R.drawable.image5,  
    R.drawable.image6,  
    R.drawable.image7,  
    R.drawable.image8,  
    R.drawable.image9,  
  
};
```

@Override

```
protected void onCreate(Bundle savedInstanceState) {  
    super.onCreate(savedInstanceState);  
    setContentView(R.layout.activity_main);  
  
    CustomGrid adapter = new CustomGrid(MainActivity.this, web, imageId);  
    grid=(GridView)findViewById(R.id.grid);
```

```
grid.setAdapter(adapter);

grid.setOnItemClickListener(new AdapterView.OnItemClickListener() {

    @Override

    public void onItemClick(AdapterView<?> parent, View view,

        int position, long id) {

        Toast.makeText(MainActivity.this, "You Clicked at " +web[+ position],

Toast.LENGTH_SHORT).show();

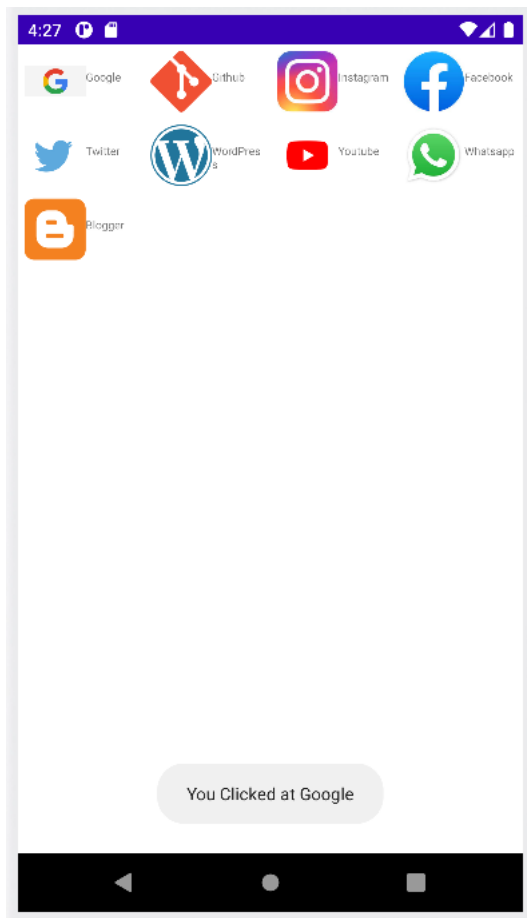
    }

});

}

}
```

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_height="50dp"

        android:layout_width="160dp"

        android:layout_marginEnd="10dp"

        android:layout_marginStart="10dp"

        android:layout_marginBottom="10dp"
```

```

        android:layout_marginTop="10dp"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"/>

</androidx.constraintlayout.widget.ConstraintLayout>

```

Java Code:

```

package com.example.spinner;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.AdapterView;

import android.widget.AdapterView.OnItemClickListener;

import android.widget.ArrayAdapter;

import android.widget.Spinner;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity implements
    AdapterView.OnItemClickListener {

    String[] country = { "India", "USA", "China", "Japan", "Other"};

    @Override

    protected void onCreate(Bundle savedInstanceState) {

```

```

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);

//Getting the instance of Spinner and applying OnItemSelectedListener on it
Spinner spin = (Spinner) findViewById(R.id.spinner);

spin.setOnItemSelectedListener(this);


//Creating the ArrayAdapter instance having the country list

ArrayAdapter aa = new

ArrayAdapter(this,android.R.layout.simple_spinner_item,country);

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

//Setting the ArrayAdapter data on the Spinner

spin.setAdapter(aa);

}


//Performing action onItemSelected and onNothing selected

@Override

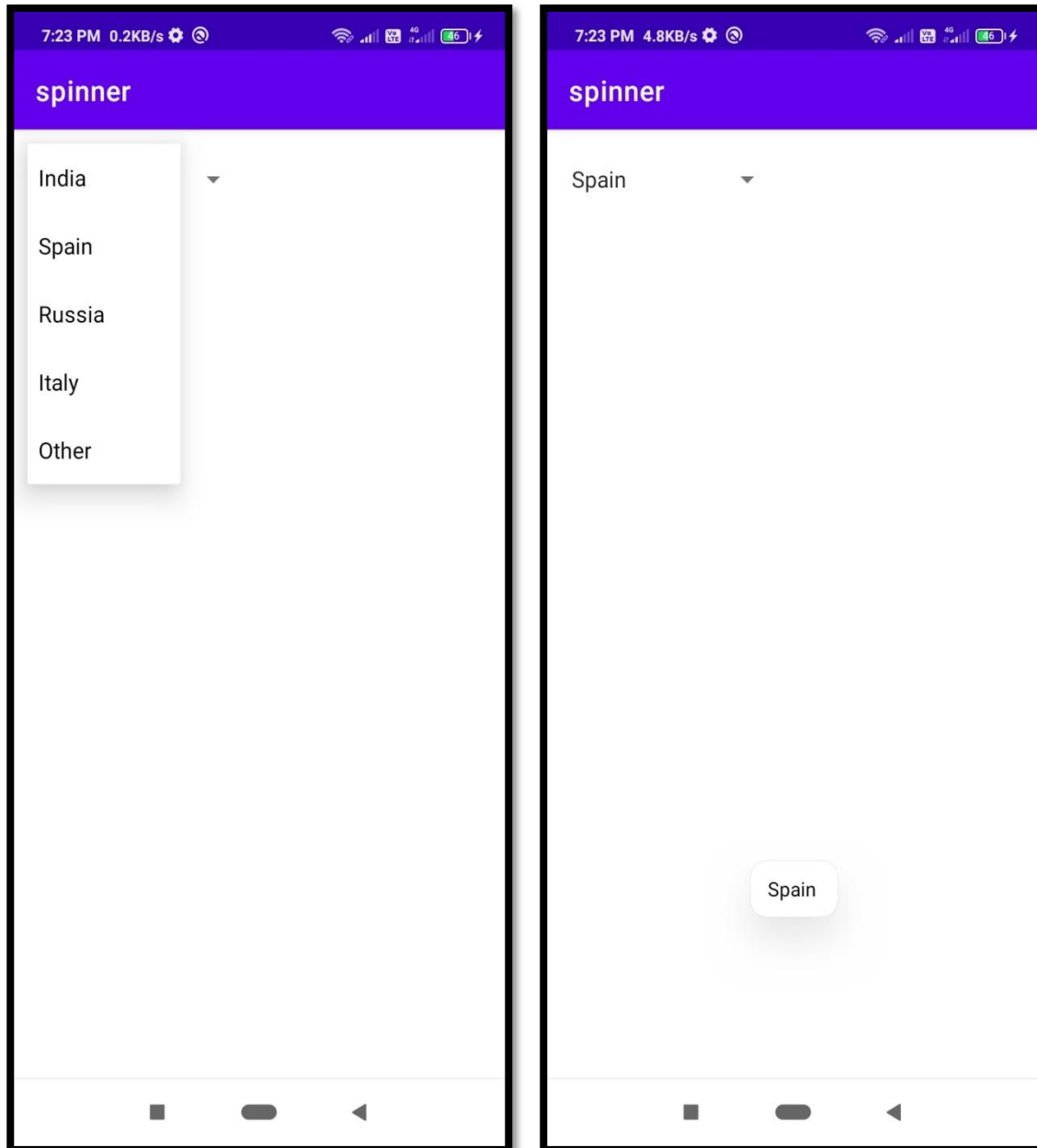
public void onItemSelected(AdapterView<?> arg0, View arg1, int position, long

id) {

    Toast.makeText(getApplicationContext(),country[position] ,

```

```
Toast.LENGTH_LONG).show();  
  
}  
  
@Override  
  
public void onNothingSelected(AdapterView<?> arg0) {  
  
    // TODO Auto-generated method stub  
  
}  
  
}
```

Output:

Program no:17**Aim:** Apply themes via code and manifest file**XML Code:**

```

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

<androidx.constraintlayout.widget.ConstraintLayout

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

    xmlns: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">

    <EditText

        android:id="@+id/editTextTextPersonName"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:ems="10"

        android:inputType="textPersonName"

        android:text="Name"

        app:layout_constraintBottom_toBottomOf="parent"

```

```

        app:layout_constraintTop_toTopOf="parent"

        tools:layout_editor_absoluteX="100dp" />
</androidx.constraintlayout.widget.ConstraintLayout>

<?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.newstyle">

        <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>

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

<resources>

    <color name="teal">#FF018786</color>

    <color name="black">#FF000000</color>

    <color name="yellow">#EC971B</color>

    <color name="red">#F80F0F</color>

</resources>

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

    <!-- Base application theme. -->

    <style name="Theme.newstyle"

parent="Theme.MaterialComponents.DayNight.DarkActionBar">

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

```



```
<item name="colorPrimaryDark">@color/yellow</item>

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

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

</style>

</resources>
```

Java Code:

```
package com.example.themes;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

    @Override

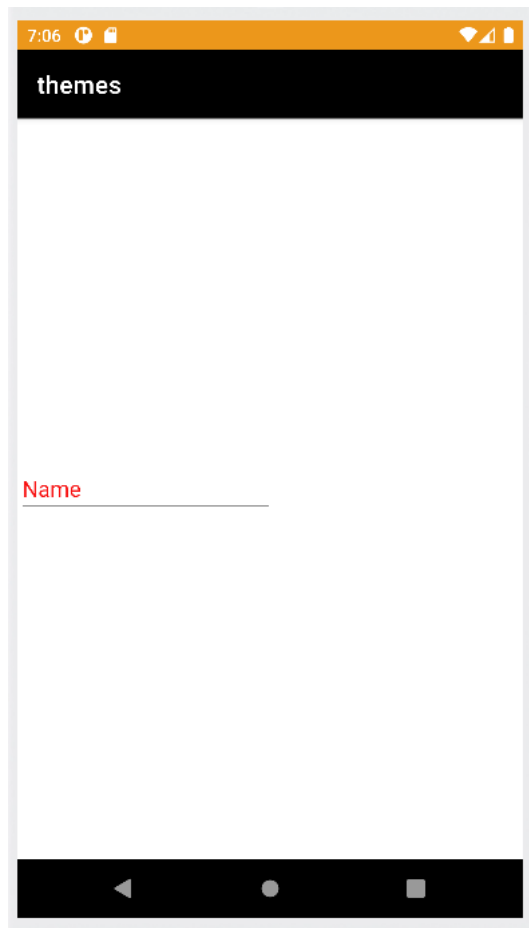
    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

    }

}
```

Output:

Program no:18

Aim: Develop application using Fragments

XML Code:

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

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

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:orientation="vertical"

    tools:context=".MainActivity">

    <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="#2196F3"  
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="#FFC107"  
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/purple_200"/>
</LinearLayout>

```

```

<?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/teal_200"

    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="#FFEB3B"

    android:text="Fragment1"

    android:textSize="30dp" />

```

```
</RelativeLayout>

<?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="#FFEB3B"

    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="#FAA3C1"

        android:text="Fragment2"

        android:textSize="30dp" />

</RelativeLayout>
```

Java Code:

```
package com.example.fragment;

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) {

        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();

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

```



```
        fragmentTransaction.commit();
    }
}

package com.example.fragment;

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_1, container, false);
    }
}
```

```
package com.example.fragment;

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,

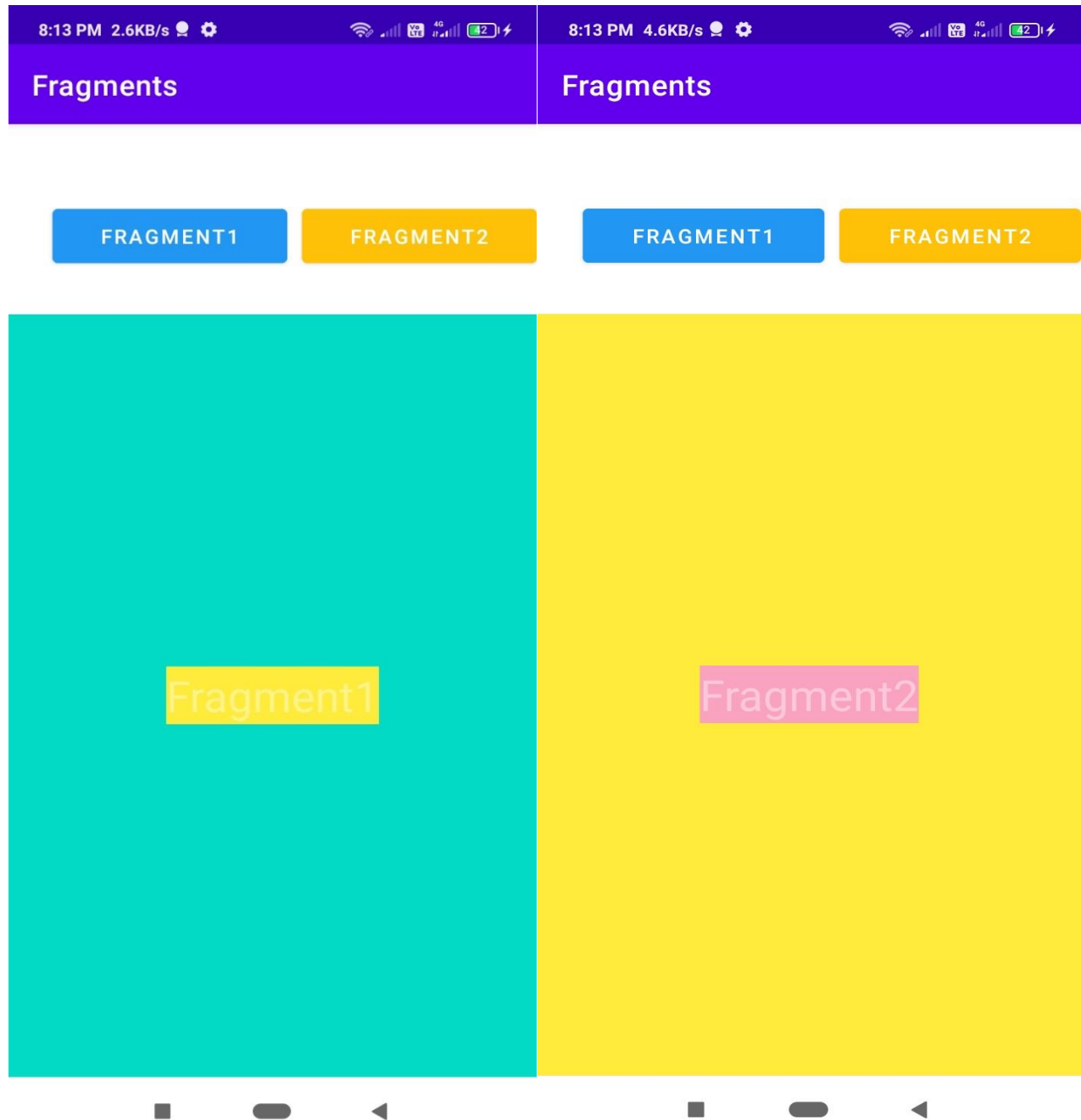
                             Bundle savedInstanceState) {

        // Inflate the layout for this fragment

        return inflater.inflate(R.layout.fragment_2, container, false);

    }

}
```

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="match_parent"

            android:layout_height="match_parent"

            android:text="Welcome"
```

```

        android:textSize="30dp">

</TextView>

</LinearLayout>

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    app:menu="@menu/menu"

    android:id="@+id/navigation_view"

    android:layout_gravity="start">

</com.google.android.material.navigation.NavigationView>

</androidx.drawerlayout.widget.DrawerLayout>

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

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

    <item

        android:id="@+id/account"

        android:title="My account"/>

    <item

        android:id="@+id/profile"

        android:title="My profile"/>

    <item

```

```

        android:id="@+id/logout"

        android:title="log out"/>

</menu>

```

Java Code:

```

package com.example.navigation;

import androidx.annotation.NonNull;

import androidx.appcompat.app.ActionBarDrawerToggle;

import androidx.appcompat.app.AppCompatActivity;

import androidx.drawerlayout.widget.DrawerLayout;

import android.os.Bundle;

import android.view.MenuItem;

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.account){

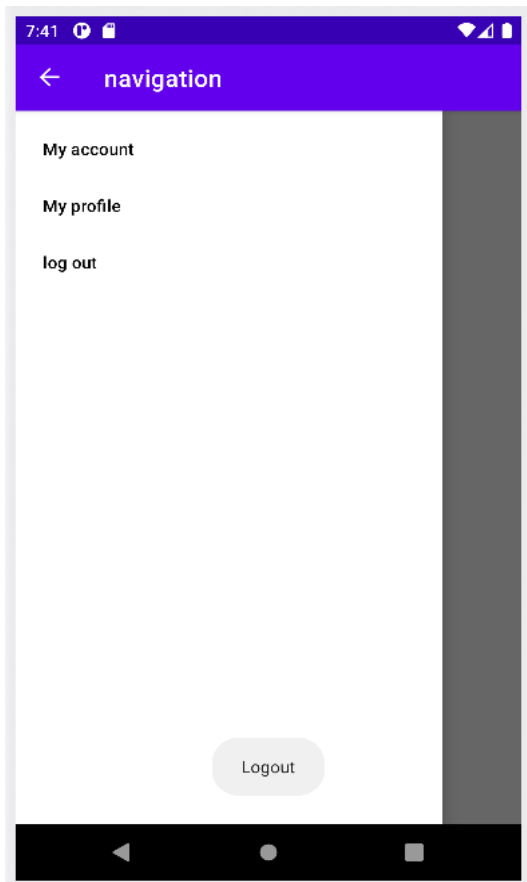
```

```
        Toast.makeText(this, "Home Page", Toast.LENGTH_SHORT).show();
    }

    if(id == R.id.profile){
        Toast.makeText(this, "Settings Page",
            Toast.LENGTH_SHORT).show();
    }

    if(id == R.id.logout){
        Toast.makeText(this, "Logout", Toast.LENGTH_SHORT).show();
    }

    return false;
}
}
```


Output:

Program 20:

Aim: sqlite insert,update,delete,view

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>
```

```
activity_main.xml
```

Displaying activity_main.xml.

Java code:

```
package com.example.crud;
```

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

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

```
import android.database.Cursor;
```

```
import android.os.Bundle;
```

```
import android.view.View;
```

```
import android.widget.Button;
```

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

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

```
public class MainActivity extends AppCompatActivity {
```

```
    EditText name, contact, dob;
```

```
    Button insert, update, delete, view;
```

```
    DBHelper DB;
```

```
    @Override
```

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

```
        super.onCreate(savedInstanceState);
```

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

```

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

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

        Boolean
checkinsertdata=DB.insertuserdata(nameTXT,contactTXT,dobTXT);
        if(checkinsertdata==true)
            Toast.makeText(MainActivity.this, "New Entry Inserted",
Toast.LENGTH_SHORT).show();
        else
            Toast.makeText(MainActivity.this, "unable to insert",
Toast.LENGTH_SHORT).show();
    }
});

update.setOnClickListener(new View.OnClickListener() {

```

```

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

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

        Boolean checkdeletedata=DB.deletedata(nameTXT);
        if(checkdeletedata==true)
            Toast.makeText(MainActivity.this, "Entry deleted",
Toast.LENGTH_SHORT).show();
        else

```

```

        Toast.makeText(MainActivity.this, "Not deleted",
Toast.LENGTH_SHORT).show();
    }
});
view.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        Cursor res=DB.getdata();
        if(res.getCount()==0){
            Toast.makeText(MainActivity.this, "No entry exists",
Toast.LENGTH_SHORT).show();
            return;
        }
        StringBuffer buffer=new StringBuffer();
        while(res.moveToNext()){
            buffer.append("Name:"+res.getString(0)+"\n");
            buffer.append("Contact:"+res.getString(1)+"\n");
            buffer.append("Date of Birth:"+res.getString(2)+"\n");
        }
        AlertDialog.Builder builder=new AlertDialog.Builder(MainActivity.this);
        builder.setCancelable(true);
        builder.setTitle("User Entries");
        builder.setMessage(buffer.toString());
        builder.show();

    }
})

```



```

    }
}

```

MainActivity.java

Displaying activity_main.xml.

DBHelper.java

```
package com.example.sqlite_app;
```

```
import android.content.ContentValues;
```

```
import android.content.Context;
```

```
import android.database.Cursor;
```

```
import android.database.sqlite.SQLiteDatabase;
```

```
import android.database.sqlite.SQLiteOpenHelper;
```

```
import androidx.annotation.Nullable;
```

```
public class DBHelper extends SQLiteOpenHelper {
```

```
    public DBHelper(Context context) {
        super(context, "Userdata", null, 1);
    }

```

```
    @Override
```

```
    public void onCreate(SQLiteDatabase DB) {
```

```
        DB.execSQL("create Table Userdetails(name TEXT primary key, contact TEXT, dob TEXT)");

```

```
    }
```

```

@Override

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

public Boolean insertuserdata(String name, String contact, String dob){
    SQLiteDatabase DB=this.getWritableDatabase();
    ContentValues contentValues=new ContentValues();
    contentValues.put("name",name);
    contentValues.put("contact",contact);
    contentValues.put("dob",dob);
    long result=DB.insert("Userdetails", null, contentValues);
    if(result==-1){
        return false;
    }else{
        return true;
    }
}

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

```

```

        long result = DB.update("Userdetails", contentValues, "name=?", new
String[]{ name});
        if (result == -1) {
            return false;
        } else {
            return true;
        }
    }else{
        return false;
    }
}

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

public Cursor getdata (){

```

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

Output:

