

**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 1**

**Aim**

Develop an android application design for Login form.

**Procedure**

--------------------------------------------------------------- XML Code ---------------------------------------------------------------

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

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

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

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

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:gravity="center"

android:orientation="vertical"

tools:context=".MainActivity">

<EditText

android:id="@+id/username"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_margin="10dp"

android:inputType="textPersonName"

android:hint="Username"/>

<EditText

android:id="@+id/password"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_margin="10dp"

android:inputType="textPassword"

android:hint="Username"/>

<Button

android:id="@+id/login"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Login"

android:layout\_margin="10dp"/>

</LinearLayout>

--------------------------------------------------------------- Java Code ---------------------------------------------------------------

package com.example.loginformques01;

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 {

// Variable Creation

EditText username,password;

Button login;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

// Variables Initializatxions

username= findViewById(R.id.username);

password= findViewById(R.id.password);

login= findViewById(R.id.login);

// Below code works when user clicks on the login button

login.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

String username\_text= username.getText().toString();

String password\_text= password.getText().toString();

Toast.makeText(MainActivity.this, "Login Successful.\nUsername is : "+username\_text+"\nPassword is : "+password\_text, Toast.LENGTH\_LONG).show();

}

});

}

}

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 2**

**Aim**

Develop an Android application which shows different Activity Life Cycles(Log.d).

**Procedure**

------------------------------------------------------------ XML Code ------------------------------------------------------------

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

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

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

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

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:gravity="center"

tools:context=".LifeCycleQues02Activity">

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Question explaining the Activity-LifeCycle"/>

</LinearLayout>

------------------------------------------------------------ Java Code ------------------------------------------------------------

package com.example.loginformques01;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.util.Log;

public class LifeCycleQues02Activity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_life\_cycle\_ques02);

Log.d("lifecycle","onCreate invoked");

}

@Override

protected void onStart() {

super.onStart();

Log.d("lifecycle","onStart invoked");

}

@Override

protected void onResume() {

super.onResume();

Log.d("lifecycle","onResume invoked");

}

@Override

protected void onPause() {

super.onPause();

Log.d("lifecycle","onPause invoked");

}

@Override

protected void onStop() {

super.onStop();

Log.d("lifecycle","onStop invoked");

}

@Override

protected void onRestart() {

super.onRestart();

Log.d("lifecycle","onRestart invoked");

}

@Override

protected void onDestroy() {

super.onDestroy();

Log.d("lifecycle","onDestroy invoked");

}

}

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 3**

**Aim**

Develop an Android calculator application.

**Procedure**

------------------------------------------------------------- XML Code -------------------------------------------------------------

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

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

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

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

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:gravity="center"

android:orientation="vertical"

android:padding="20dp"

tools:context=".ArithmeticCalculatorQues03Activity">

<EditText

android:id="@+id/number1"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:inputType="numberDecimal"

android:hint="Enter Number 01"/>

<EditText

android:id="@+id/number2"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:inputType="numberDecimal"

android:layout\_marginTop="10dp"

android:hint="Enter Number 02"/>

<TextView

android:id="@+id/result\_text"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="20dp"

android:textStyle="bold"

android:textColor="@color/black"

android:textSize="17sp"/>

<Button

android:id="@+id/add\_btn"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:text="+" />

<Button

android:id="@+id/sub\_btn"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:text="-" />

<Button

android:id="@+id/mul\_btn"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:text="x" />

<Button

android:id="@+id/div\_btn"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:text="/" />

<Button

android:id="@+id/clear\_btn"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:text="clear" />

</LinearLayout>

------------------------------------------------------------- Java Code -------------------------------------------------------------

package com.example.loginformques01;

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 ArithmeticCalculatorQues03Activity extends AppCompatActivity {

EditText number1, number2;

TextView result\_text;

Button add\_btn, sub\_btn, mul\_btn, div\_btn, clear\_btn;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_arithmetic\_calculator\_ques03);

number1= findViewById(R.id.number1);

number2= findViewById(R.id.number2);

result\_text= findViewById(R.id.result\_text);

add\_btn= findViewById(R.id.add\_btn);

sub\_btn= findViewById(R.id.sub\_btn);

mul\_btn= findViewById(R.id.mul\_btn);

div\_btn= findViewById(R.id.div\_btn);

clear\_btn= findViewById(R.id.clear\_btn);

add\_btn.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

String number1\_text= number1.getText().toString();

String number2\_text= number2.getText().toString();

int num1= Integer.parseInt(number1\_text);

int num2= Integer.parseInt(number2\_text);

float sum= num1+num2;

result\_text.setText("The addition of the two numbers is : "+sum);

}

});

sub\_btn.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

String number1\_text= number1.getText().toString();

String number2\_text= number2.getText().toString();

int num1= Integer.parseInt(number1\_text);

int num2= Integer.parseInt(number2\_text);

float sub= num1-num2;

result\_text.setText("The substraction of the two numbers is : "+sub);

}

});

mul\_btn.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

String number1\_text= number1.getText().toString();

String number2\_text= number2.getText().toString();

int num1= Integer.parseInt(number1\_text);

int num2= Integer.parseInt(number2\_text);

float mul= num1\*num2;

result\_text.setText("The multiplication of the two numbers is : "+mul);

}

});

div\_btn.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

String number1\_text= number1.getText().toString();

String number2\_text= number2.getText().toString();

int num1= Integer.parseInt(number1\_text);

int num2= Integer.parseInt(number2\_text);

float div= num1/num2;

result\_text.setText("The division of the two numbers is : "+div);

}

});

clear\_btn.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

number1.setText("");

number2.setText("");

}

});

}

}

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 4**

**Aim**

Develop an Android application with Shared Preference.

**Procedure**

Register Form Page

------------------------------------------------------------------- XML Code -------------------------------------------------------------------

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

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

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

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

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:orientation="vertical"

android:paddingHorizontal="20dp"

android:id="@+id/main\_layout"

android:paddingVertical="10dp"

tools:context=".SharedPreferencesQues05Activity">

<EditText

android:id="@+id/fullname"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:inputType="textPersonName"

android:layout\_marginTop="30dp"

android:hint="Full Name"/>

<EditText

android:id="@+id/emailid"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:inputType="textEmailAddress"

android:hint="Email ID"/>

<RadioGroup

android:id="@+id/gender\_radioGroup"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:orientation="horizontal">

<RadioButton

android:id="@+id/male\_gender"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Male"/>

<RadioButton

android:id="@+id/female\_gender"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginLeft="10dp"

android:text="Female"/>

<RadioButton

android:id="@+id/others\_gender"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginLeft="10dp"

android:text="Others"/>

</RadioGroup>

<TextView

android:id="@+id/gender\_error"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:textColor="#ff0000"/>

<EditText

android:id="@+id/password"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Password"

android:inputType="textPassword"

android:layout\_marginTop="10dp"/>

<Button

android:id="@+id/register\_btn"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:text="Register"/>

</LinearLayout>

------------------------------------------------------------------- Java Code -------------------------------------------------------------------

package com.example.loginformques01;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.content.SharedPreferences;

import android.os.Bundle;

import android.util.Patterns;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.LinearLayout;

import android.widget.RadioButton;

import android.widget.RadioGroup;

import android.widget.TextView;

public class SharedPreferencesQues05Activity extends AppCompatActivity {

EditText fullname, emailid, password;

RadioGroup gender\_radioGroup;

RadioButton male\_gender, female\_gender, others\_gender;

Button register\_btn;

TextView gender\_error;

LinearLayout main\_layout;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_shared\_preferences\_ques05);

fullname= findViewById(R.id.fullname);

emailid= findViewById(R.id.emailid);

password= findViewById(R.id.password);

gender\_radioGroup= findViewById(R.id.gender\_radioGroup);

male\_gender= findViewById(R.id.male\_gender);

female\_gender= findViewById(R.id.female\_gender);

others\_gender= findViewById(R.id.others\_gender);

register\_btn= findViewById(R.id.register\_btn);

gender\_error= findViewById(R.id.gender\_error);

main\_layout= findViewById(R.id.main\_layout);

register\_btn.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

main\_layout.clearFocus();

gender\_error.setText("");

String password\_regex = "^(?=.\*[0-9])(?=.\*[a-z])(?=.\*[A-Z])(?=.\*[@#$%^&+=])(?=\\S+$).{4,}$";

String fullname\_text= fullname.getText().toString();

String emailid\_text= emailid.getText().toString();

String password\_text= password.getText().toString();

int gender\_selected= gender\_radioGroup.getCheckedRadioButtonId();

if(fullname\_text.equals("")){

fullname.requestFocus();

fullname.setError("Please enter fullname !!");

}

else if(fullname\_text.length() < 3){

fullname.requestFocus();

fullname.setError("Fullname should be more than 2 characters !!");

}

else if(emailid\_text.equals("")){

emailid.requestFocus();

emailid.setError("Please enter email-id !!");

}

else if(!Patterns.EMAIL\_ADDRESS.matcher(emailid\_text).matches()){

emailid.requestFocus();

emailid.setError("Please enter a valid email-id !!");

}

else if(gender\_selected < 0){

gender\_error.setText("Select anyone of the gender option !!");

}

else if(!password\_text.matches(password\_regex)){

password.requestFocus();

password.setError("Password should contain - \na digit must occur at least once\na lower case letter must occur at least once\nan upper case letter must occur at least once\na special character like @#$%^&+=\nNo blank spaces allowed\natleast 6 characters");

}

else{

fullname.setError("");

emailid.setError("");

gender\_error.setText("");

password.setError("");

SharedPreferences pref= getSharedPreferences("register\_data", MODE\_PRIVATE);

SharedPreferences.Editor pref\_edit= pref.edit();

pref\_edit.putString("reg\_fullname",fullname\_text);

pref\_edit.putString("reg\_emailid",emailid\_text);

pref\_edit.putString("reg\_password",password\_text);

pref\_edit.putInt("reg\_gender",gender\_selected);

pref\_edit.apply();

Intent intent= new Intent(getApplicationContext(),SharedPreferencesResultPageActivity.class);

startActivity(intent);

}

}

});

}

}

####################################################################################################################################################

User Details Result Page

------------------------------------------------------------------- XML Code -------------------------------------------------------------------

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

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

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

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

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:orientation="vertical"

android:gravity="center"

android:padding="10dp"

tools:context=".SharedPreferencesResultPageActivity">

<TextView

android:id="@+id/fullname\_result"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:text="Name : "/>

<TextView

android:id="@+id/emailid\_result"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:text="Name : "/>

<TextView

android:id="@+id/gender\_result"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:text="Gender : "/>

<TextView

android:id="@+id/password\_result"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:text="Password : "/>

</LinearLayout>

------------------------------------------------------------------- Java Code -------------------------------------------------------------------

package com.example.loginformques01;

import androidx.appcompat.app.AppCompatActivity;

import android.content.SharedPreferences;

import android.os.Bundle;

import android.widget.TextView;

public class SharedPreferencesResultPageActivity extends AppCompatActivity {

TextView fullname\_result, emailid\_result, gender\_result, password\_result;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_shared\_preferences\_result\_page);

fullname\_result= findViewById(R.id.fullname\_result);

emailid\_result= findViewById(R.id.emailid\_result);

gender\_result= findViewById(R.id.gender\_result);

password\_result= findViewById(R.id.password\_result);

SharedPreferences pref= getSharedPreferences("register\_data", MODE\_PRIVATE);

String name= pref.getString("reg\_fullname","Sample Name");

String email= pref.getString("reg\_emailid","Sample Email");

String password= pref.getString("reg\_password","Sample Password");

int gender\_id= pref.getInt("reg\_gender",0);

String gender;

if(gender\_id==0)

gender= "Male";

else if(gender\_id==1)

gender= "Female";

else if(gender\_id==2)

gender= "Others";

else

gender="Sample Gender";

fullname\_result.setText(name);

emailid\_result.setText(email);

gender\_result.setText(gender);

password\_result.setText(password);

}

}

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 5**

**Aim**

Develop an Android application for Cascaded Linear Layout Calculator.

**Procedure**

Cascaded LinearLayout Calculator

------------------------------------------------------------------- XML Code -------------------------------------------------------------------

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

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

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

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

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:orientation="vertical"

android:id="@+id/calculator\_mainlay"

android:padding="20dp"

tools:context=".CascadedCalculatorActivity">

<EditText

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="30dp"

android:hint="Number 01"

android:inputType="number"/>

<EditText

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:hint="Number 02"

android:inputType="number"/>

<EditText

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:hint="Result"

android:clickable="false"

android:enabled="false"

android:inputType="number"/>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:orientation="vertical"

android:layout\_marginTop="20dp"

android:gravity="bottom">

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal"

android:weightSum="4">

<Button

android:id="@+id/numclearall\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="CE"

android:layout\_weight="1"/>

<Button

android:id="@+id/numclear\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="C"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

<Button

android:id="@+id/nummodulus\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="%"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

<Button

android:id="@+id/divide\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="/"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

</LinearLayout>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal"

android:layout\_marginTop="10dp"

android:weightSum="4">

<Button

android:id="@+id/num7\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="7"

android:layout\_weight="1"/>

<Button

android:id="@+id/num8\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="8"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

<Button

android:id="@+id/num9\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="9"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

<Button

android:id="@+id/multiply\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="x"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

</LinearLayout>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal"

android:layout\_marginTop="10dp"

android:weightSum="4">

<Button

android:id="@+id/num4\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="4"

android:layout\_weight="1"/>

<Button

android:id="@+id/num5\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="5"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

<Button

android:id="@+id/num6\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="6"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

<Button

android:id="@+id/substract\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="-"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

</LinearLayout>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal"

android:layout\_marginTop="10dp"

android:weightSum="4">

<Button

android:id="@+id/num1\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="1"

android:layout\_weight="1"/>

<Button

android:id="@+id/num2\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="2"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

<Button

android:id="@+id/num3\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="3"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

<Button

android:id="@+id/add\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="+"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

</LinearLayout>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal"

android:layout\_marginTop="10dp"

android:weightSum="4">

<Button

android:id="@+id/numplusminus\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="+/-"

android:layout\_weight="1"/>

<Button

android:id="@+id/num0\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="0"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

<Button

android:id="@+id/decimal\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="."

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

<Button

android:id="@+id/equals\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="="

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

</LinearLayout>

</LinearLayout>

</LinearLayout>

------------------------------------------------------------------- Java Code -------------------------------------------------------------------

package com.example.loginformques01;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class CascadedCalculatorActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_cascaded\_calculator);

}

}

#############################################################################################################################################################

Gridlayout Calculator

------------------------------------------------------------------- XML Code -------------------------------------------------------------------

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

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

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

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

android:id="@+id/calculator\_mainlay"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:orientation="vertical"

android:padding="20dp"

tools:context=".GridlayoutCalculatorActivity">

<EditText

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="30dp"

android:hint="Number 01"

android:inputType="number" />

<EditText

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:hint="Number 02"

android:inputType="number" />

<EditText

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:clickable="false"

android:enabled="false"

android:hint="Result"

android:inputType="number" />

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:gravity="bottom"

android:orientation="vertical">

<GridLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:columnCount="4"

android:orientation="horizontal"

android:rowCount="5">

<Button

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="CE"

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

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="C"

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

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="%"

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

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="/"

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

<Button

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="7"

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

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="8"

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

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="9"

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

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="x"

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

<Button

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="4"

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

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="5"

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

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="6"

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

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="-"

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

<Button

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="1"

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

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="2"

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

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="3"

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

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="+"

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

<Button

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="+/-"

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

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="0"

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

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="."

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

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="="

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

</GridLayout>

</LinearLayout>

</LinearLayout>

------------------------------------------------------------------- Java Code -------------------------------------------------------------------

package com.example.loginformques01;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class GridlayoutCalculatorActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_gridlayout\_calculator);

}

}

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 6**

**Aim**

Develop an Android application for Facebook login.

**Procedure**

------------------------------------------------------------------- XML Code -------------------------------------------------------------------

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

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

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

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

android:layout\_width="match\_parent"

android:orientation="vertical"

android:layout\_height="match\_parent"

android:id="@+id/mainlay"

tools:context=".FacebookLoginActivity">

<ImageView

android:layout\_width="match\_parent"

android:layout\_height="230dp"

android:src="@drawable/fb\_subbg"

android:scaleType="centerCrop"/>

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Nederlands . Polski . More ..."

android:textAlignment="center"

android:layout\_marginTop="5dp"

android:layout\_gravity="center"/>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:paddingHorizontal="30dp"

android:layout\_marginTop="50dp"

android:orientation="vertical">

<EditText

android:id="@+id/fb\_id"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Phone or email"

android:digits=""

android:inputType="text"/>

<EditText

android:id="@+id/fb\_pass"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="20dp"

android:hint="Password"

android:inputType="textPassword"/>

<Button

android:id="@+id/fb\_loginbtn"

android:layout\_width="match\_parent"

android:layout\_height="60dp"

android:text="Log In"

android:layout\_marginTop="20dp"

android:textAllCaps="false"

android:backgroundTint="#3F51B5"/>

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Forgot Password?"

android:textStyle="bold"

android:textColor="#3F51B5"

android:textSize="17sp"

android:textAlignment="center"

android:layout\_gravity="center"

android:layout\_marginTop="10dp"/>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal"

android:layout\_gravity="center"

android:gravity="center"

android:layout\_marginTop="40dp"

android:weightSum="3">

<com.google.android.material.divider.MaterialDivider

android:layout\_width="0dp"

android:layout\_height="1dp"

android:layout\_weight="1.45"

android:background="#CCCCCC"/>

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="OR"

android:textAlignment="center"

android:layout\_weight="0.2"/>

<com.google.android.material.divider.MaterialDivider

android:id="@+id/divider\_2"

android:layout\_width="0dp"

android:layout\_height="1dp"

android:layout\_weight="1.45"

android:background="#CCCCCC"/>

</LinearLayout>

<Button

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Create New facebook Account"

android:layout\_marginTop="20dp"

android:textAllCaps="false"

android:backgroundTint="#4CAF50"/>

</LinearLayout>

</LinearLayout>

------------------------------------------------------------------- Java Code -------------------------------------------------------------------

package com.example.loginformques01;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class FacebookLoginActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_facebook\_login);

}

}

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 7**

**Aim**

Android application for Image Toggle button.

**Procedure**

------------------------------------------------------------------- XML Code -------------------------------------------------------------------

<?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:orientation="vertical"

tools:context=".FrameLayoutImageToggleActivity">

<ToggleButton

android:id="@+id/toggle\_img\_btn"

android:layout\_width="60dp"

android:layout\_height="60dp"

android:textOff=""

android:textOn=""

android:background="@drawable/ic\_unlocked"

android:layout\_gravity="center"/>

</FrameLayout>

------------------------------------------------------------------- Java Code -------------------------------------------------------------------

package com.example.loginformques01;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.widget.FrameLayout;

import android.widget.Toast;

import android.widget.ToggleButton;

public class FrameLayoutImageToggleActivity extends AppCompatActivity {

ToggleButton toggle\_img\_btn;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_frame\_layout\_image\_toggle);

toggle\_img\_btn= findViewById(R.id.toggle\_img\_btn);

toggle\_img\_btn.setOnClickListener(v->{

if(toggle\_img\_btn.isChecked()){

toggle\_img\_btn.setBackgroundDrawable(getResources().getDrawable(R.drawable.ic\_locked));

Toast.makeText(getApplicationContext(), "Application Locked Successfully.", Toast.LENGTH\_SHORT).show();

}

else{

toggle\_img\_btn.setBackgroundDrawable(getResources().getDrawable(R.drawable.ic\_unlocked));

Toast.makeText(getApplicationContext(), "Application Unlocked Successfully.", Toast.LENGTH\_SHORT).show();

}

});

}

}

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 8**

**Aim**

Android Exception Handler.

**Procedure**

------------------------------------------------------------------- XML Code -------------------------------------------------------------------

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

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

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

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

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:gravity="center"

android:orientation="vertical"

tools:context=".ExceptionActivity">

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Exception Activity"/>

</LinearLayout>

------------------------------------------------------------------- Java Code -------------------------------------------------------------------

package com.example.optionsmenunavigation;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.widget.Toast;

public class ExceptionActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_exception);

try{

int n1=0, n2=0;

int a= n1/n2;

Toast.makeText(getApplicationContext(), "The value is : "+a, Toast.LENGTH\_SHORT).show();

}

catch (Exception e){

Toast.makeText(getApplicationContext(), "The caught exception is : "+e.getMessage(), Toast.LENGTH\_SHORT).show();

}

}

}

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 9**

**Aim**

Explicit Intent Activity.

**Procedure**

First Activity

------------------------------------------------------------------- XML Code -------------------------------------------------------------------

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

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

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

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

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:gravity="center"

android:orientation="vertical"

tools:context=".ExplicitIntentActivity">

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="First Activity"/>

<Button

android:id="@+id/next\_page\_btn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:text="Next Activity"/>

</LinearLayout>

------------------------------------------------------------------- Java Code -------------------------------------------------------------------

package com.example.loginformques01;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

public class ExplicitIntentActivity extends AppCompatActivity {

Button next\_page\_btn;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_explicit\_intent);

next\_page\_btn= findViewById(R.id.next\_page\_btn);

next\_page\_btn.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

Intent intent= new Intent(getApplicationContext(), SecondActivity.class);

startActivity(intent);

}

});

}

}

###############################################################################################################################################################

Second Activity

------------------------------------------------------------------- XML Code -------------------------------------------------------------------

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

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

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

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

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:gravity="center"

android:orientation="vertical"

tools:context=".SecondActivity">

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Second Activity"/>

<Button

android:id="@+id/prev\_page\_btn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:text="Previous Activity"/>

</LinearLayout>

------------------------------------------------------------------- Java Code -------------------------------------------------------------------

package com.example.loginformques01;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

public class SecondActivity extends AppCompatActivity {

Button prev\_page\_btn;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_second);

prev\_page\_btn= findViewById(R.id.prev\_page\_btn);

prev\_page\_btn.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

Intent intent= new Intent(getApplicationContext(),ExplicitIntentActivity.class);

startActivity(intent);

}

});

}

}

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 10**

**Aim**

Multiple activities.

**Procedure**

------------------------------------------------------------------- XML Code -------------------------------------------------------------------

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

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

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

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

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="First Activity"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

------------------------------------------------------------------- Menu XML -------------------------------------------------------------------

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

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

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

<group>

<item

android:id="@+id/second\_activity"

android:title="Second Activity"

app:showAsAction="never"

app:iconTint="@color/white"/>

<item

android:id="@+id/third\_activity"

android:title="Third Activity"

app:showAsAction="never"

app:iconTint="@color/white"/>

<item

android:id="@+id/fourth\_activity"

android:title="Fourth Activity"

app:showAsAction="never"

app:iconTint="@color/white"/>

</group>

</menu>

------------------------------------------------------------------- Java Code -------------------------------------------------------------------

package com.example.optionsmenunavigation;

import androidx.annotation.NonNull;

import androidx.appcompat.app.AppCompatActivity;

import android.annotation.SuppressLint;

import android.content.Intent;

import android.os.Bundle;

import android.view.Menu;

import android.view.MenuItem;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

}

@SuppressLint("NonConstantResourceId")

@Override

public boolean onOptionsItemSelected(@NonNull MenuItem item) {

int menu\_id= item.getItemId();

switch (menu\_id){

case R.id.second\_activity:{

Intent intent= new Intent(getApplicationContext(), SecondActivity.class);

startActivity(intent);

break;

}

case R.id.third\_activity:{

Intent intent= new Intent(getApplicationContext(), ThirdActivity.class);

startActivity(intent);

break;

}

case R.id.fourth\_activity:{

Intent intent= new Intent(getApplicationContext(), FourthActivity.class);

startActivity(intent);

break;

}

default:{

Intent intent= new Intent(getApplicationContext(), MainActivity.class);

startActivity(intent);

break;

}

}

return true;

}

@Override

public boolean onCreateOptionsMenu(Menu menu) {

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

return super.onCreateOptionsMenu(menu);

}

}

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 11**

**Aim**

Array List.

**Procedure**

------------------------------------------------------------------- XML Code -------------------------------------------------------------------

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

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

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

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

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<ListView

android:id="@+id/listview"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent" />

</LinearLayout>

------------------------------------------------------------------- Java Code -------------------------------------------------------------------

package com.example.arrayadapter;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.widget.ArrayAdapter;

import android.widget.ListView;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

ListView listview;

String[] person\_qualify = {"Front-End Developer", "Data Analyst", "Software Tester", "Software Developer", "Programming Analyst", "Web Developer", "Mobile App Developer", "Business Analyst", "Database Analyst"};

listview = findViewById(R.id.listview);

listview.setAdapter(new ArrayAdapter(getApplicationContext(), android.R.layout.simple\_expandable\_list\_item\_1, person\_qualify));

listview.setOnItemClickListener((parent, view, position, id) -> {

Toast.makeText(this, "The qualification selected is - " + person\_qualify[position], Toast.LENGTH\_SHORT).show();

});

}

}

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 12**

**Aim**

Develop .

**Procedure**

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 13**

**Aim**

Develop an android application.

**Procedure**

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 14**

**Aim**

Develop .

**Procedure**

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 15**

**Aim**

Develop .

**Procedure**

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 16**

**Aim**

Develop .

**Procedure**

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 17**

**Aim**

Develop .

**Procedure**

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 18**

**Aim**

Develop .

**Procedure**

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 19**

**Aim**

Develop .

**Procedure**

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 20**

**Aim**

Develop .

**Procedure**

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 21**

**Aim**

Develop .

**Procedure**

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 22**

**Aim**

Develop .

**Procedure**

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 23**

**Aim**

Develop .

**Procedure**

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 24**

**Aim**

Develop .

**Procedure**

**Output Screenshot**



**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 25**

**Aim**

Develop .

**Procedure**

**Output Screenshot**