20MCA243 MOBILE APPLICATION DEVELOPMENT LAB

Lab Report SubmittedBy

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CERTIFICATE

This is to certify that the lab report, "**20MCA243 MOBILE APPLICATION DEVELOPMENT LAB"** is the bonafide work of **ANAND A S (Reg.No:AJC20MCA-2013)** in partial fulfillment of the requirements for the award of the Degree of Master of Computer Applications under APJ Abdul Kalam Technological University during the year 2021-22.

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Program No:1

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

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:layout_height="match_parent"
android:orientation="vertical"
android:gravity="center"
tools:context=".MainActivity">

<TextView
android:id="@+id/textView"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="login"
android:textSize="60dp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintHorizontal_bias="0.434"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.324" />

<EditText
android:id="@+id/editText1"
android:layout_width="200dp"
android:layout_height="wrap_content"
android:text="username"
tools:layout_editor_absoluteX="82dp"
tools:layout_editor_absoluteY="334dp" />

<EditText
android:id="@+id/editText2"
android:layout_width="200dp"
android:layout_height="wrap_content"
android:text="password"
tools:layout_editor_absoluteX="92dp"
tools:layout_editor_absoluteY="427dp" />

<Button
android:id="@+id/button"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="login"
```

```
tools:layout_editor_absoluteX="141dp"
tools:layout_editor_absoluteY="514dp" />
```

</LinearLayout>

MainActivity.java

```java
package com.example.login;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
Button b1;
TextView t1;
EditText e1;
EditText e2;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
b1=findViewById(R.id.button);
t1=findViewById(R.id.textView);
e1=findViewById(R.id.editText1);
e2=findViewById(R.id.editText2);

b1.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
String val1 = e1.getText().toString();
String val2 = e2.getText().toString();
}

});
}
}
```

Output

Program No:2

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

Activity.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:gravity="center"
android:layout_height="match_parent"
tools:context=".MainActivity">

<EditText
android:id="@+id/editText"
android:layout_width="200dp"
android:layout_height="wrap_content" />
<Button
android:id="@+id/button"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Button"
app:layout_constraintBottom_toTopOf="@+id/textView"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/editText" />

<TextView
android:id="@+id/textView"
android:layout_width="wrap_content"
android:layout_height="wrap_content"

app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.592" />

</LinearLayout>
```

MainActivity.java

```java
package com.example.myapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
Button b1;
TextView t1;
EditText e2;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
b1=findViewById(R.id.button);
t1=findViewById(R.id.textView);
e2=findViewById(R.id.editText);
b1.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
String val1 = e2.getText().toString();
t1.setText(val1);
}
});
}}
```

Output:

Program No:3

Aim: Design login form with username and password using linear layout and toast valid credentials.

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"
xmlns:card_view="http://schemas.android.com/apk/res-auto"
tools:context=".MainActivity"
android:orientation="vertical"
android:background="#000">

<androidx.cardview.widget.CardView
android:layout_margin="64dp"
android:layout_width="match_parent"
android:layout_height="wrap_content"
card_view:cardCornerRadius="8dp"
card_view:cardElevation="8dp"
android:background="#fff">

<LinearLayout
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:orientation="vertical"
android:padding="24dp">


<TextView
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="Login"
android:textSize="36sp"
android:textAlignment="center"
android:layout_gravity="center_horizontal" />

<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:textSize="22sp"
android:text="username"
android:textColor="@color/black"/>

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

```
android:layout_height="wrap_content"
android:inputType="text"
android:id="@+id/activity_main_usernameEditText" />

<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:textSize="22sp"
android:text="password"
android:textColor="@color/black"/>

<EditText
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:inputType="textPassword"
android:id="@+id/activity_main_passwordEditText" />

<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/activity_main_loginButton"
android:text="login"
android:textSize="22sp"/>
</LinearLayout>
</androidx.cardview.widget.CardView>
</LinearLayout>
```

MainActivity.java

```java
package com.example.loginwithcredentials;
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 {
private EditText usernameEditText;
private EditText passwordEditText;
private Button loginButton;

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

usernameEditText = findViewById(R.id.activity_main_usernameEditText);
passwordEditText = findViewById(R.id.activity_main_passwordEditText);
loginButton = findViewById(R.id.activity_main_loginButton);
```

```
loginButton.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
if(usernameEditText.getText().length()>0&&passwordEditText.getText().length() > 0) {
StringtoastMessage="Username:"+usernameEditText.getText().toString() + ", Password: "
+ passwordEditText.getText().toString();
Toast.makeText(getApplicationContext(),toastMessage,Toast.LENGTH_SHORT).show();
} else {
String toastMessage = "Username or Password are not populated";
Toast.makeText(getApplicationContext(),toastMessage,Toast.LENGTH_SHORT).show();
}
}
});
}
}
```

Output
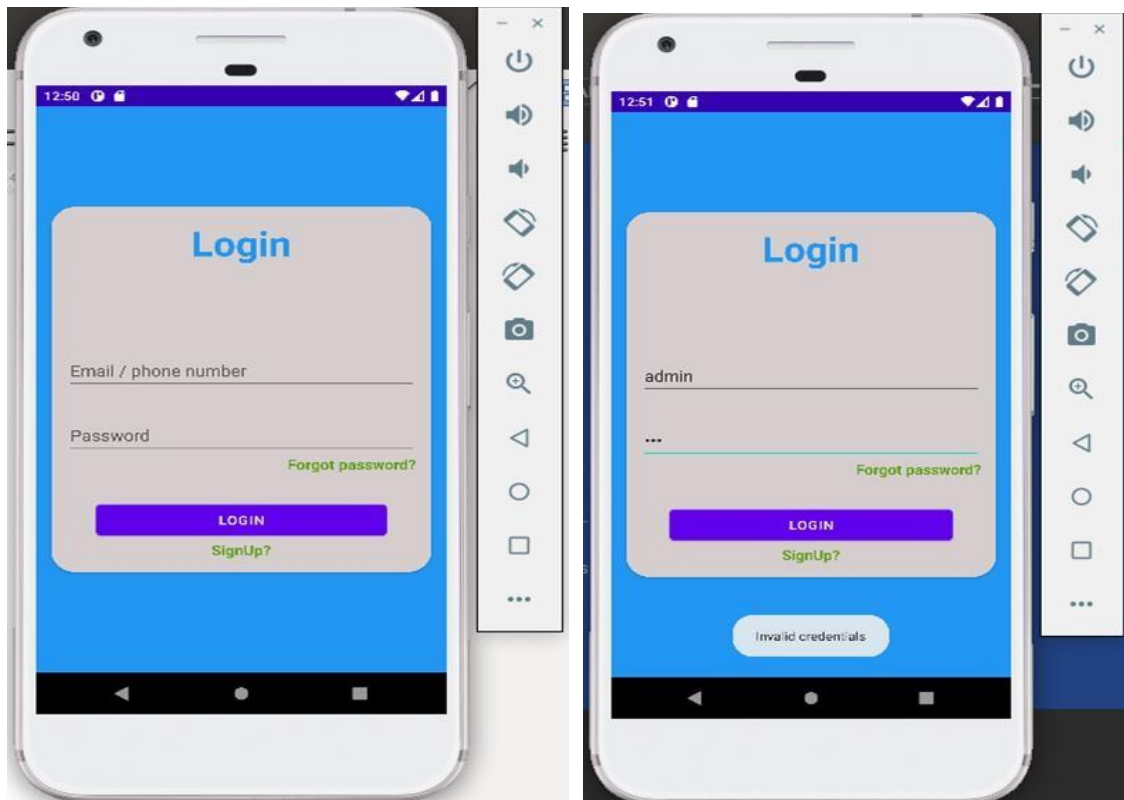
Program No:4

Aim: Implementing basic arithmetic operations of a simple calculator.

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:layout_height="match_parent"
    android:background="@color/teal_200"
    android:gravity="center"
    android:orientation="vertical"
    tools:context=".MainActivity">

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

    <EditText
        android:id="@+id/num1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:width="300dp"
        android:hint="Enter number 1" />

    <EditText
        android:id="@+id/num2"
        android:layout_width="wrap_content"

        android:layout_height="wrap_content"
        android:width="300dp"
        android:hint="Enter num 1" />

    <TextView
        android:id="@+id/tv"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="result"></TextView>

    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="45dp"
```

```xml
"
      android:orientation="horizontal">

      <Button
         android:id="@+id/btn1"
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:layout_margin="10dp"
         android:text="Add" />

      <Button
         android:id="@+id/btn2"
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:layout_margin="10dp"
         android:text="Sub" />
   </LinearLayout>

   <LinearLayout


      android:layout_width="wrap_content"


      android:layout_height="wrap_content"
      android:layout_margin="0dp">

      <Button
         android:id="@+id/btn3"
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:layout_margin="10dp"
         android:text="Div" />

      <Button
         android:id="@+id/btn4"
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:layout_margin="10dp"
         android:text="Mul" />
   </LinearLayout>
</LinearLayout>
```

MainActivity.java
```java
package com.example.basiccalculator;
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;
```

```java
import android.widget.Toast;
public class MainActivity 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_main);
no1 = findViewById(R.id.first_no);
no2 = findViewById(R.id.second_no);

add = findViewById(R.id.add);
mul = findViewById(R.id.mul);
div = findViewById(R.id.div);
sub = findViewById(R.id.sub);
equal = findViewById(R.id.equals);
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:
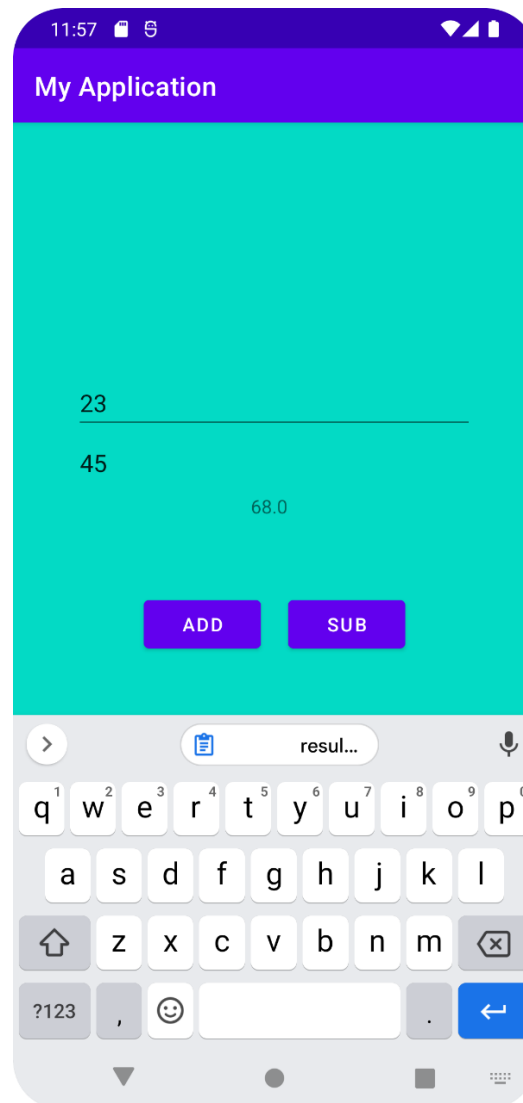
Program No:5

Aim: Implement validations on various UI controls.

activity_main.xml

```xml
<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="GET STARTED"
        android:textColor="@android:color/white"
        tools:ignore="ButtonStyle" />
    </LinearLayout>


</LinearLayout>
```

MainActivity.java

```java
package com.example.uicontrolvalidation;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {

Button bCancel, bProceed;
```

```java
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) {

isAllFieldsChecked = CheckAllFields();

if (isAllFieldsChecked) {
Intent i = new Intent(MainActivity.this, MainActivity2.class);
startActivity(i);
}
}
});

bCancel.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
MainActivity.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) {
```
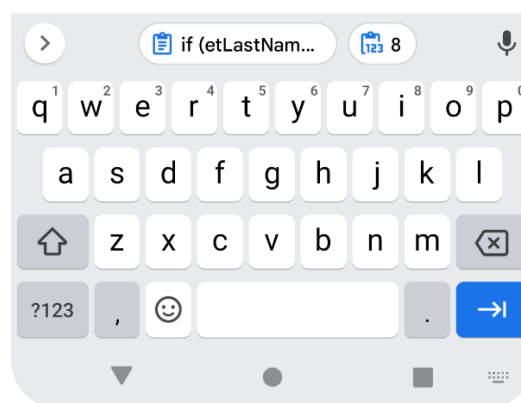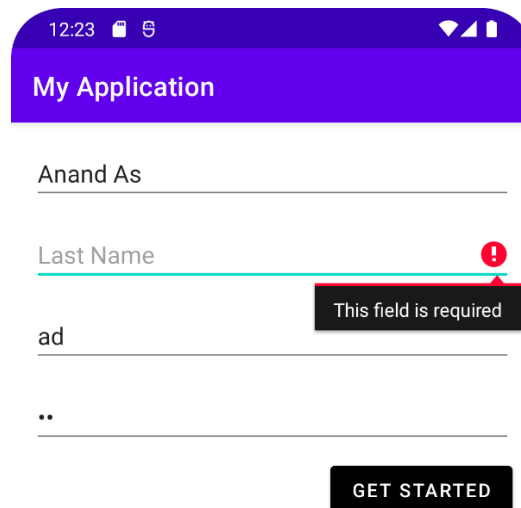
```
etEmail.setError("Email is required");
return false;
}

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;
}
return true;
}
}
```

Output:

Program No:6

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

activity_main.xml
```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:id="@+id/t1"
android:layout_width="202dp"
android:layout_height="42dp"
android:text="Enter the Name"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.497"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.28" />

<EditText
android:id="@+id/et1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:inputType="textPersonName"

app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.497"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.381" />

<Button
android:id="@+id/b1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Save"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.498"
```

```
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.828" />

<EditText
android:id="@+id/et5"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:inputType="textPersonName"
android:text="Name"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

activity_shared.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=".shared">

<TextView
android:id="@+id/textView2"
android:layout_width="155dp"
android:layout_height="42dp"
android:text="TextView"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />

<TextView
android:id="@+id/textView3"
android:layout_width="172dp"
android:layout_height="63dp"
android:text="TextView"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.441"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.623" />

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

MainActivity.java

```java
package com.example.sharedpreference;

import androidx.appcompat.app.AppCompatActivity;

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


public class MainActivity extends AppCompatActivity {
TextView t1;
EditText e1,e2;
Button b1;
SharedPreferences sp;

@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
e1=findViewById(R.id.et1);
e2=findViewById(R.id.et5);
b1=findViewById(R.id.b1);
sp= getSharedPreferences("Share",MODE_PRIVATE);//session start

b1.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
String val=e1.getText().toString();
String valu=e2.getText().toString();
sp.edit().putString("mykey",val).commit();//saving we use commit
sp.edit().putString("mykeyy",valu).commit();
Intent i=new Intent(MainActivity.this , shared.class);//shared is nex activity
startActivity(i);
}
});
}
}
```

shared.java

```java
package com.example.sharedpreference;
import androidx.appcompat.app.AppCompatActivity;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.widget.TextView;
```

```
public class shared extends AppCompatActivity {
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_shared);
SharedPreferences sp=getSharedPreferences("Share",MODE_PRIVATE);
TextView t1=findViewById(R.id.textView2);
TextView t2=findViewById(R.id.textView3);
String sesval= sp.getString("mykey","no data found");
String sesvall= sp.getString("mykeyy","no data found");
t1.setText(sesval);
t2.setText(sesvall);
}
}
```

Output:
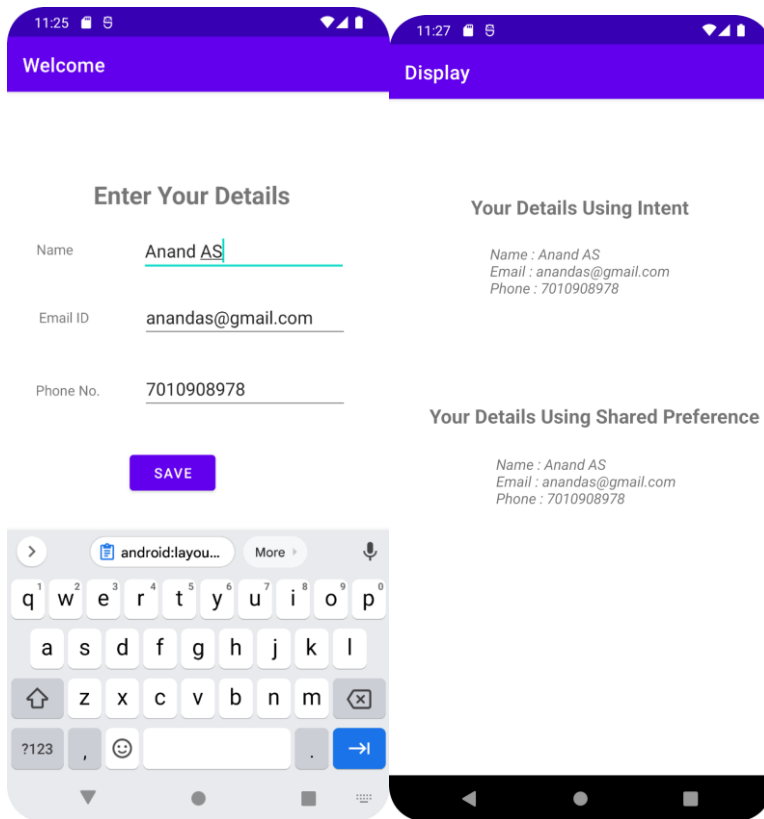
Program No:7

Aim: Design a simple Calculator using GridLayout and Cascaded LinearLayout.

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: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:layout_gravity="bottom"
android:rowCount="4">
<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/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/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/bmul"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:background="@drawable/bg_button"
android:text="X"
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/b5"
```

```xml
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/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/bdiv"
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/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/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/b3"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:background="@drawable/bg_button"
android:text="3"
```

```xml
android:textColor="@color/white"
android:textSize="25dp"/>
<Button
android:id="@+id/bpls"
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/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/bpt"
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/beq"
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/bdiff"
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"/>
</GridLayout>
</LinearLayout>
</LinearLayout>
```
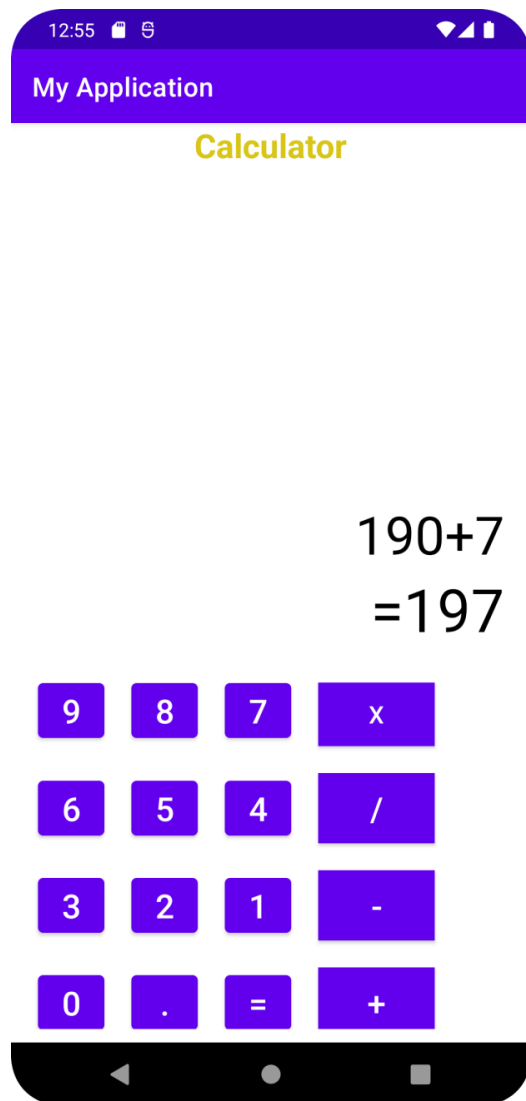
MainActivity.java

```
package com.example.mycalculator;
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:8

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

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: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"
```

```xml
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>
```

MainActivity.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:
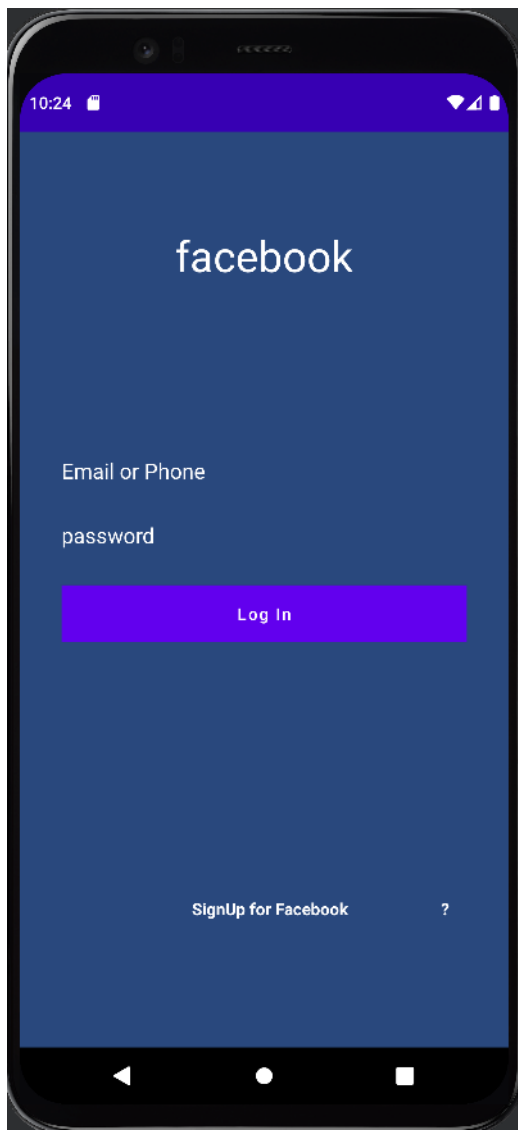
Program No:9

Aim: Develop an application that toggles image using FrameLayout.

activity_main.xml

```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">

<FrameLayout
android:layout_width="409dp"
android:layout_height="354dp"
tools:layout_editor_absoluteX="1dp"
tools:layout_editor_absoluteY="131dp"
tools:ignore="MissingConstraints">

<ImageView
android:id="@+id/f2"
android:layout_width="match_parent"
android:layout_height="match_parent"
app:srcCompat="@drawable/f1" />


<ImageView
android:id="@+id/f1"
android:layout_width="match_parent"
android:layout_height="match_parent"
app:srcCompat="@drawable/f2" />
</FrameLayout>

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

MainActivity.java

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

public class MainActivity extends AppCompatActivity {

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

```
setContentView(R.layout.activity_main);
final ImageView first_image = (ImageView)this.findViewById(R.id.f1);
final ImageView second_image = (ImageView)this.findViewById(R.id.f2);
first_image.setOnClickListener(new View.OnClickListener(){
public void onClick(View view) {
first_image.setVisibility(View.VISIBLE);
view.setVisibility(View.GONE);
} });
second_image.setOnClickListener(new View.OnClickListener(){
public void onClick(View view) {
second_image.setVisibility(View.VISIBLE);
view.setVisibility(View.GONE);
}});
}
}
```

Output:

Program No:10

Aim: Implement Adapters and perform exception handlings.

activity_main.xml
```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:id="@+id/textView"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="TextView"
tools:layout_editor_absoluteX="181dp"
tools:layout_editor_absoluteY="363dp"
tools:ignore="MissingConstraints" />

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

MainActivity.java
```java
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
TextView textView;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
try {
textView.setText("Welcome");
}
catch (Exception e)
{
Toast.makeText(this,e.getMessage(),Toast.LENGTH_SHORT).show();
}
}
}
```
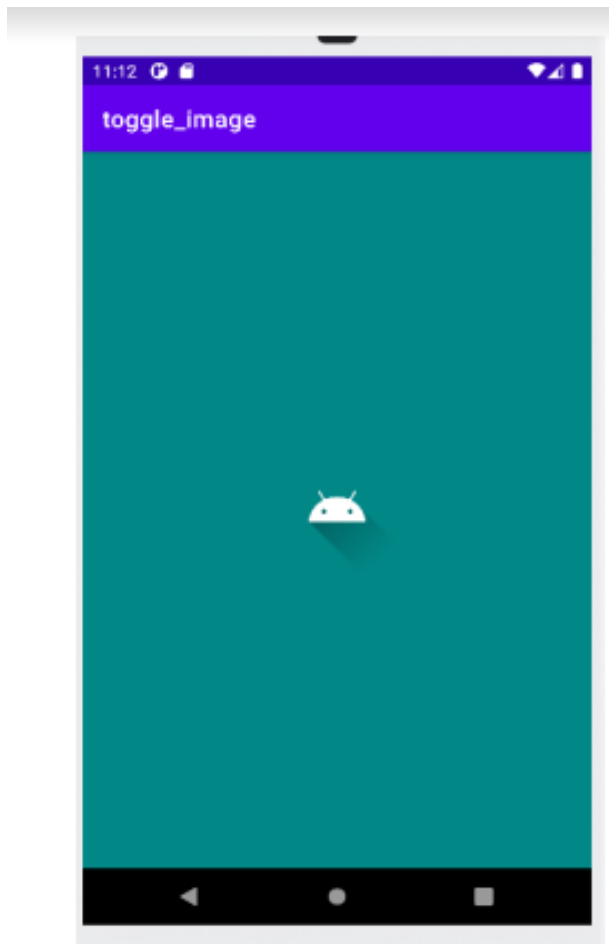
Output:
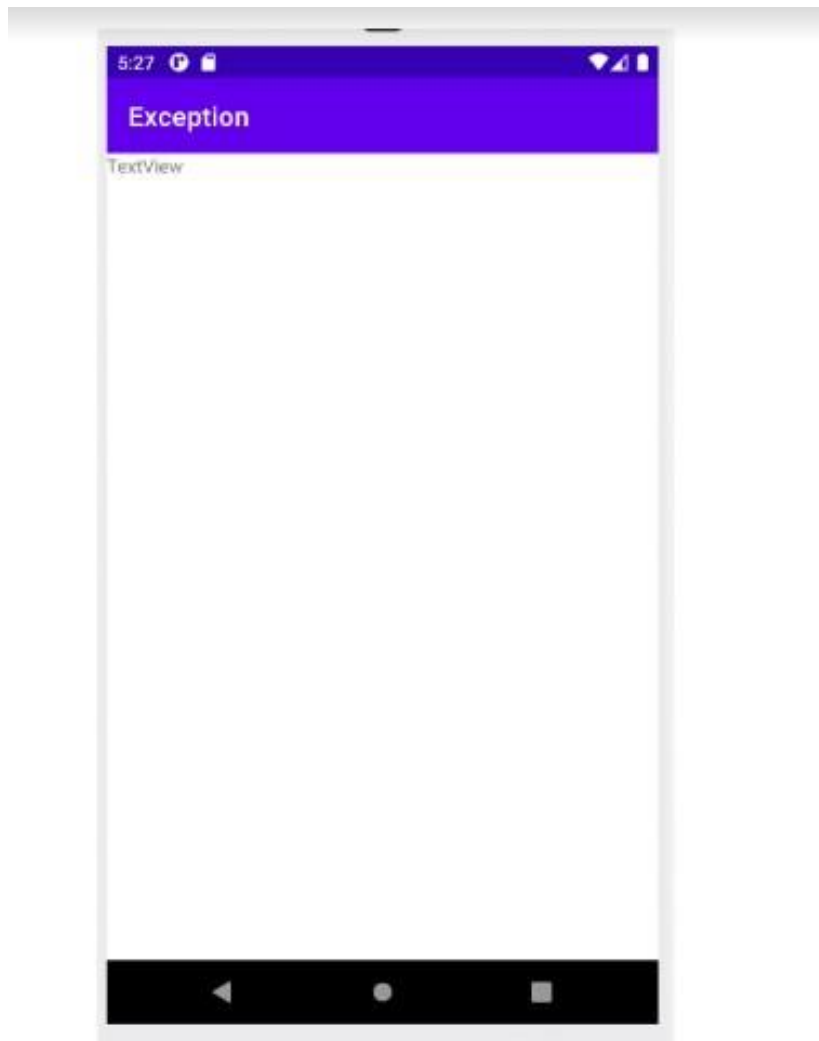
Program No:11

Aim: Implement Intent to navigate between multiple activities.

activity_main.xml

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

<EditText
android:id="@+id/name"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:hint="Name"
android:inputType="textPersonName"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.437"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.148" />

<EditText
android:id="@+id/address"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:hint="Address"
android:inputType="textPersonName"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.437"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.313" />

<EditText
android:id="@+id/email"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:hint="Email"
```

```
android:inputType="textPersonName"
android:onClick="callActivity"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.437"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.475" />

<Button
android:id="@+id/button"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Submit"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.454"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.609" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

activity_main2.xml

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

<TextView
android:id="@+id/view3"
android:layout_width="189dp"
android:layout_height="36dp"
android:textAlignment="center"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.459"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.398" />

<TextView
android:id="@+id/view1"
android:layout_width="189dp"
android:layout_height="36dp"
android:textAlignment="center"
```

```
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.459"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.22" />

<TextView
android:id="@+id/view2"
android:layout_width="189dp"
android:layout_height="36dp"
android:textAlignment="center"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.459"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.306" />

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

MainActivity.java
```java
package com.example.implicitintents;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {

@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
}
public void callActivity(View view) {
Intent i = new Intent(getApplicationContext(), MainActivity2.class);
final EditText editText1 = (EditText)findViewById(R.id.name);
String msg = editText1.getText().toString();
final EditText editText2 = (EditText)findViewById(R.id.address);
String add = editText2.getText().toString();
final EditText editText3 = (EditText)findViewById(R.id.email);
String em = editText3.getText().toString();
i.putExtra("Value1", msg);
i.putExtra("Value2", add);
i.putExtra("Value3", em);
startActivity(i);
```

}
}

MainActivity2.java
```
package com.example.implicitintents;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity2 extends AppCompatActivity {

TextView view1;
TextView view2;
TextView view3;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main2);
view1 = (TextView) findViewById(R.id.view1);
view2 = (TextView) findViewById(R.id.view2);
view3 = (TextView) findViewById(R.id.view3);
Bundle extras = getIntent().getExtras();
String value1 = extras.getString("Value1");
String value2 = extras.getString("Value2");
String value3 = extras.getString("Value3");
view1.setText(value1);
view2.setText(value2);
view3.setText(value3);
}

}
```
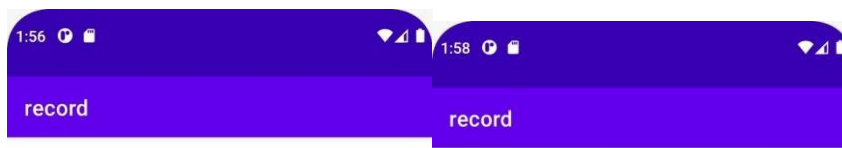
Output:

Program No:12

Aim: Develop an application that works with explicit intents.

activity_main.xml

```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">

<Button
android:id="@+id/cm"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="CLICK ME"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

```java
package com.example.explicitintents;
import androidx.appcompat.app.ActionBar;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.net.Uri;
import android.net.UrlQuerySanitizer;
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);
ActionBar b=getSupportActionBar();
b.setTitle("Go To Browser");
Button click=findViewById(R.id.cm);
```

```
click.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View view) {
Intent j=new Intent(Intent.ACTION_VIEW, Uri.parse("https://www.google.com/"));
startActivity(j);
}
});
}
}
```

Output:
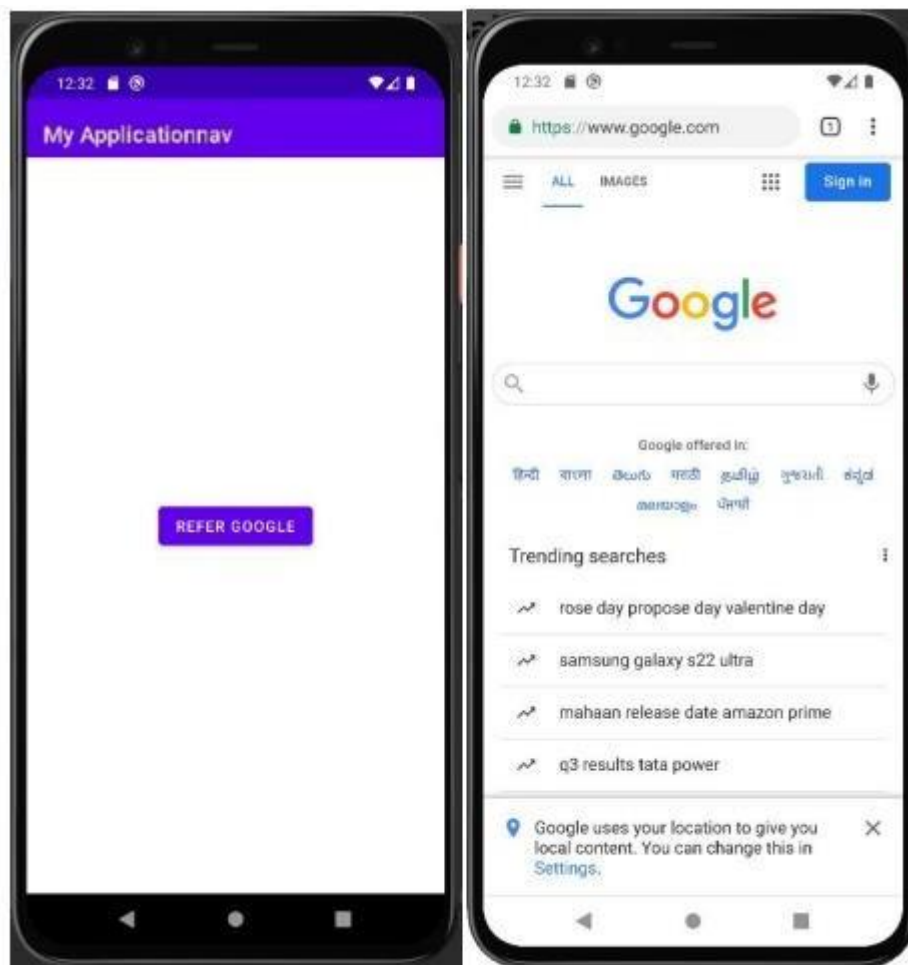
Program No:13

Aim: Implement Options Menu to navigate to activities.

activity_main.xml

```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="Hello World!"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent" />
</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:id="@+id/item1" android:title="about"
android:icon="@drawable/download"/>
<item android:id="@+id/item2" android:title="help"/>
</menu>
```

MainActivity.java

```java
package com.example.menunavigation;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.widget.Toast;

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) {
getMenuInflater().inflate(R.menu.menu, menu);
return true;
}
@Override
public boolean onOptionsItemSelected(MenuItem item){
switch (item.getItemId()){
case R.id.item1:
Toast.makeText(getApplicationContext(), "about", Toast.LENGTH_SHORT).show();
return true;
case R.id.item2:
Toast.makeText(getApplicationContext(), "help", Toast.LENGTH_SHORT).show();
return true;
default:
return super.onOptionsItemSelected(item);
}
}
}
```

Output:
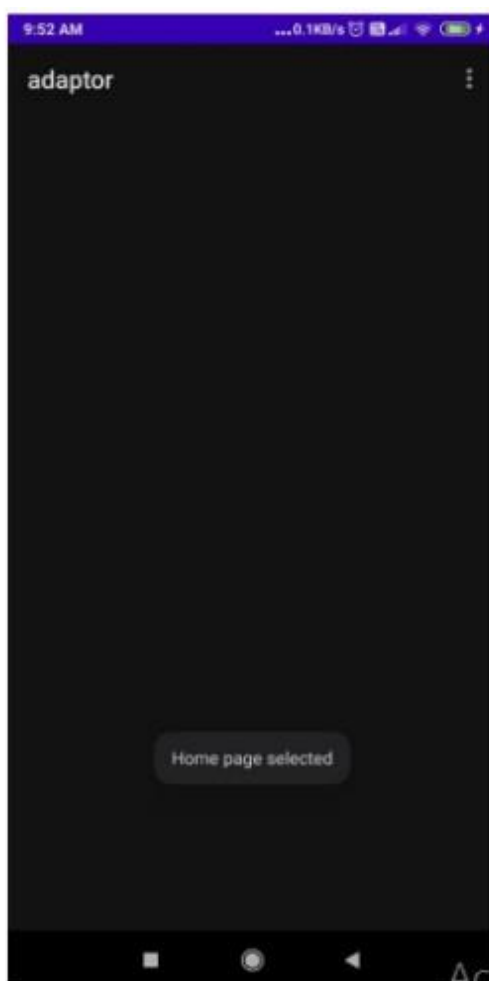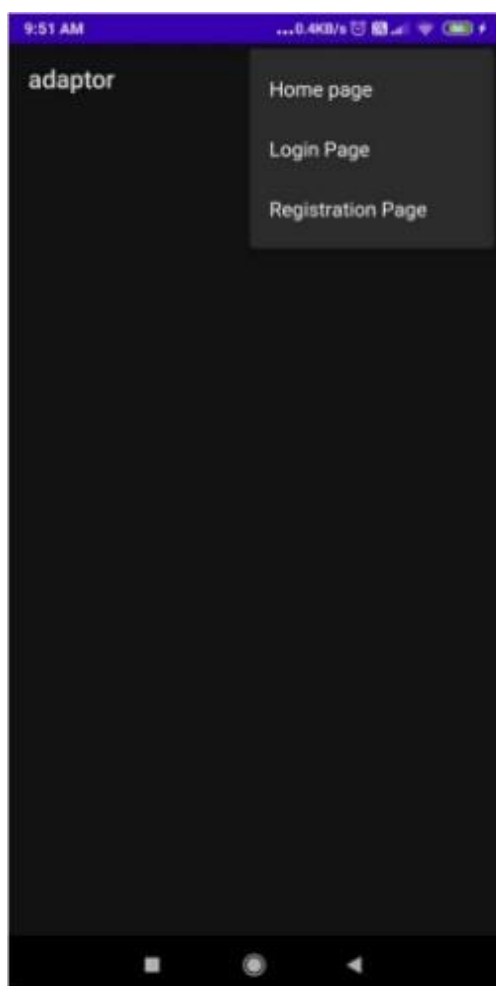
Program No:14

Aim: Develop an application that uses ArrayAdapter with ListView.

activity_main.xml

```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">

<ListView
android:id="@+id/List1"
android:layout_width="409dp"
android:layout_height="729dp"
tools:layout_editor_absoluteX="1dp"
tools:layout_editor_absoluteY="1dp" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

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

import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

ListView l1;
String[] listItems = {"Home","Address","Email","Phone"};

@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
l1 = (ListView) findViewById(R.id.List1);
ArrayAdapter<String> myAdapter=new ArrayAdapter<String>(MainActivity.this,
android.R.layout.simple_list_item_1,listItems);
l1.setAdapter(myAdapter);
l1.setOnItemClickListener(new AdapterView.OnItemClickListener() {
```

```
@Override
public  void onItemClick(AdapterView<?> parent, View view, int position, long id) {
String item_name=listItems[position];
Toast.makeText(MainActivity.this,item_name, Toast.LENGTH_SHORT).show();
}
});
}
}
```

Output:
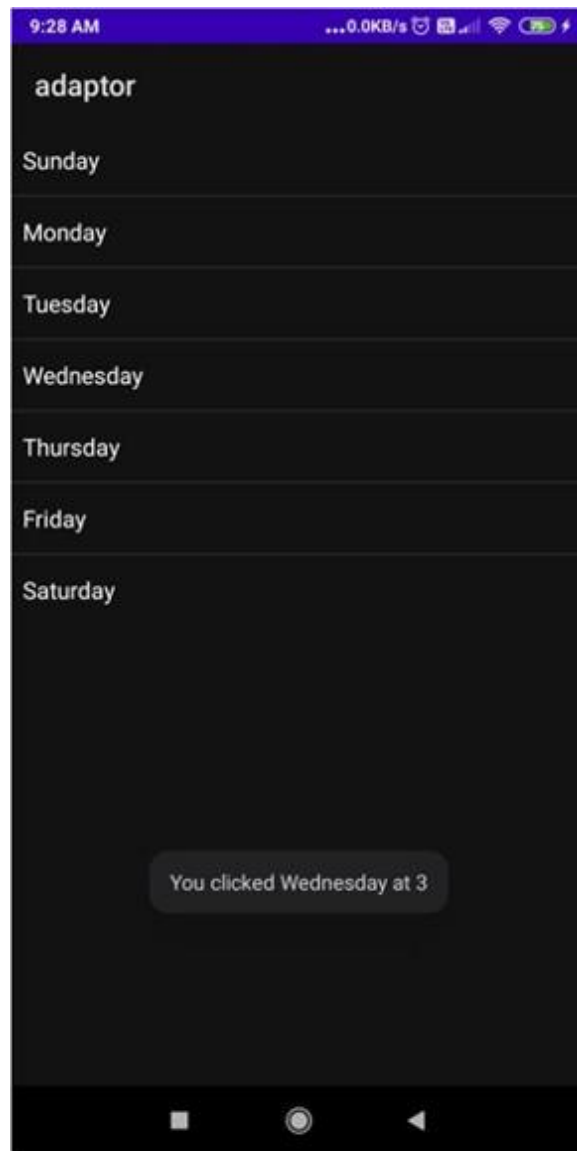
Program no: 15

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

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: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>
```

MainActivity.java:
```java
package com.example.co4_q1;

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

import android.app.Dialog;
import android.content.Context;
import android.content.DialogInterface;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.GridView;
import android.widget.ListAdapter;
import android.widget.SimpleAdapter;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
GridView gd;
int logos[] = {R.drawable.cl1, R.drawable.cl2, R.drawable.cl3, R.drawable.cl4};
```

```
String[] names ={"BMW","addidas","Be","S","Smile","Github",};
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();
}

});

}
}
```

ImageAdapter.java

```
package com.example.co4_q1;
import android.content.Context;
import android.view.View;
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() {
```

```java
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
};
}
```

Output:
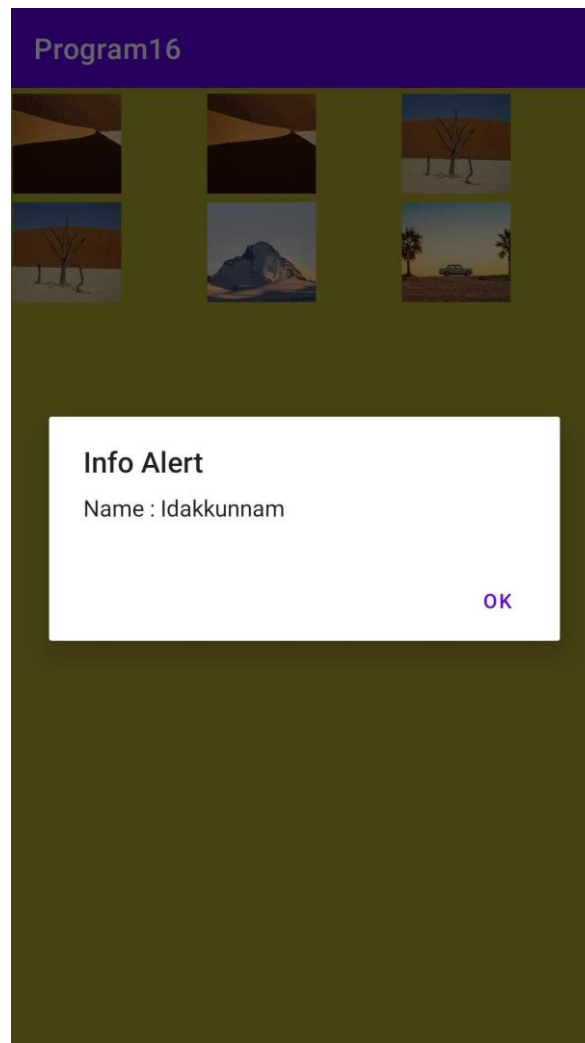
Program no:16

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

Activity_main.xml:

```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">

<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:
```java
package com.example.spinner;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.Spinner;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity implements
AdapterView.OnItemSelectedListener {
String[] country = { "India", "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:
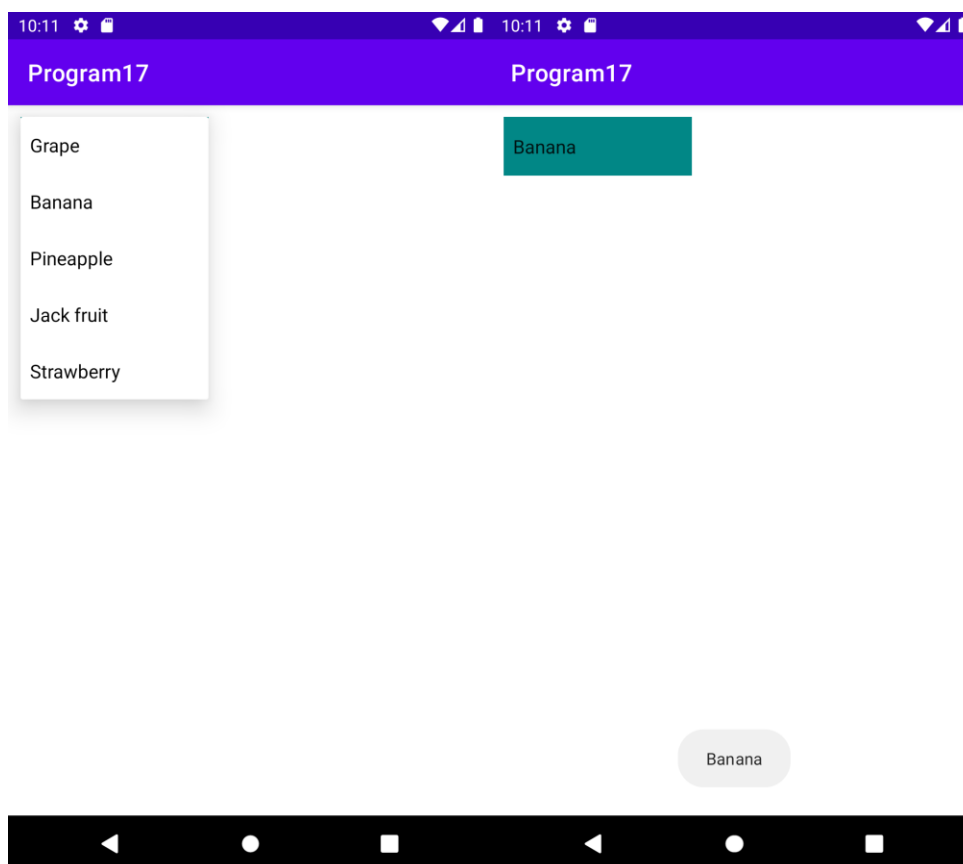
Program no:17

Aim: Apply themes via code and manifest file

activity_main.xml

```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">

<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
<?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>
```
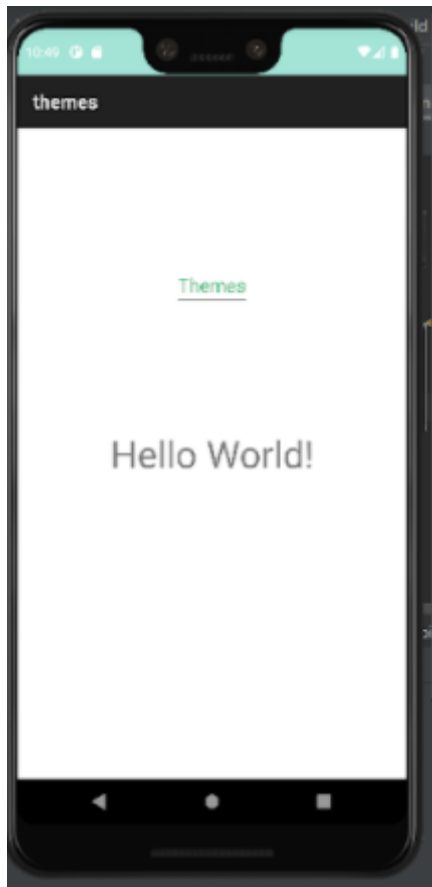
MainActivity.java:

```java
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

activity_main:

```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">

<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>
```

Fragment1.xml:

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

Fragment2.xml:

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

```java
package com.example.co4_q4;

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

package com.example.fragment;
import android.os.Bundle;
import androidx.fragment.app.Fragment;
import android.view.LayoutInflater;
```

```java
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);
}
}
```
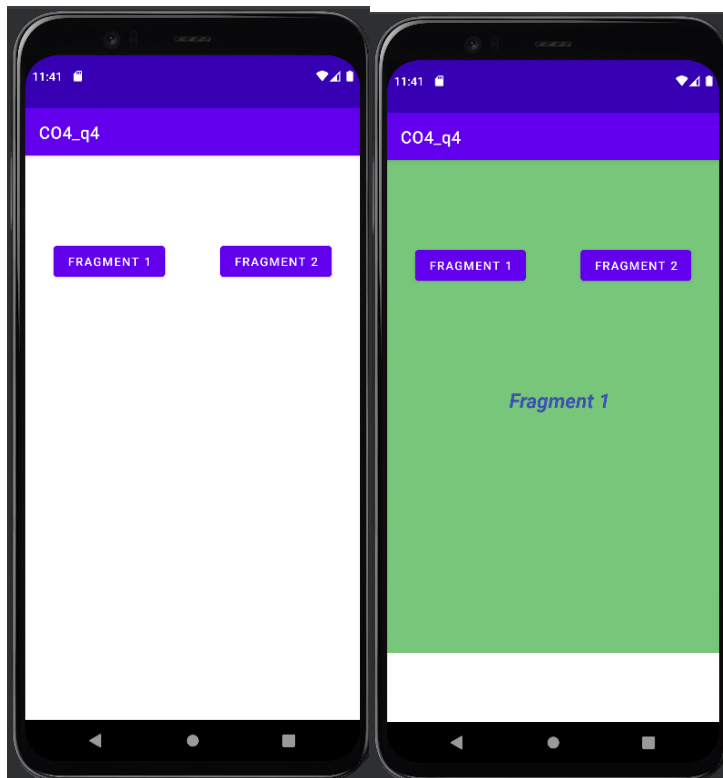
Output:

Program no:19

Aim: Implement Navigation drawer

Activity_main.xml:

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

Menu.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="My account"/>
<item
android:id="@+id/profile"
android:title="My profile"/>
<item
android:id="@+id/logout"
android:title="log out"/>
</menu>
```

MainActivity.java:

```java
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:
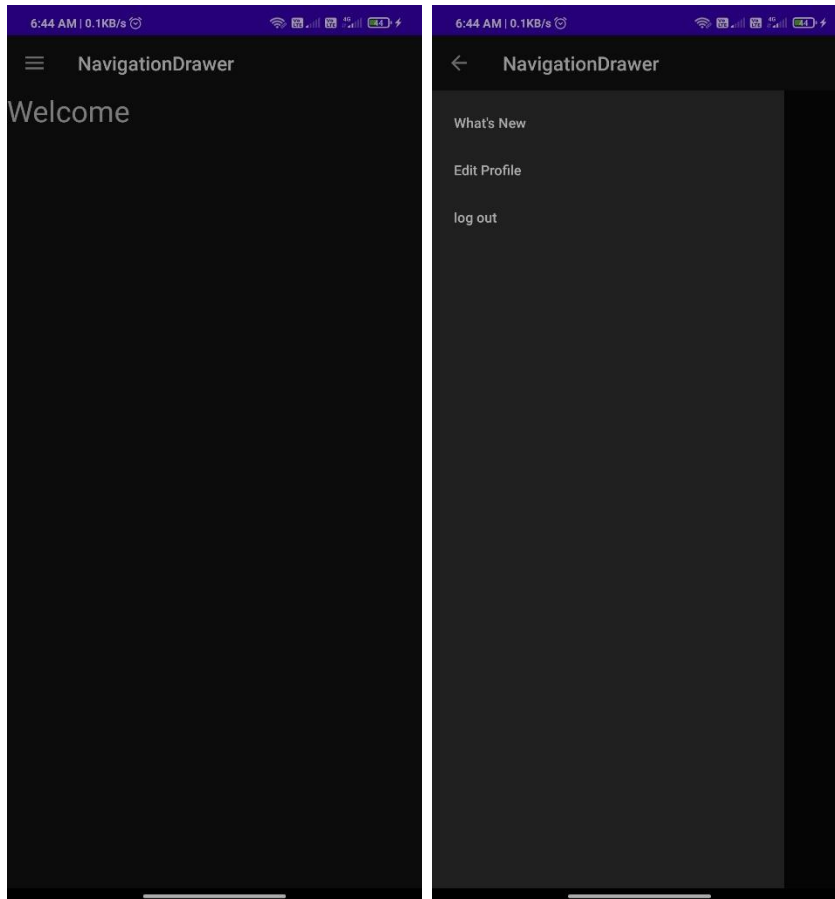
Program no:20

Aim: Program to implement activity life cycle

activity_main.xml:

```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>
```

MainActivity.Java:

```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");
}
```

```java
    @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 12:12:02.730 5490-5490/com.example.lifecycle W/ActivityThread: S
2022-02-26 12:12:02.733 5490-5490/com.example.lifecycle I/State: onCreate
2022-02-26 12:12:02.792 5490-5490/com.example.lifecycle I/State: onStop
2022-02-26 12:12:07.536 5490-5490/com.example.lifecycle I/State: onRestart
2022-02-26 12:12:07.547 5490-5490/com.example.lifecycle I/State: onStart
2022-02-26 12:12:07.556 5490-5490/com.example.lifecycle I/State: onResume
2022-02-26 12:12:13.827 5490-5490/com.example.lifecycle W/ActivityThread: S
2022-02-26 12:12:13.828 5490-5490/com.example.lifecycle I/State: onCreate
2022-02-26 12:12:13.878 5490-5490/com.example.lifecycle I/State: onStop
2022-02-26 12:12:16.326 5490-5490/com.example.lifecycle I/State: onDestroy
```
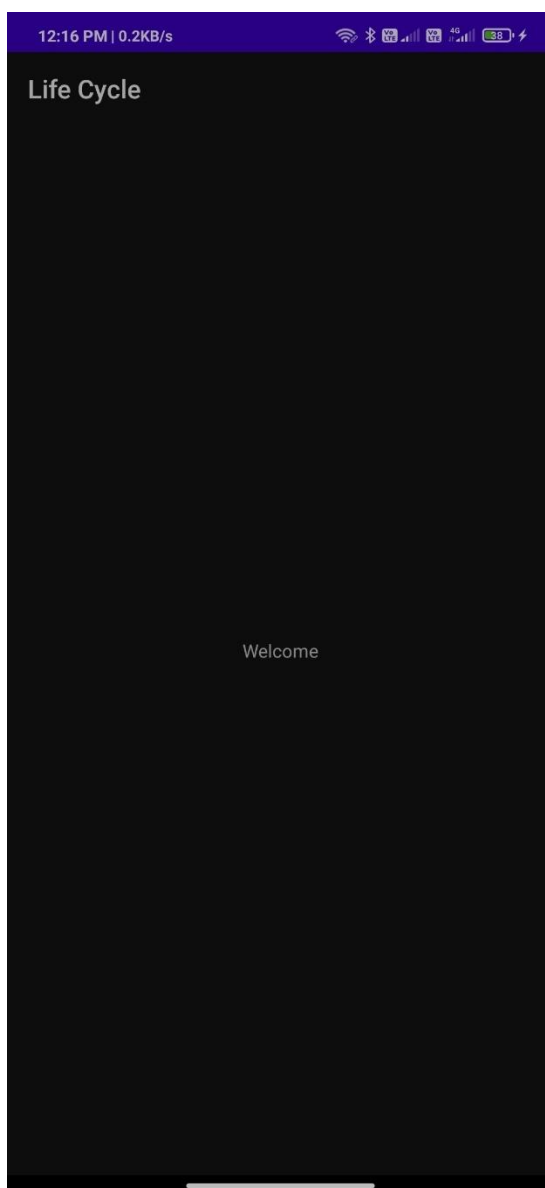
Program no:21

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

activity_main.xml:

```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:id="@+id/textView"
android:layout_width="162dp"
android:layout_height="40dp"
android:text="DB Operations"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.082" />

<EditText
android:hint="Name"
android:id="@+id/name"
android:layout_width="278dp"
android:layout_height="56dp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.496"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.254" />

<EditText
android:hint="Place"
android:id="@+id/place"
android:layout_width="278dp"
android:layout_height="56dp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.496"
app:layout_constraintStart_toStartOf="parent"
```

```
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.357" />

<EditText
android:hint="Email"
android:id="@+id/email"
android:layout_width="278dp"
android:layout_height="56dp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.496"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.46" />

<EditText
android:hint="Mobile"
android:id="@+id/mobile"
android:layout_width="278dp"
android:layout_height="56dp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.496"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.568" />

<Button
android:id="@+id/btnins"
android:layout_width="267dp"
android:layout_height="46dp"
android:text="Insert"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.705" />

<Button
android:id="@+id/btnupdt"
android:layout_width="267dp"
android:layout_height="46dp"
android:text="Update"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.772" />

<Button
```

```
android:id="@+id/btnview"
android:layout_width="267dp"
android:layout_height="46dp"
android:text="View"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.839" />

<Button
android:id="@+id/btndel"
android:layout_width="267dp"
android:layout_height="46dp"
android:text="Delete"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.906" />

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

MainActivity.Java:

```
package com.example.databaseoperations;

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,place,email,mobile;
Button btnins,btnupdt,btnview,btndel;
operations op;

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

name = findViewById(R.id.name);
place = findViewById(R.id.place);
```

```
email = findViewById(R.id.email);
mobile = findViewById(R.id.mobile);

btnins = findViewById(R.id.btnins);
btnupdt = findViewById(R.id.btnupdt);
btnview = findViewById(R.id.btnview);
btndel = findViewById(R.id.btndel);
op=new operations(this);

btnins.setOnClickListener(new View.OnClickListener() {

@Override
public void onClick(View v) {
String Name = name.getText().toString();
String Place = place.getText().toString();
String Email = email.getText().toString();
String Mobile = mobile.getText().toString();

boolean insertion = op.onInsert(Name, Place, Email, Mobile);
if (insertion == true) {
Toast.makeText(MainActivity.this,"InsertionSucessfull",
Toast.LENGTH_SHORT).show();
} else {
Toast.makeText(MainActivity.this,"InsertionFailed", Toast.LENGTH_SHORT).show();
}
}
});

btnupdt.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
String Name = name.getText().toString();
String Place = place.getText().toString();
String Email = email.getText().toString();
String Mobile = mobile.getText().toString();

boolean updation = op.onUpdate(Name, Place, Email, Mobile);
if (updation == true) {
Toast.makeText(MainActivity.this,"UpdatedSucessfully",
Toast.LENGTH_SHORT).show();
} else {
Toast.makeText(MainActivity.this,"UpdationFailed", Toast.LENGTH_SHORT).show();
}
}
});

btnview.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
Cursor res=op.onView();
```

```
if(res.getCount()==0){
Toast.makeText(MainActivity.this,"Noentryexists", Toast.LENGTH_SHORT).show();
return;
}
StringBuffer buffer=new StringBuffer();
while(res.moveToNext()){
buffer.append("Name:"+res.getString(0)+"\n");
buffer.append("Place:"+res.getString(1)+"\n");
buffer.append("Email:"+res.getString(2)+"\n");
buffer.append("Mobile:"+res.getString(3)+"\n");
}
AlertDialog.Builder builder=new AlertDialog.Builder(MainActivity.this);
builder.setCancelable(true);
builder.setTitle("User Entries");
builder.setMessage(buffer.toString());
builder.show();
}
});

btndel.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
String Name = name.getText().toString();
boolean deletion = op.onDelete(Name);
if (deletion == true) {
Toast.makeText(MainActivity.this,"DeletionSucessfully",
Toast.LENGTH_SHORT).show();
} else {
Toast.makeText(MainActivity.this,"DeletionFailed", Toast.LENGTH_SHORT).show();
}
}
});
}
}
```

operations.java:

```
package com.example.databaseoperations;

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 operations extends SQLiteOpenHelper {
public operations(Context context) {
super(context, "DBpersons", null, 1);
```

```
}

@Override
public void onCreate(SQLiteDatabase db) {
db.execSQL("create table tblpersons (Name varchar(20) primary key,Place
varchar(30),Email varchar(20),Mobile varchar(10))");

}

@Override
public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {
db.execSQL("drop table if exists tblpersons");
}

public boolean onInsert(String Name,String Place,String Email,String Mobile){
SQLiteDatabase sdb=this.getWritableDatabase();
ContentValues cv=new ContentValues();
cv.put("Name",Name);
cv.put("Place",Place);
cv.put("Email",Email);
cv.put("Mobile",Mobile);
long result = sdb.insert("tblpersons",null,cv);
if(result==-1){
return false;
}
else{
return true;
}
}

public boolean onUpdate(String Name,String Place,String Email,String Mobile){
SQLiteDatabase sdb=this.getWritableDatabase();
ContentValues cv=new ContentValues();
cv.put("Place",Place);
cv.put("Email",Email);
cv.put("Mobile",Mobile);
Cursor cr =sdb.rawQuery("select * from tblpersons where Name=?",new String[]{Name});
if(cr.getCount()>0){
long result = sdb.delete("tblpersons","Name=?", new String[]{Name});
if(result==-1){
return false;
}
else{
return true;
}
}
else{
return false;
}
}
```

```
public Cursor onView(){
SQLiteDatabase sdb=this.getWritableDatabase();
Cursor cursor=sdb.rawQuery("Select * from tblpersons",null);
return cursor;
}

public boolean onDelete(String Name){
SQLiteDatabase sdb=this.getWritableDatabase();
Cursor cr =sdb.rawQuery("select * from tblpersons where Name=?",new String[]{Name});
if(cr.getCount()>0){
long result = sdb.delete("tblpersons","Name=?", new String[]{Name});
if(result==-1){
return false;
}
else{
return true;
}
}
else{
return false;
}
}
}
```

output

AnandDatabase	AnandDatabase
Please enter the details below	Please enter the details below
Anand AS	Anand AS
123456	123456
23	23
INSERT NEW DATA	INSERT NEW DATA
UPDATE DATA	UPDATE DATA
DELETE EXISTING DATA	DELETE EXISTING DATA
VIEW DATA	VIEW DATA