Lab Cycle: 01 Date:

EXPERIMENT NO: 01

AIM: Design a Login Form with username and password using Linear Layout and toast valid credentials.

Procedure:

MainActivity.java

```
package com.example.s3mca55;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.Toast;
import android.widget.EditText;
import android.widget.Button;

public class MainActivity extends AppCompatActivity {
    private static final String VALID_USR_NAME = "user";
    private static final String VALID_PWD = "pass";
    private EditText username;
    private EditText password;
    private Button loginbtn;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        username = findViewById(R.id.uname);
        password = findViewById(R.id.pwd);

        loginbtn = findViewById(R.id.lbtn);
        loginbtn.setOnClickListener(view -> {
```

```
        String enteredUname = username.getText().toString().trim();
        String enteredPwd = password.getText().toString().trim();

        if (enteredUname.isEmpty() || enteredPwd.isEmpty()) {
            showToast("Please enter both username and password");
        } else if (isValid(enteredUname, enteredPwd)) {
            showToast("Login Success");
        } else {
            showToast("Invalid credentials");
        }
    });
  }

  public boolean isValid(String euname, String epwd) {
    return VALID_USR_NAME.equals(euname) && VALID_PWD.equals(epwd);
  }

  private void showToast(String msg) {
    Toast.makeText(this, msg, Toast.LENGTH_LONG).show();
  }
}
```

activity_main.xml

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

```
<LinearLayout
    android:layout_width="0dp"
    android:layout_height="0dp"
    android:orientation="vertical"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.0">

    <TextView
        android:id="@+id/textView5"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="LOGIN FORM"
        android:textAlignment="center"
        android:textSize="24sp"
        android:padding="16dp" />

    <TextView
        android:id="@+id/textView6"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Username"
        android:padding="16dp" />

    <EditText
        android:id="@+id/uname"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter username"
```

```
        android:inputType="text"
        android:padding="16dp" />

    <TextView
        android:id="@+id/textView7"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Password"
        android:padding="16dp" />

    <EditText
        android:id="@+id/pwd"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:inputType="textPassword"
        android:hint="Enter password"
        android:padding="16dp" />

    <Button
        android:id="@+id/lbtn"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Login"
        android:padding="16dp" />
  </LinearLayout>
</androidx.constraintlayout.widget.ConstraintLayout>
```

OUTPUT:

RESULT:

The program was executed successfully and the output was obtained.

Lab Cycle: 01 Date:

EXPERIMENT NO: 02

AIM: Implementing basic arithmetic operations of a simple calculator.

Procedure:

MainActivity.java

```
package com.example.s3mca55;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.TextView;

import android.widget.Button;


public class MainActivity extends AppCompatActivity {


    private TextView textView1;

    private Button button1, button2, button3, button4, button5, button6, button7, button8, button9,
button0;

    private Button buttonAdd, buttonSub, buttonMul, buttonDiv, buttonDot, buttonEqual;

    private String currentInput = "";

    private double operand1 = 0;

    private String operator = "";


    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        textView1 = findViewById(R.id.text_View1);

    }


    public void onDigitClick(View view) {

        Button button = (Button) view;
```

```
    currentInput += button.getText().toString();
    updateDisplay();
}

public void onOperatorClick(View view) {
    if (!currentInput.isEmpty()) {
        operand1 = Double.parseDouble(currentInput);
        operator = ((Button) view).getText().toString();
        currentInput = "";
    }
}

public void onEqualsClick(View view) {
    if (!currentInput.isEmpty()) {
        double operand2 = Double.parseDouble(currentInput);
        double result = performOperation(operand1, operand2, operator);
        currentInput = String.valueOf(result);
        updateDisplay();
    }
}

public void onClearClick(View view) {
    currentInput = "";
    operand1 = 0;
    operator = "";
    updateDisplay();
}

private double performOperation(double operand1, double operand2, String operator) {
    switch (operator) {
        case "+":
```

```
            return operand1 + operand2;
        case "-":
            return operand1 - operand2;
        case "*":
            return operand1 * operand2;
        case "/":
            if (operand2 != 0)
                return operand1 / operand2;
            else
                return Double.NaN;
        default:
            return 0;
      }
   }

   public void updateDisplay() {
      textView1.setText(currentInput);
   }
}
```

activity_main.xml

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

   <LinearLayout
      android:layout_width="409dp"
```

```
android:layout_height="601dp"
android:orientation="vertical"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent">

<TextView
    android:id="@+id/text_View"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="SIMPLE CALCULATOR"
    android:textSize="24sp" />

<TextView
    android:id="@+id/text_View1"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="TextView"
    android:textSize="24sp" />

<GridLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:layout_marginTop="40dp"
    android:columnCount="4"
    android:rowCount="4">

    <Button
        android:id="@+id/button1"
```

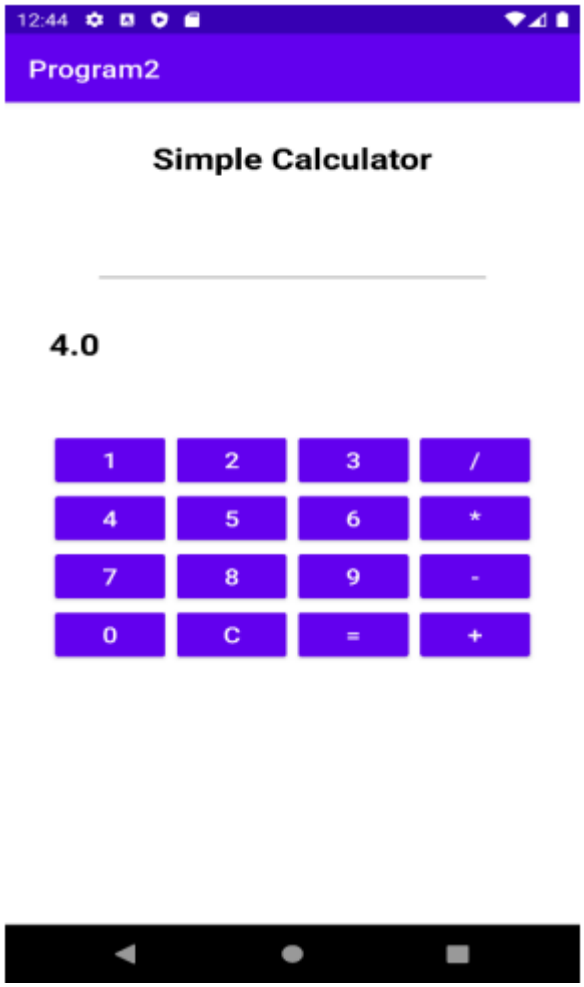
```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="onDigitClick"
    android:text="1" />

<Button
    android:id="@+id/button2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="onDigitClick"
    android:text="2" />

<Button
    android:id="@+id/button3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="onDigitClick"
    android:text="3" />

<Button
    android:id="@+id/buttonDiv"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="onOperatorClick"
    android:text="/" />

<Button
    android:id="@+id/button4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="onDigitClick"
```

```
    android:text="4" />

<Button
    android:id="@+id/button5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="onDigitClick"
    android:text="5" />

<Button
    android:id="@+id/button6"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="onDigitClick"
    android:text="6" />

<Button
    android:id="@+id/buttonMul"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="onOperatorClick"
    android:text="*" />

<Button
    android:id="@+id/button7"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="onDigitClick"
    android:text="7" />

<Button
```

```
    android:id="@+id/button8"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="onDigitClick"
    android:text="8" />

<Button
    android:id="@+id/button9"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="onDigitClick"
    android:text="9" />

<Button
    android:id="@+id/buttonSub"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="onOperatorClick"
    android:text="-" />

<Button
    android:id="@+id/button0"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="onDigitClick"
    android:text="0" />

<Button
    android:id="@+id/buttonDot"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
```

```
            android:onClick="onClearClick"
            android:text="C" />

        <Button
            android:id="@+id/buttonEqual"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:onClick="onEqualsClick"
            android:text="=" />

        <Button
            android:id="@+id/buttonAdd"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:onClick="onOperatorClick"
            android:text="+" />
    </GridLayout>
  </LinearLayout>
</androidx.constraintlayout.widget.ConstraintLayout>
```

OUTPUT:



RESULT:

The program was executed successfully and the output was obtained.

Lab Cycle: 01 Date:

EXPERIMENT NO: 03

AIM: Write a program that demonstrates Activity Lifecycle

Procedure:

MainActivity.java

```
package com.example.activitylifecycle;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.Button;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

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

        // Set up onClick listeners for each button
        Button onCreateButton = findViewById(R.id.onCreateButton);
        Button onStartButton = findViewById(R.id.onStartButton);
        Button onPauseButton = findViewById(R.id.onPauseButton);
        Button onStopButton = findViewById(R.id.onStopButton);
        Button onRestartButton = findViewById(R.id.onRestartButton);
        Button onDestroyButton = findViewById(R.id.onDestroyButton);

        onCreateButton.setOnClickListener(v -> showToast("onCreate() Clicked"));
        onStartButton.setOnClickListener(v -> showToast("onStart() Clicked"));
```

```
    onPauseButton.setOnClickListener(v -> showToast("onPause() Clicked"));
    onStopButton.setOnClickListener(v -> showToast("onStop() Clicked"));
    onRestartButton.setOnClickListener(v -> showToast("onRestart() Clicked"));
    onDestroyButton.setOnClickListener(v -> showToast("onDestroy() Clicked"));
}

@Override
protected void onStart() {
    super.onStart();
    showToast("Activity Started");
}

@Override
protected void onResume() {
    super.onResume();
    showToast("Activity Resumed");
}

@Override
protected void onPause() {
    super.onPause();
    showToast("Activity Paused");
}

@Override
protected void onStop() {
    super.onStop();
    showToast("Activity Stopped");
}

@Override
```

```
    protected void onRestart() {
        super.onRestart();
        showToast("Activity Restarted");
    }

    @Override
    protected void onDestroy() {
        super.onDestroy();
        showToast("Activity Destroyed");
    }

    void showToast(String message) {
        Toast.makeText(this, message, Toast.LENGTH_SHORT).show();
    }
}
```

activity_main.xml

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

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/activity_lifecycle"
        android:textAlignment="center"
        android:textSize="30sp"
```

```
    android:layout_marginTop="50dp"
    android:id="@+id/activityLifecycleText"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    />
<Button
    android:id="@+id/onCreateButton"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:text="@string/onCreate"
    android:layout_marginTop="20dp"
    app:layout_constraintTop_toBottomOf="@id/activityLifecycleText"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    />
<Button
    android:id="@+id/onStartButton"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:text="@string/onStart"
    android:layout_marginTop="10dp"
    app:layout_constraintTop_toBottomOf="@id/onCreateButton"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    />
<Button
    android:id="@+id/onPauseButton"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:text="@string/onPause"
```

```
    android:layout_marginTop="10dp"
    app:layout_constraintTop_toBottomOf="@id/onStartButton"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    />
<Button
    android:id="@+id/onStopButton"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:text="@string/onStop"
    android:layout_marginTop="10dp"
    app:layout_constraintTop_toBottomOf="@id/onPauseButton"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    />
<Button
    android:id="@+id/onRestartButton"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:text="@string/onRestart"
    android:layout_marginTop="10dp"
    app:layout_constraintTop_toBottomOf="@id/onStopButton"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    />
<Button
    android:id="@+id/onDestroyButton"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:text="@string/onDestroy"
    android:layout_marginTop="10dp"
```

```
    app:layout_constraintTop_toBottomOf="@id/onRestartButton"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    />
</androidx.constraintlayout.widget.ConstraintLayout>
```

OUTPUT:

RESULT:

The program was executed successfully and the output was obtained.

Lab Cycle: 01 Date:

EXPERIMENT NO: 04

AIM: Write a program that demonstrates Activity Lifecycle

Procedure:

MainActivity.java

```
package com.example.ui;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {

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

        Button constraintButton = findViewById(R.id.constraintButton);
        Button linearButton = findViewById(R.id.linearButton);
        Button gridButton = findViewById(R.id.gridButton);
        Button relativeButton = findViewById(R.id.relativeButton);
        Button frameButton = findViewById(R.id.frameButton);
        Button tableButton = findViewById(R.id.tableButton);

        View.OnClickListener buttonClickListener = new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String layoutName = ((Button) v).getText().toString();
                displayToken(layoutName);
```

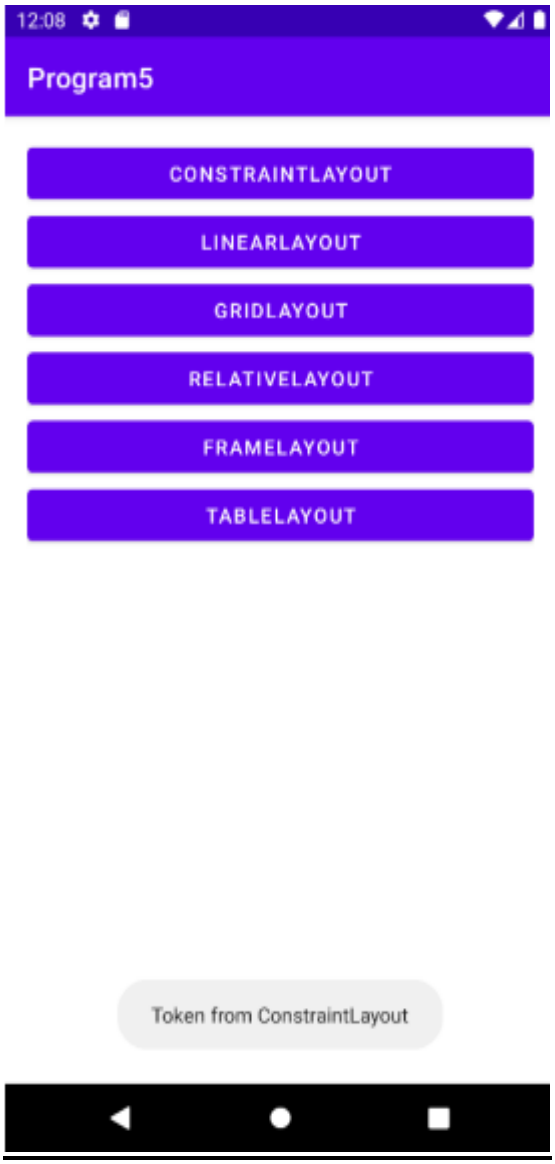
```
            }
        };
        constraintButton.setOnClickListener(buttonClickListener);
        linearButton.setOnClickListener(buttonClickListener);
        gridButton.setOnClickListener(buttonClickListener);
        relativeButton.setOnClickListener(buttonClickListener);
        frameButton.setOnClickListener(buttonClickListener);
        tableButton.setOnClickListener(buttonClickListener);
    }
    private void displayToken(String layoutName) {
        Toast.makeText(this, "Token from " + layoutName, Toast.LENGTH_SHORT).show();
    }
}
```

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"
    android:padding="16dp"
    tools:context=".MainActivity">

    <Button
        android:id="@+id/constraintButton"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="ConstraintLayout" />
```

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

    <Button
        android:id="@+id/gridButton"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="GridLayout" />

    <Button
        android:id="@+id/relativeButton"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="RelativeLayout" />

    <Button
        android:id="@+id/frameButton"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="FrameLayout" />

    <Button
        android:id="@+id/tableButton"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="TableLayout" />
</LinearLayout>
```

OUTPUT:



RESULT:

The program was executed successfully and the output was obtained.

EXPERIMENT NO: 05

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

Procedure:

MainActivity.java

```
package com.example.s3mca55;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ImageView;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {

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

        // Find the ImageView elements by their IDs
        ImageView facebookView = findViewById(R.id.fbView);
        ImageView likeImgView = findViewById(R.id.likeView);
        ImageView commentImgView = findViewById(R.id.cmmntView);
        ImageView shareImgView = findViewById(R.id.shareView);

        // Set click listeners for the ImageViews
        likeImgView.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                showToast("You clicked the Like button");
```

```
        }
    });
    commentImgView.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            showToast("You clicked the Comment button");
        }
    });
    shareImgView.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            showToast("You clicked the Share button");
        }
    });
  }
  // Helper method to display a toast message
  private void showToast(String message){
        Toast.makeText(this, message, Toast.LENGTH_LONG).show();
    }
}
```

activity_main.xml

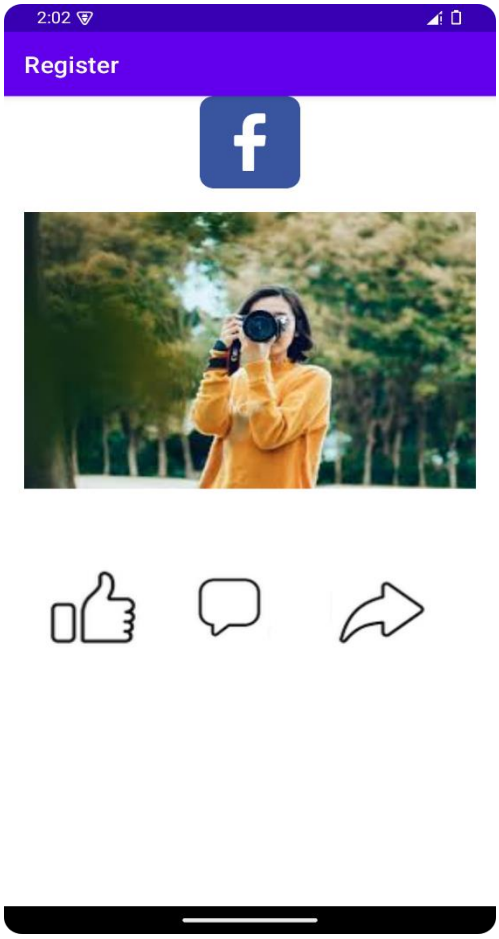
```
<?xml version="1.0" encoding="utf-8"?>

<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
  xmlns:app="http://schemas.android.com/apk/res-auto"
  xmlns:tools="http://schemas.android.com/tools"
  android:layout_width="fill_parent"
  android:layout_height="fill_parent"
  android:paddingLeft="16dp"
  android:paddingRight="16dp" >
```

```
<ScrollView
    android:layout_width="match_parent"
    android:layout_height="match_parent">

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

        <ImageView
            android:id="@+id/fbView"
            android:layout_width="200dp"
            android:layout_height="80dp"
            android:layout_gravity="center"
            android:src="@drawable/f"/>

        <ImageView
            android:id="@+id/imageView6"
            android:layout_width="match_parent"
            android:layout_height="281dp"
            android:src="@drawable/f"/>

        <androidx.gridlayout.widget.GridLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_gravity="center"
            android:layout_marginTop="40dp"
            app:columnCount="4"
            app:rowCount="4">

            <ImageView
```

```
    android:id="@+id/likeView"
    android:layout_width="110dp"
    android:layout_height="83dp"
    app:layout_row="0"
    app:layout_column="1"
    android:clickable="true"
    android:onClick="onLikeClick"
    app:layout_gravity="center"
    android:src="@drawable/f"/>

<ImageView
    android:id="@+id/cmmntView"
    android:layout_width="111dp"
    android:layout_height="66dp"
    app:layout_row="0"
    app:layout_column="2"
    app:layout_gravity="center"
    android:clickable="true"
    android:onClick="onComntClick"

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

<ImageView
    android:id="@+id/shareView"
    android:layout_width="93dp"
    android:layout_height="86dp"
    app:layout_row="0"
    app:layout_column="3"
    app:layout_gravity="center"
    android:clickable="true"
    android:onClick="onShareClick"
```

```
            android:src="@drawable/f"/>
        </androidx.gridlayout.widget.GridLayout>

    </LinearLayout>
  </ScrollView>

</RelativeLayout>
```

OUTPUT:



RESULT:

The program was executed successfully and the output was verified.

EXPERIMENT NO: 06

AIM: Develop an application that toggles image using FrameLayout.

Procedure:

MainActivity.java

```
package com.example.s3mca55;

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 i1,i2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        // Find the ImageView elements by their IDs
        i1= findViewById(R.id.img1);
        i2= findViewById(R.id.img2);
        // Set click listeners for the ImageViews
        i1.setOnClickListener(this);
        i2.setOnClickListener(this);
    }
    public void onClick(View view){
        if(view.getId()==R.id.img1){
            i1.setVisibility(view.GONE);
            i2.setVisibility(view.VISIBLE);
```

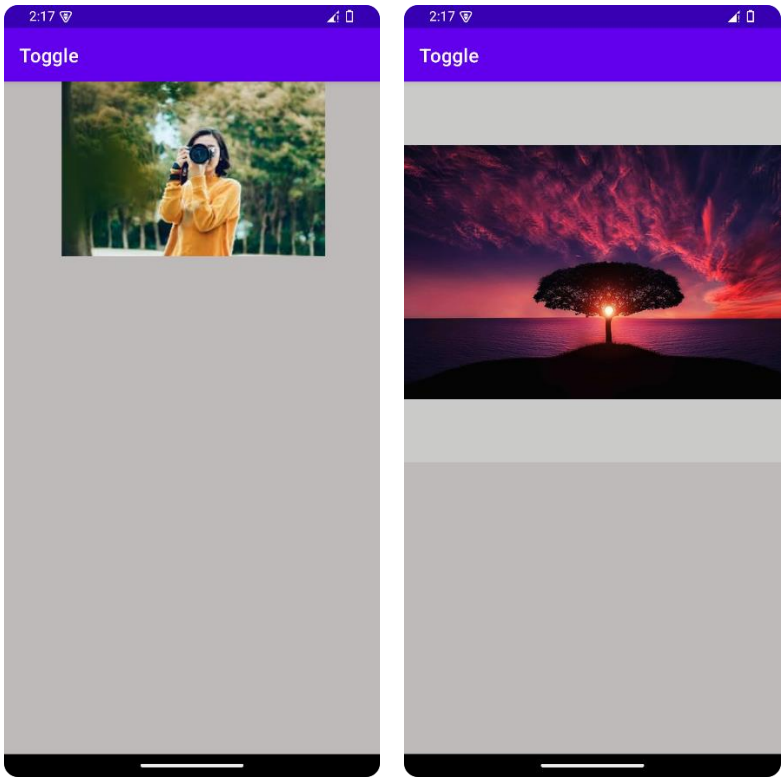
```
        }
        else{
            i2.setVisibility(view.GONE);
            i1.setVisibility(view.VISIBLE);
        }
    }
}
```

activity_main.xml

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

<FrameLayout 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="#BDBABA"
    tools:context=".MainActivity">



    <ImageView
        android:id="@+id/img1"
        android:layout_width="427dp"
        android:layout_height="wrap_content"
        android:layout_gravity="left|top"
        android:background="#CACAC8"
        app:srcCompat="@drawable/f" />

    <ImageView
        android:id="@+id/img2"
        android:layout_width="396dp"
```

```
        android:layout_height="wrap_content"
        android:layout_gravity="left|top"
        android:visibility="gone"
        app:srcCompat="@drawable/ic_launcher_foreground" />

</FrameLayout>
```

OUTPUT:



RESULT:

The program was executed successfully and the output was verified.

Lab Cycle: 02 Date: 01-10-2024

EXPERIMENT NO: 07

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

Procedure:

MainActivity.java

```
package com.example.s3mca55;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    private EditText usrname, email, passwd;
    private Button regbtn;

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

        usrname = findViewById(R.id.usernameText);
        email = findViewById(R.id.emailText);
        passwd = findViewById(R.id.passwordText);
        regbtn = findViewById(R.id.registerButton);
```

```
        regbtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String uname = usrname.getText().toString();
                String em = email.getText().toString();
                String pwd = passwd.getText().toString();

                //storing using shared preferences...
                SharedPreferences preferences = getSharedPreferences("MyPref", MODE_PRIVATE);
                SharedPreferences.Editor editor = preferences.edit();
                editor.putString("username", uname);
                editor.putString("email", em);
                editor.putString("password", pwd);
                editor.apply();

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

                //start activity using Intent..
                Intent intent = new Intent(MainActivity.this, MainActivity.class);
                startActivity(intent);
            }
        });
    }
}
```

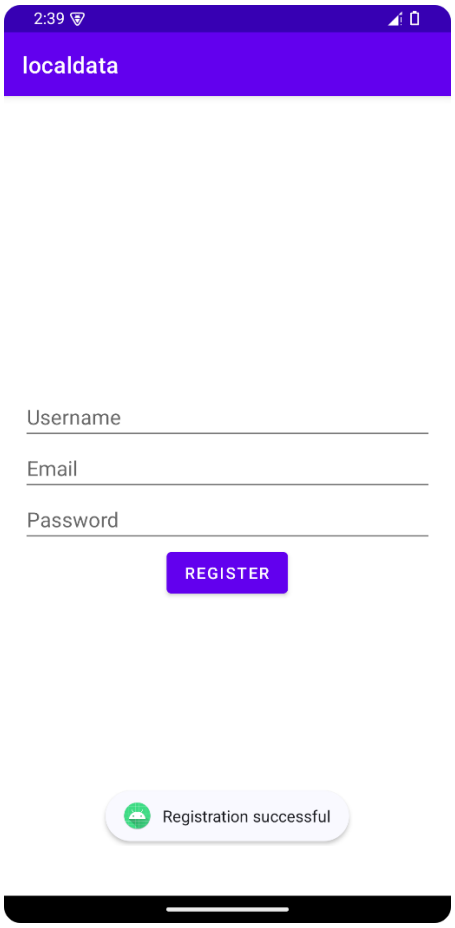
activity_main.xml

```
<?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"
android:padding="16dp"
android:gravity="center">

<EditText
    android:id="@+id/usernameText"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="text"
    android:hint="Username" />

<EditText
    android:id="@+id/emailText"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textEmailAddress"
    android:hint="Email" />

<EditText
    android:id="@+id/passwordText"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textPassword"
    android:hint="Password" />
```

```
    <Button
        android:id="@+id/registerButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:text="Register" />

</LinearLayout>
```

OUTPUT:



RESULT:

The program was executed successfully and the output was verified.

EXPERIMENT NO: 08

AIM: Develop an application that uses ArrayAdapter with ListView.

Procedure:

MainActivity.java

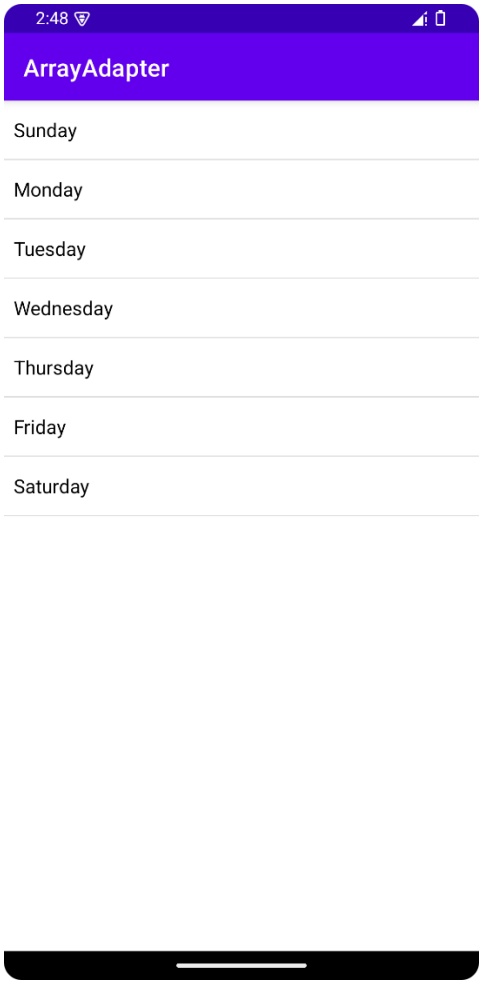
```
package com.example.s3mca55;

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

public class MainActivity extends AppCompatActivity implements
AdapterView.OnItemClickListener{
   ListView lview;
   String [] days= {"Sunday","Monday","Tuesday","Wednesday","Thursday","Friday","Saturday"};

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

      lview = findViewById(R.id.listview);
```

```
        ArrayAdapter<String> adapter = new ArrayAdapter<String>(this,
                androidx.appcompat.R.layout.support_simple_spinner_dropdown_item, days);
        lview.setAdapter(adapter);
        lview.setOnItemClickListener(this);
    }

    @Override
    public void onItemClick(AdapterView adapterView,View view, int position, long id){
        TextView temp = (TextView) view;
        Toast.makeText(this,"You Clicked "+temp.getText()+" at
"+position,Toast.LENGTH_LONG).show();
    }
}
```

activity_main.xml

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


    <ListView
        android:id="@+id/listview"
        android:layout_width="400dp"
        android:layout_height="400dp"
        tools:layout_editor_absoluteX="16dp"
        tools:layout_editor_absoluteY="-2dp"
        tools:ignore="MissingConstraints" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

OUTPUT:



RESULT:

The program was executed successfully and the output was verified.

EXPERIMENT NO: 09

AIM: Implement Options Menu to navigate to activities.

Procedure:

MainActivity.java

```
package com.example.s3mca55;

import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.ListView;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.TextView;
import android.widget.Toast;
import androidx.annotation.NonNull;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    public boolean onCreateOptionsMenu(Menu menu){
```

```
        MenuInflater inflater = getMenuInflater();
        inflater.inflate(R.menu.menu_main, menu);
        return super.onCreateOptionsMenu(menu);
    }

    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item){
        switch(item.getItemId()){
            case R.id.settings:
                Intent intent = new Intent(this,settingPage.class);
                startActivity(intent);
                break;
            case R.id.about:
                Toast.makeText(this,"You Clicked about option!!",Toast.LENGTH_SHORT).show();
                break;
            case R.id.logout:
                Toast.makeText(this,"You Clicked logout option!!",Toast.LENGTH_SHORT).show();
                break;

        }
        return super.onOptionsItemSelected(item);
    }
}
```

activity_main.xml

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

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


    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Helo World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

settingPage.java

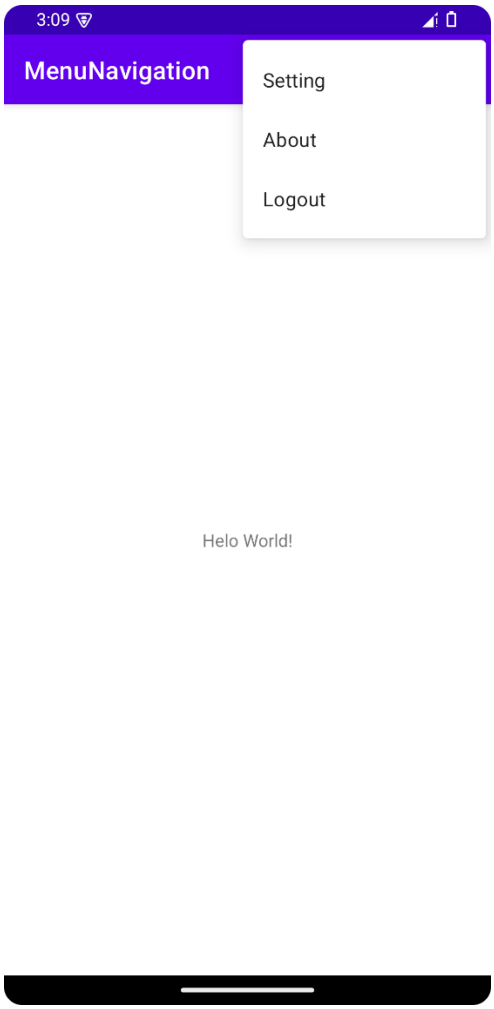
```
package com.example.s3mca55;
public class settingPage {

}
```

menu_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item
        android:id="@+id/settings"
        android:title="Setting" />
    <item
        android:id="@+id/about"
        android:title="About" />
    <item
```

```
    android:id="@+id/logout"
    android:title="Logout" />
</menu>
```

OUTPUT:



RESULT:

The program was executed successfully and the output was verified.

EXPERIMENT NO: 10

AIM: Develop application that works with explicit intents

Procedure:

MainActivity.java

```
package com.example.s3mca55;

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

public class MainActivity extends AppCompatActivity {
    EditText name,age;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        name = findViewById(R.id.textName);
        age = findViewById(R.id.textAge);
    }


    public void switchActivity(View view){
        Intent intent = new Intent(MainActivity.this, MainActivity2.class);
        intent.putExtra("user",name.getText().toString());
        intent.putExtra("age",age.getText().toString());
        startActivity(intent);
```

```
    }
}
```

activity_main.xml

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


    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Activity-1"
        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="0.105" />

    <EditText
        android:id="@+id/textName"
        android:layout_width="379dp"
        android:layout_height="48dp"
        android:hint="Please enter name"
        android:inputType="text"
```

```
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="1.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.2" />

    <EditText
        android:id="@+id/textAge"
        android:layout_width="379dp"
        android:layout_height="48dp"
        android:hint="Please enter age"
        android:inputType="text"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.305" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Button"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        android:onClick="switchActivity"/>

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

MainActivity2.java

```
package com.example.s3mca55;

import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.widget.TextView;

public class MainActivity2 extends AppCompatActivity {
    TextView text;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);

        Intent intent = getIntent();
        String user = intent.getStringExtra("user");
        String age = intent.getStringExtra("age");
        text = findViewById(R.id.textView);
        text.setText("Welcome "+user+" age "+age);
    }

}
```

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"
```

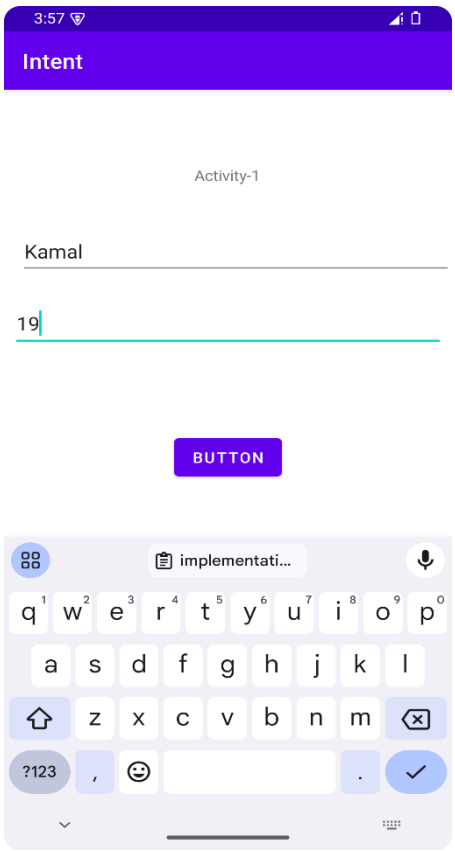
```
    tools:context=".MainActivity2">
    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Activity-2"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        tools:layout_editor_absoluteX="165dp"
        tools:layout_editor_absoluteY="372dp"/>
</androidx.constraintlayout.widget.ConstraintLayout>
```

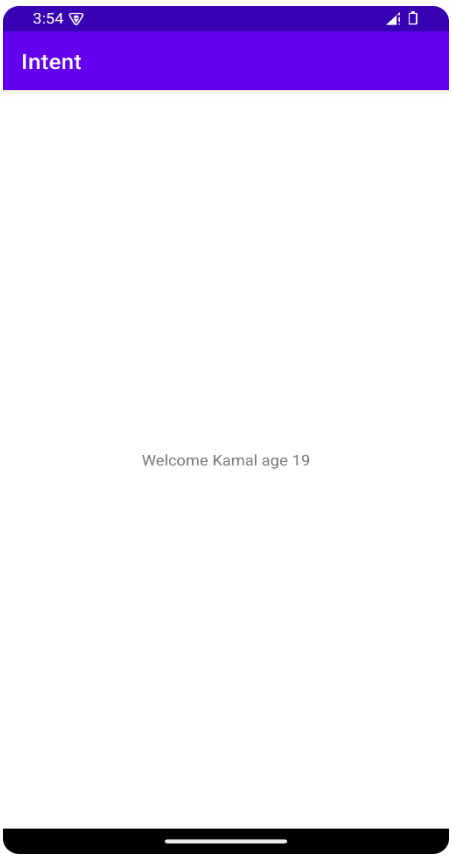
AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.S3mca55"
        tools:targetApi="31">
        <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>
        <meta-data
            android:name="android.app.lib_name"
            android:value="" />
    </activity>
    <activity android:name=".MainActivity2"></activity>
  </application>
</manifest>
```

OUTPUT:





RESULT:

The program was executed successfully and the output was verified.

Lab Cycle: 03 Date: 15-10-2024

EXPERIMENT NO: 11

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

Procedure:

MainActivity.java

```
package com.example.s3mca55;


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


public class MainActivity extends AppCompatActivity {
    String [] names= {"Item1", "Item2", "Item3"};
    String [] des= {"Item1 Text", "item2 Text", "Item3 Text"};
    ArrayAdapter adapter;
    Spinner spinner;
    TextView selectedItems;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        spinner = findViewById(R.id.spinner);
        selectedItems = findViewById(R.id.textView);
        adapter = new
ArrayAdapter(getApplicationContext(),android.R.layout.simple_list_item_1,names);
```

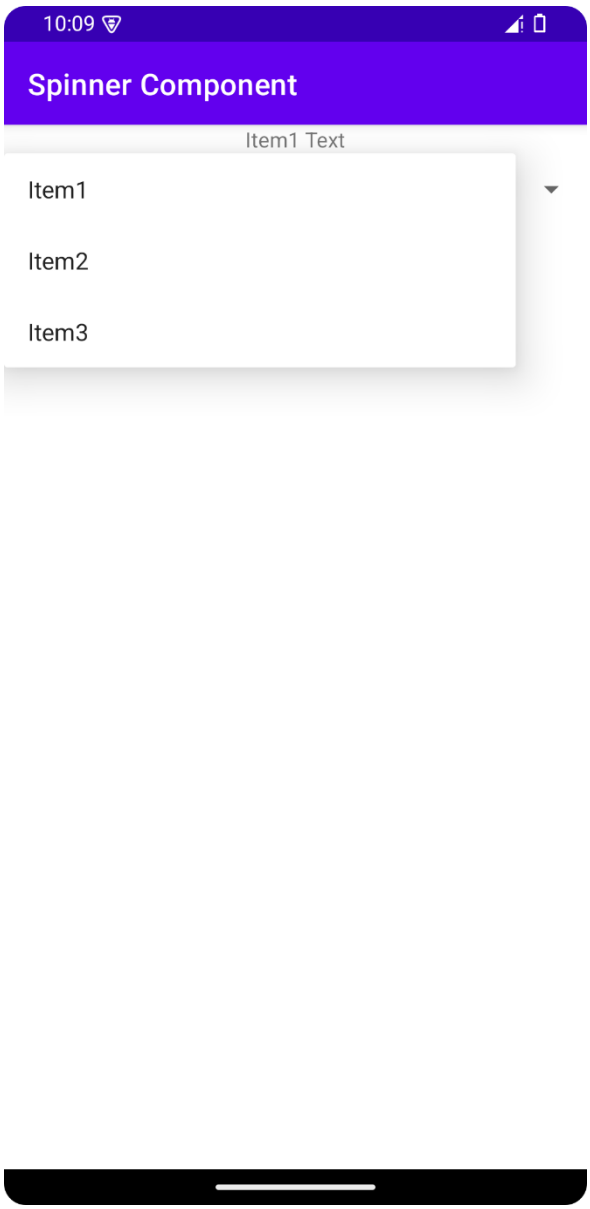
```
        spinner.setAdapter(adapter);
        spinner.setOnItemSelectedListener(new AdapterView.OnItemSelectedListener() {
            @Override
            public void onItemSelected(AdapterView<?> adapterView, View view, int i, long l) {
                switch (i){
                    case 0:
                        selectedItems.setText(""+des[i]);
                        break;
                    case 1:
                        selectedItems.setText(""+des[i]);
                        break;
                    case 2:
                        selectedItems.setText(""+des[i]);
                        break;
                }
            }

            @Override
            public void onNothingSelected(AdapterView<?> adapterView) {

            }
        });
    }

}
```

activity_main.xml

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

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


    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.604" />

    <Spinner
        android:id="@+id/spinner"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:minHeight="48dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        tools:ignore="SpeakableTextPresentCheck" />

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

OUTPUT:



RESULT:

The program was executed successfully and the output was verified.

EXPERIMENT NO: 12

AIM: Develop application using Fragments

Procedure:

MainActivity.java

```
package com.example.s3mca55;


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


public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        TextView selctdfgmt = findViewById(R.id.selectedFrgmnt);
        Button frgmntbtn1 = findViewById(R.id.frgmnt1);
        Button frgmntbtn2 = findViewById(R.id.frgmnt2);


        frgmntbtn1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                getSupportFragmentManager().beginTransaction().replace(R.id.frgmntcontainer, new
FirstFragment()).commit();
                selctdfgmt.setText("Selected: fragment-1");
            }
```

```
        });
        frgmntbtn2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                getSupportFragmentManager().beginTransaction().replace(R.id.frgmntcontainer, new
SecondFragment()).commit();
                selctdfgmt.setText("Selected: fragment-2");
            }
        });

    }

}
```

FirstFragment.java

```
package com.example.s3mca55;

import androidx.fragment.app.Fragment;
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;

import android.graphics.Color;
import android.widget.LinearLayout;
import android.widget.TextView;

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;

public class FirstFragment extends Fragment {
    @Nullable
```

```
    @Override
    public View onCreateView(@NonNull LayoutInflater inflater, @Nullable ViewGroup container,
@Nullable Bundle savedInstanceState) {
        // Create a LinearLayout to hold the TextView
        LinearLayout linearLayout = new LinearLayout(getActivity());
        linearLayout.setOrientation(LinearLayout.VERTICAL);
        linearLayout.setBackgroundColor(Color.rgb(135, 206, 235)); // Set the background color (e.g.,
light gray)
        linearLayout.setLayoutParams(new ViewGroup.LayoutParams(
                ViewGroup.LayoutParams.MATCH_PARENT,
                ViewGroup.LayoutParams.MATCH_PARENT
        ));

        // Create a TextView to show the "Hello!" message
        TextView textView = new TextView(getActivity());
        textView.setText("Fragment-1");
        textView.setTextSize(30);
        textView.setLayoutParams(new LinearLayout.LayoutParams(
                ViewGroup.LayoutParams.WRAP_CONTENT,
                ViewGroup.LayoutParams.WRAP_CONTENT
        ));
        // Add the TextView to the LinearLayout
        linearLayout.addView(textView);

        return linearLayout; // Return the LinearLayout as the root view for the fragment
    }
}
```

SecondFragment.java

```
package com.example.s3mca55;

import androidx.fragment.app.Fragment;
```

```
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;

import android.graphics.Color;
import android.widget.LinearLayout;
import android.widget.TextView;

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;

public class SecondFragment extends Fragment {
    @Nullable
    @Override
    public View onCreateView(@NonNull LayoutInflater inflater, @Nullable ViewGroup container,
@Nullable Bundle savedInstanceState) {
        // Create a LinearLayout to hold the TextView
        LinearLayout linearLayout = new LinearLayout(getActivity());
        linearLayout.setOrientation(LinearLayout.VERTICAL);
        linearLayout.setBackgroundColor(Color.rgb(235, 106, 135)); // Set the background color (e.g.,
light gray)
        linearLayout.setLayoutParams(new ViewGroup.LayoutParams(
                ViewGroup.LayoutParams.MATCH_PARENT,
                ViewGroup.LayoutParams.MATCH_PARENT
        ));
        // Create a TextView to show the "Hello!" message
        TextView textView = new TextView(getActivity());
        textView.setText("Fragment-2");
        textView.setTextSize(30);
        textView.setLayoutParams(new LinearLayout.LayoutParams(
                ViewGroup.LayoutParams.WRAP_CONTENT,
```

```
            ViewGroup.LayoutParams.WRAP_CONTENT
        ));
        // Add the TextView to the LinearLayout
        linearLayout.addView(textView);

        return linearLayout; // Return the LinearLayout as the root view for the fragment
    }
}
```

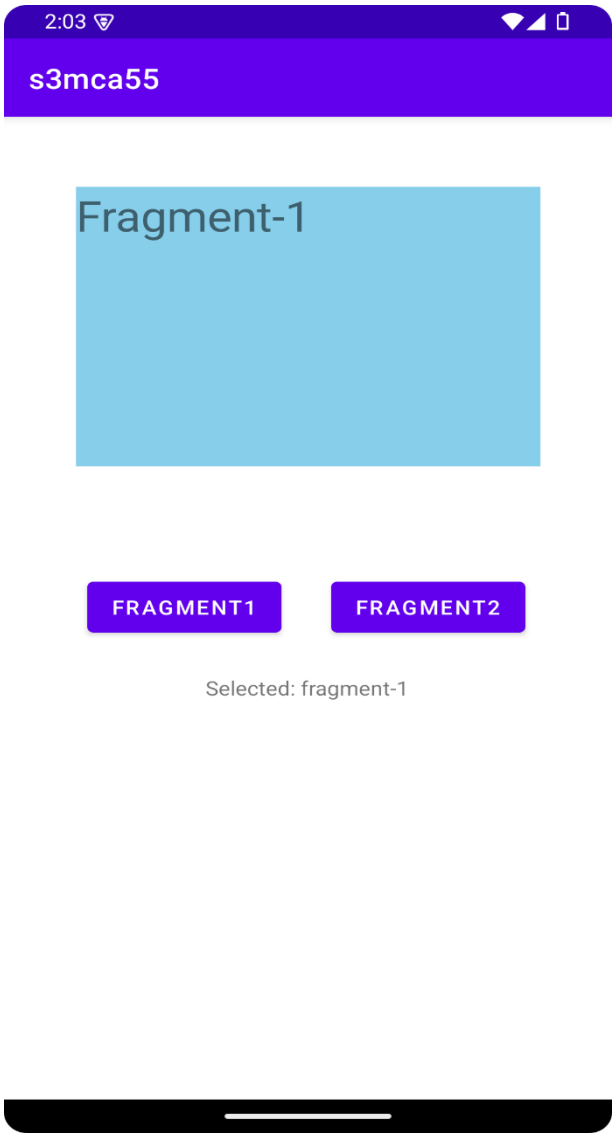
activity_main.xml

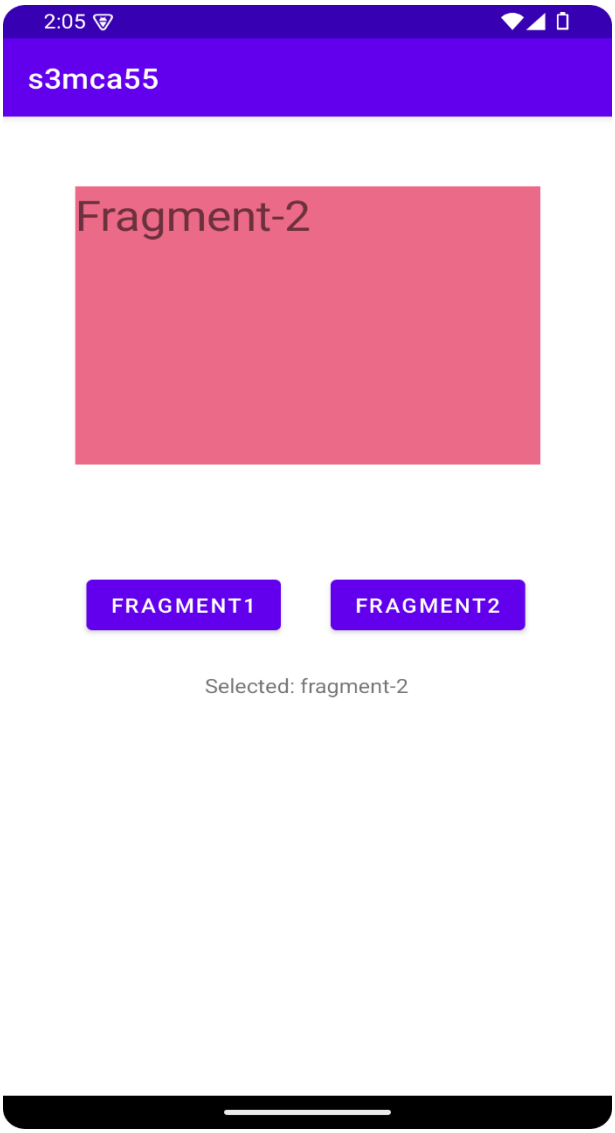
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"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

    <TextView
        android:id="@+id/selectedFrgmnt"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Fragment Selected"
        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="0.583" />
```

```
<Button
    android:id="@+id/frgmnt1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Fragment1"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.201"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.499" />

<Button
    android:id="@+id/frgmnt2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Fragment2"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.791"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.499" />

<FrameLayout
    android:id="@+id/frgmntcontainer"
    android:layout_width="300dp"
    android:layout_height="200dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
```

```
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.1">

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

OUTPUT:





RESULT:

The program was executed successfully and the output was verified.

EXPERIMENT NO: 13

AIM: Create a database using SQLite and perform INSERT, UPDATE, SELECT and DELETE.

Procedure:

MainActivity.java

```
package com.example.dbapplication;

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.btnInsert);
```

```
        update = findViewById(R.id.btnUpdate);
        delete = findViewById(R.id.btnDelete);
        view = findViewById(R.id.btnView);
        DB=new DBHelper(this);
        insert.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                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, "Not Inserted", Toast.LENGTH_SHORT).show();
            }
        });
        update.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                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 view) {
                String nameTXT=name.getText().toString();
                Boolean checkdeletedata=DB.deletedata(nameTXT);
                if (checkdeletedata)
                    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 view) {
                Cursor result=DB.getdata();
                if (result.getCount()==0){
                    Toast.makeText(MainActivity.this, "No Entry Found!!",
Toast.LENGTH_SHORT).show();
                }
                else{
                    StringBuffer buffer=new StringBuffer();
                    while(result.moveToNext()){
                        buffer.append("Name:"+result.getString(0)+"\n");
                        buffer.append("Contact:"+result.getString(1)+"\n");
                        buffer.append("DOB:"+result.getString(2)+"\n");
                    }
                    AlertDialog.Builder builder=new AlertDialog.Builder(MainActivity.this);
                    builder.setCancelable(true);
                    builder.setTitle("User Entries");
                    builder.setMessage(buffer.toString());
                    builder.show();
```

```
            }
        }
    });
  }
}
```

DBHelper.java

```
package com.example.dbapplication;

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

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

  @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;
    }

}
```

activity_main.xml

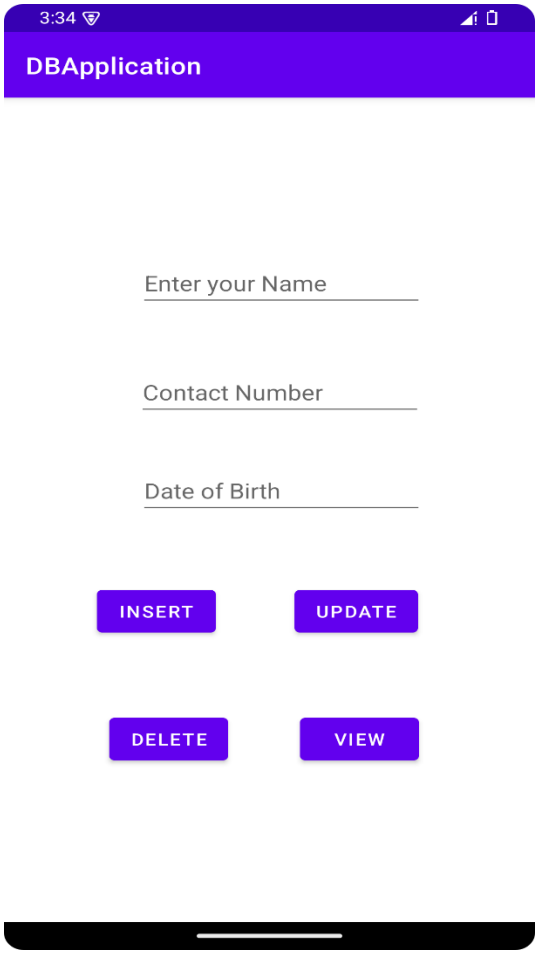
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
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

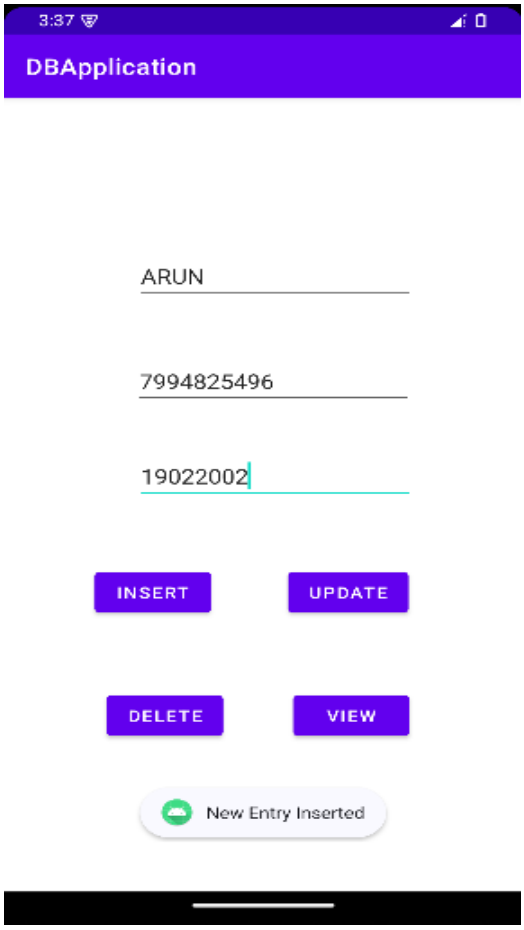
```
tools:context=".MainActivity">

<EditText
    android:id="@+id/contact"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="48dp"
    android:ems="10"
    android:hint="Contact Number"
    android:inputType="textPersonName"
    android:text=""
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.542"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/Name" />

<EditText
    android:id="@+id/Name"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="136dp"
    android:ems="10"
    android:hint="Enter your Name"
    android:inputType="textPersonName"

    android:text=""
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.547"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

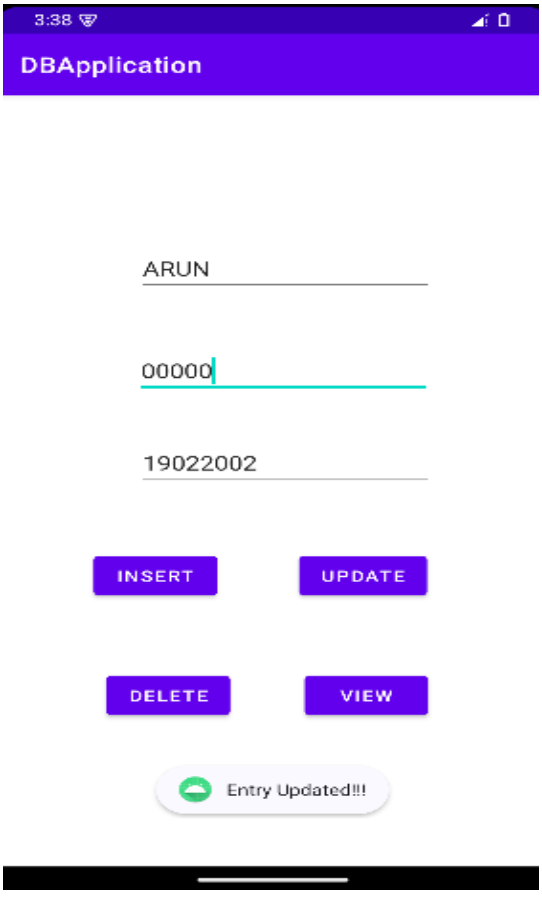
```
<EditText
    android:id="@+id/dob"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="39dp"
    android:ems="10"
    android:hint="Date of Birth"
    android:inputType="textPersonName"
    android:text=""
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.547"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/contact" />

<Button
    android:id="@+id/btnInsert"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="10dp"
    android:text="INSERT"
    app:layout_constraintBaseline_toBaselineOf="@+id/btnUpdate"
    app:layout_constraintEnd_toStartOf="@+id/btnUpdate"
    app:layout_constraintStart_toStartOf="parent" />

<Button
    android:id="@+id/btnUpdate"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="28dp"
    android:layout_marginBottom="61dp"
    android:text="UPDATE"
    app:layout_constraintBottom_toTopOf="@+id/btnView"
```

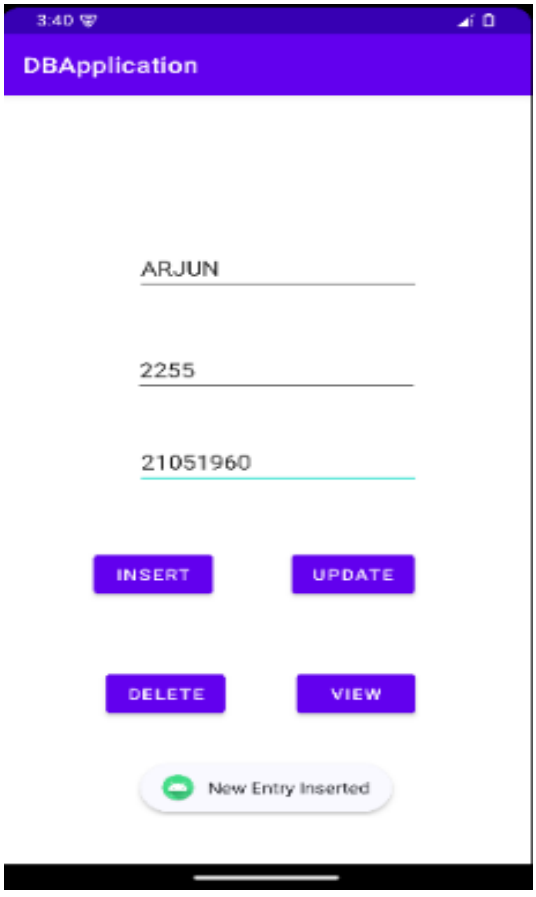
```
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toEndOf="@+id/btnInsert" />

    <Button
        android:id="@+id/btnDelete"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginEnd="53dp"
        android:text="DELETE"
        app:layout_constraintBaseline_toBaselineOf="@+id/btnView"
        app:layout_constraintEnd_toStartOf="@+id/btnView" />

    <Button
        android:id="@+id/btnView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="132dp"
        android:text="VIEW"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="@+id/dob"
        app:layout_constraintStart_toStartOf="@+id/btnUpdate" />

    <androidx.constraintlayout.widget.Guideline
        android:id="@+id/guideline2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="vertical"
        app:layout_constraintGuide_begin="20dp" />

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

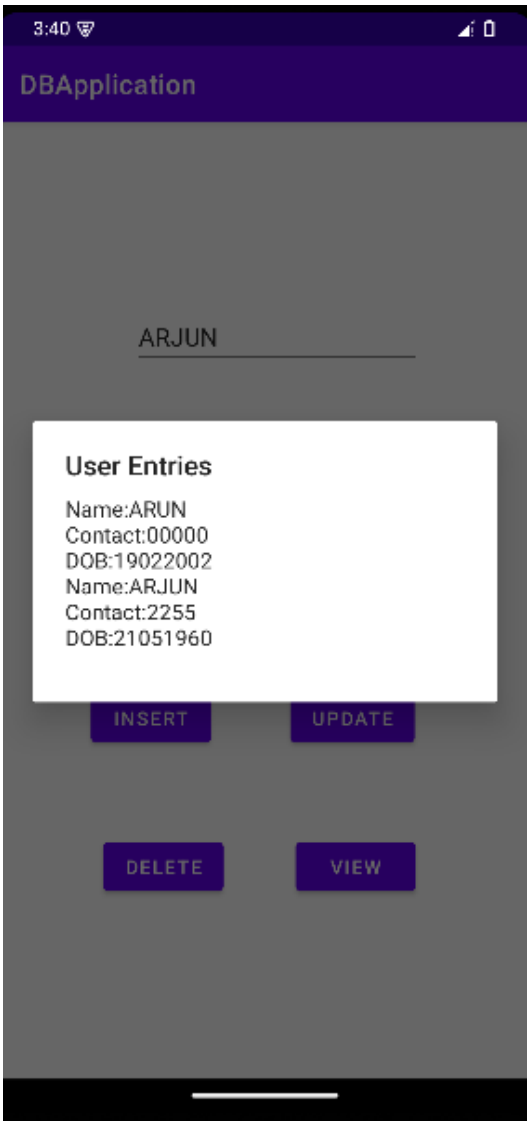
OUTPUT:

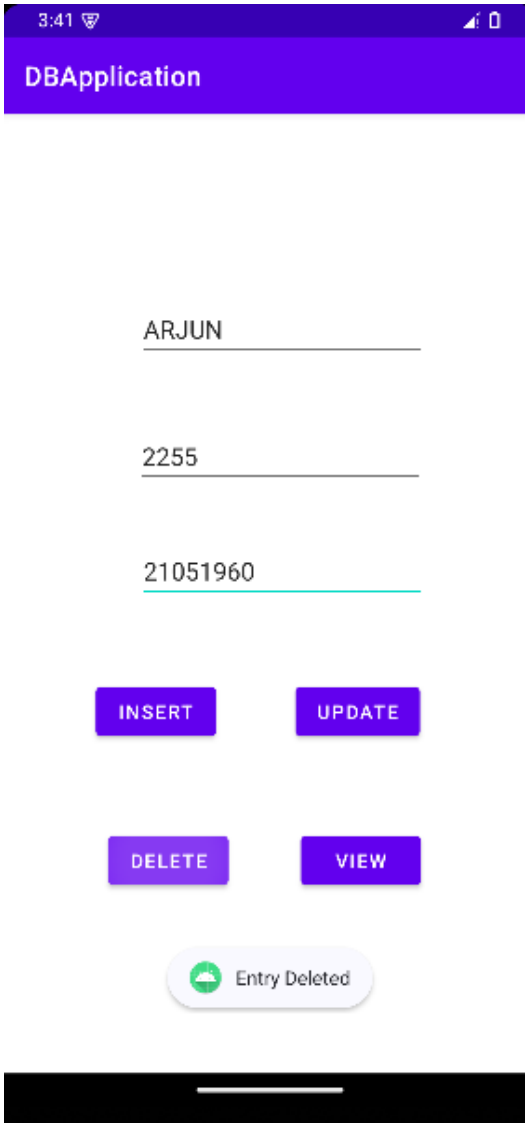

3:34
DBApplication
Enter your Name
Contact Number
Date of Birth
INSERT
UPDATE
DELETE
VIEW


3:37
DBApplication
ARUN
7994825496
19022002
INSERT
UPDATE
DELETE
VIEW
New Entry Inserted


3:38
DBApplication
ARUN
00000
19022002
INSERT
UPDATE
DELETE
VIEW
Entry Updated!!!


3:40
DBApplication
ARJUN
2255
21051960
INSERT
UPDATE
DELETE
VIEW
New Entry Inserted





RESULT:

The program was executed successfully and the output was verified.