**ANDROID LAB**

**MOUNT ZION COLLEGE OF ENGINEERING**

**Kadammanitta – Pathanamthitta Kerala 689649**

***(Affiliated to APJ Abdul Kalam Technological University)***



**20MCA243 MOBILE APPLICATION DEVELOPMENT LAB**

**LABORATORY RECORD**

**SECOND YEAR**

**Submitted by**

***Submitted in partial fulfillment of the requirement for the***

***Award of the Degree of***

**MASTER OF COMPUTER APPLICATIONS**

**(2020-2022)**

**Department of Computer Applications**

**MOUNT ZION COLLEGE OF ENGINEERING, KADAMMANITTA**

**MOUNT ZION COLLEGE OF ENGINEERING**

**Kadammanitta – Pathanamthitta Kerala 689649**

***(Affiliated to APJ Abdul Kalam Technological University)***



**CERTIFICATE**

***Certified that this is a bonafide record of practical work done in Mobile Application Development Lab (RLMCA234) Laboratory by Reg No of Mount Zion College of Engineering, Kadammanitta – Pathanamthitta during the academic year 2020-2021.***

**Head of the department Staff member in-charge**

**Internal Examiner**

**CO1 PROGRAMS**

**PROGRAM NO:1**

**Aim:**

Create a Simple Android Toast with a Message Welcome to Android.

**Main Activity.java**

package com.example.toasttrial;

import android.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.widget.Toast;

public class MainActivity extendsAppCompatActivity

{

@Override

Protected void onCreate(Bundle savedInstanceState)

{

Super.onCreate(savedInstanceState);

setContantView(R.layout.activity\_main);

Toast.makeText(getApplicationContext(),”HelloAndroid”,Toast.LENGTH\_LONG).show();

}}

**Output**

****

**PROGRAM NO. 2**

**AIM**

Find Sum of Two Numbers and Display the Value on Toast.

**GUI DESIGN**

**MainActivity.xml**

<?xmlversion="1.0"encoding="utf-8"?>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:orientation=”vertical”

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

<EditText

android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/entry1"/>

<EditText  
 android:layout\_width="wrap\_content" android:layout\_height="wrap\_content"  
 android:id="@+id/entry2"/>

<Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/button"

android:text="Add"/>

</LinearLayout>

**MainActivity.java**

public class MainActivity extends AppCompatActivity

{  
private EditText value1,value2;  
private Button sum;

@Override  
 protected void onCreate(Bundle savedInstanceState)

{  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 addListenerOnButton();  
 }

public void addListenerOnButton()

{  
 value1=(EditText)findViewById(R.id.*entry1*);  
 value2=(EditText)findViewById(R.id.*entry2*);  
 sum=(Button)findViewById(R.id.*button*);  
 sum.setOnClickListener(new View.OnClickListener()

{

@Override  
 public void onClick(View v) {  
 String e1=value1.getText().toString();  
 String e2=value2.getText().toString();  
 int a=Integer.*parseInt*(e1);  
 int b=Integer.*parseInt*(e2);  
 int sum=a+b;

Toast.*makeText*(getApplicationContext(),String.*valueOf*(sum),Toast.*LENGTH\_LONG*).show();

}}); }}

**Output**



**PROGRAM NO:3**

**Aim:**

Create a Login Page with Username and Password and Toast the Values.

**GUI DESIGN**

**MainActivity.xml**

<LinearLayout android:layout\_height="match\_parent"  
 android:layout\_width="match\_parent"  
 android:orientation="vertical"  
 xmlns:android="http://schemas.android.com/apk/res/android">  
 <EditText  
 android:layout\_width="match\_parent"  
 android:textColor="@color/black"  
 android:layout\_height="wrap\_content"  
 android:hint="Enter user name"  
 android:layout\_margin="10dp"  
 android:id="@+id/usr"/>  
 <EditText  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Enter password"  
 android:inputType="textPassword"  
 android:textColor="@color/black"  
 android:id="@+id/pass"  
 android:layout\_margin="10dp"/>

<androidx.appcompat.widget.AppCompatButton  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/btn"  
 android:layout\_margin="10dp"  
 android:text="SUBMIT"  
 android:textColor="@color/black"/>

</LinearLayout>

**MainActivity.java**

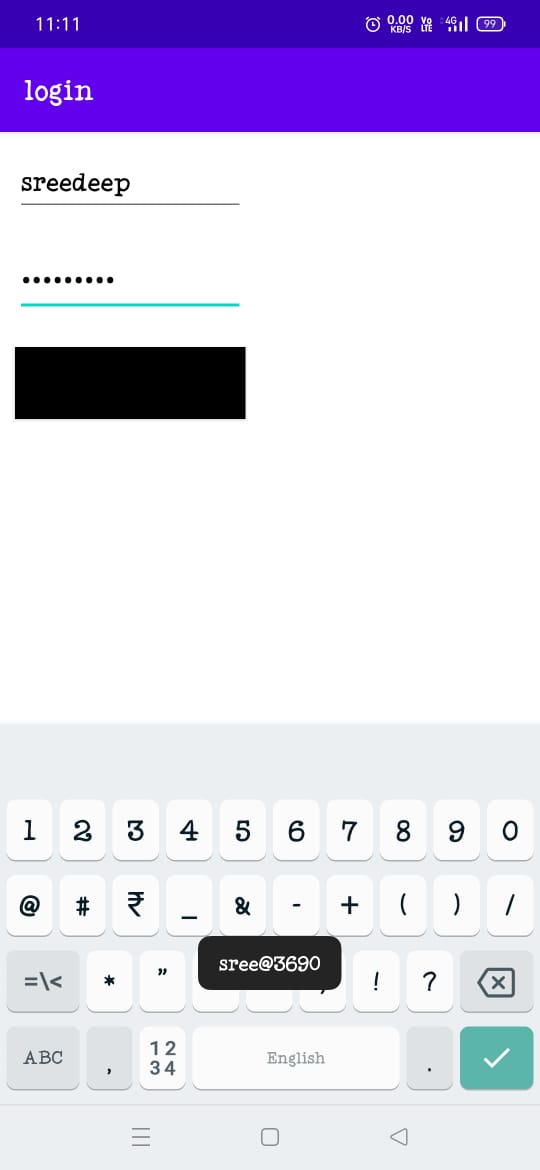
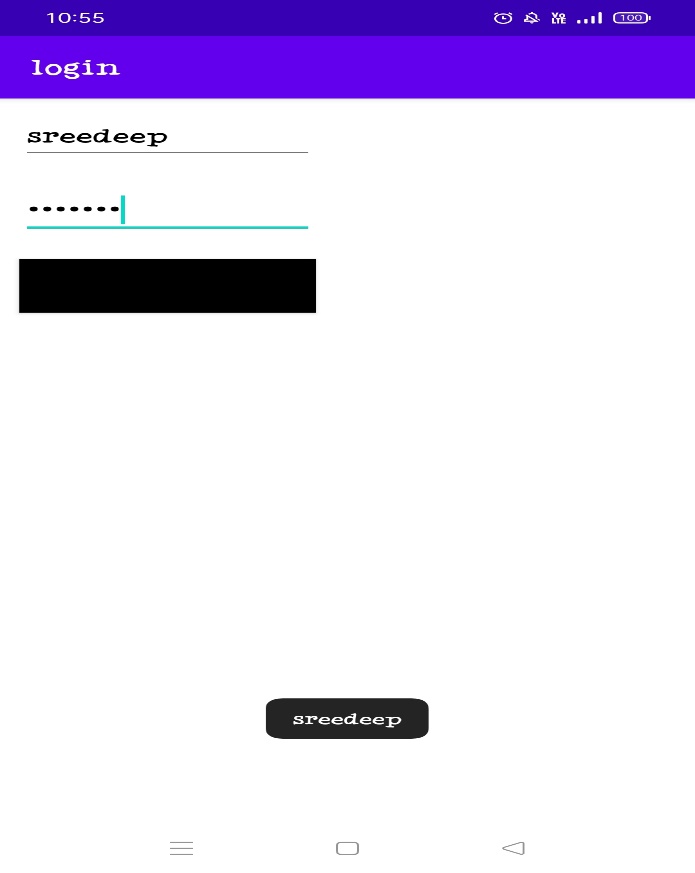
package com.example.loginpage;  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.appcompat.widget.AppCompatButton;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.EditText;  
import android.widget.Toast;  
public class MainActivity extends AppCompatActivity

{  
 EditText ed1,ed2;  
 AppCompatButton b1;  
 String getUser,getPass;  
@Override  
 protected void onCreate(Bundle savedInstanceState)

{  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 ed1=(EditText) findViewById(R.id.*usr*);  
 ed2=(EditText) findViewById(R.id.*pass*);  
 b1=(AppCompatButton) findViewById(R.id.*btn*);  
 b1.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 getUser=ed1.getText().toString();  
 getPass=ed2.getText().toString();  
Toast.*makeText*(getApplicationContext(),getUser,Toast.*LENGTH\_LONG*).show();  
Toast.*makeText*(getApplicationContext(),getPass,Toast.*LENGTH\_LONG*).show();

} }); }}

**OUTPUT**



**PROGRAM NO:4**

**AIM:**

Create Program to Demonstrate Activity Lifecycle.

**GUI DESIGN**

**MainActivity.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="Activity Lifecycle"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
</androidx.constraintlayout.widget.ConstraintLayout>

**MainActivity.java**

package com.example.activitylifecycle;  
import androidx.appcompat.app.AppCompatActivity;  
import android.os.Bundle;  
import android.util.Log;  
import android.widget.Toast;  
public class MainActivity extends AppCompatActivity {  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 Log.*d*("Activity\_Lifecycle","onCreate invoked");  
 Toast.*makeText*(MainActivity.this,"Created",Toast.*LENGTH\_LONG*).show();  
 }  
 @Override  
 protected void onStart(){  
 super.onStart();  
 Log.*d*("Activity\_Lifecycle","onStart invoked");  
 Toast.*makeText*(MainActivity.this, "Start", Toast.*LENGTH\_SHORT*).show();  
 }

@Override  
 protected void onResume(){  
 super.onResume();  
 Log.*d*("Activity\_Lifecycle","onResume invoked");  
 Toast.*makeText*(MainActivity.this,"Resume",Toast.*LENGTH\_LONG*).show();  
 }  
 @Override  
 protected void onPause(){  
 super.onPause();  
 Log.*d*("Activity\_Lifecycle","onPause invoked");  
 Toast.*makeText*(MainActivity.this,"Pause",Toast.*LENGTH\_LONG*).show();  
 }  
 @Override  
 protected void onStop(){  
 super.onStop();  
 Log.*d*("Activity\_Lifecycle","onStop invoked");  
 Toast.*makeText*(MainActivity.this,"Stop",Toast.*LENGTH\_LONG*).show();  
 }  
 @Override  
 protected void onRestart(){  
 super.onRestart();  
 Log.*d*("Activity\_Lifecycle","onRestart invoked");  
 Toast.*makeText*(MainActivity.this,"Restart",Toast.*LENGTH\_LONG*).show();  
 }  
 @Override  
 protected void onDestroy(){  
 super.onDestroy();  
 Log.*d*("Activity\_Lifecycle","onDestroy invoked");  
 Toast.*makeText*(MainActivity.this,"Destroy",Toast.*LENGTH\_LONG*).show();

}

}

**PROGRAM NO:4**

**AIM:**

Create Program to Demonstrate Activity Lifecycle.

**GUI DESIGN**

**MainActivity.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="Activity Lifecycle"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
</androidx.constraintlayout.widget.ConstraintLayout>

**MainActivity.java**

package com.example.activitylifecycle;  
import androidx.appcompat.app.AppCompatActivity;  
import android.os.Bundle;  
import android.util.Log;  
import android.widget.Toast;  
  
public class MainActivity extends AppCompatActivity {  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 Log.*d*("Activity\_Lifecycle","onCreate invoked");  
 Toast.*makeText*(MainActivity.this,"Created",Toast.*LENGTH\_LONG*).show();  
 }  
 @Override  
 protected void onStart(){  
 super.onStart();  
 Log.*d*("Activity\_Lifecycle","onStart invoked");  
 Toast.*makeText*(MainActivity.this, "Start", Toast.*LENGTH\_SHORT*).show();  
 }

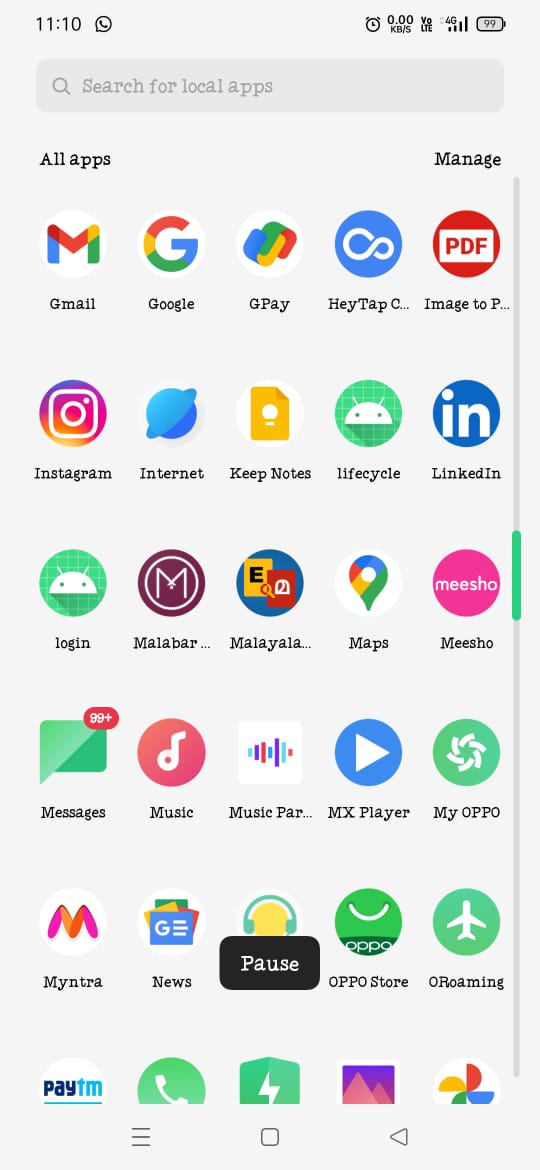
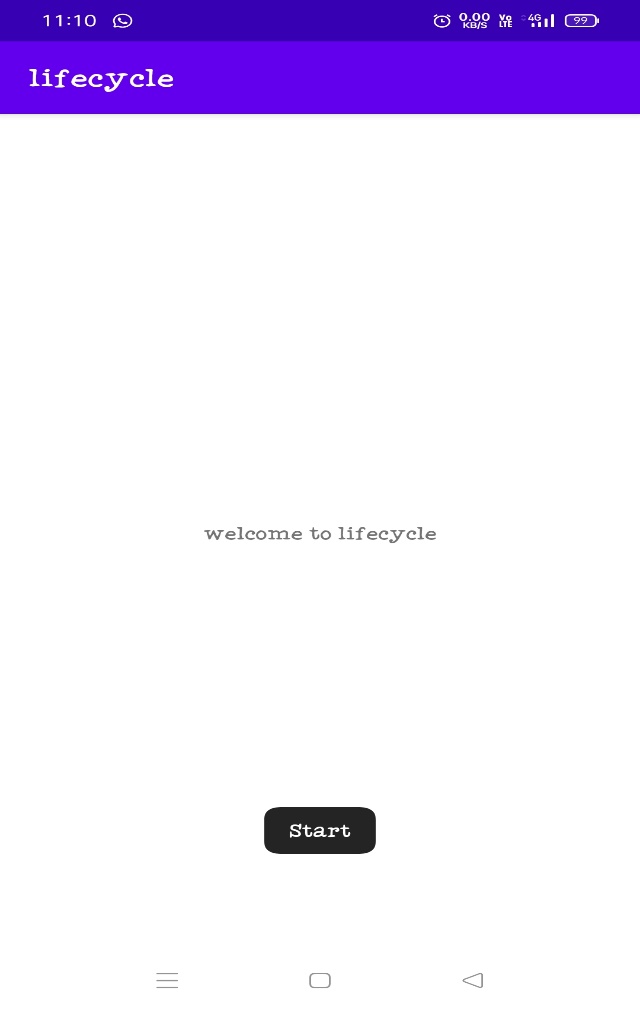
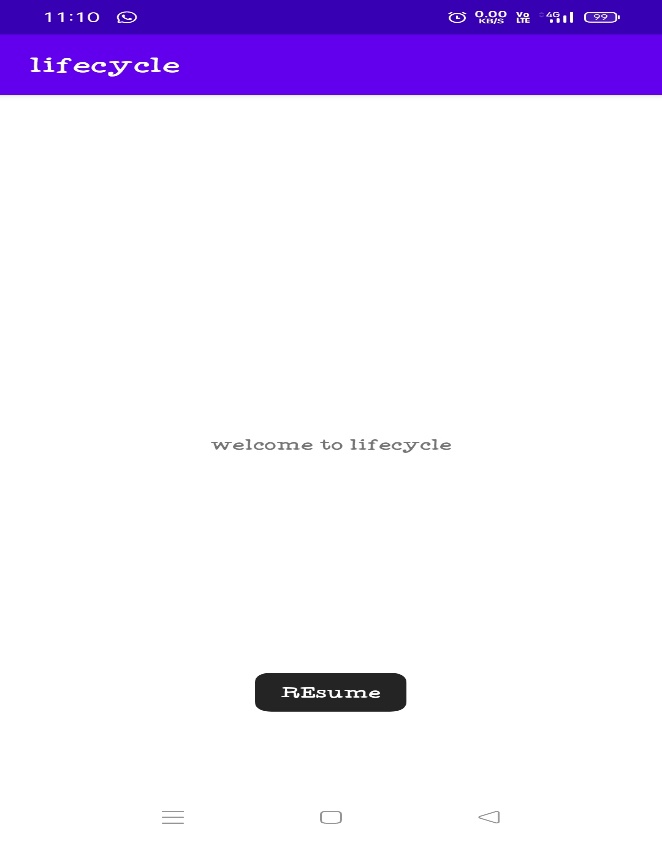
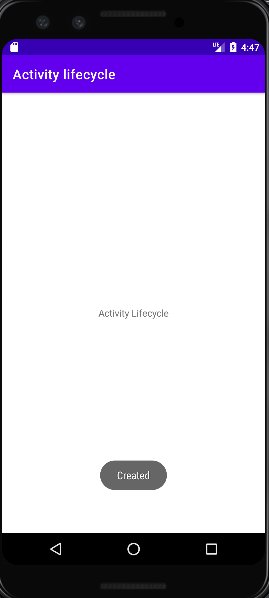
@Override  
 protected void onResume(){  
 super.onResume();  
 Log.*d*("Activity\_Lifecycle","onResume invoked");  
 Toast.*makeText*(MainActivity.this,"Resume",Toast.*LENGTH\_LONG*).show();  
 }  
 @Override  
 protected void onPause(){  
 super.onPause();  
 Log.*d*("Activity\_Lifecycle","onPause invoked");  
 Toast.*makeText*(MainActivity.this,"Pause",Toast.*LENGTH\_LONG*).show();  
 }

@Override  
 protected void onStop(){  
 super.onStop();  
 Log.*d*("Activity\_Lifecycle","onStop invoked");  
 Toast.*makeText*(MainActivity.this,"Stop",Toast.*LENGTH\_LONG*).show();  
 }  
 @Override  
 protected void onRestart(){  
 super.onRestart();  
 Log.*d*("Activity\_Lifecycle","onRestart invoked");  
 Toast.*makeText*(MainActivity.this,"Restart",Toast.*LENGTH\_LONG*).show();  
 }  
 @Override  
 protected void onDestroy(){  
 super.onDestroy();  
 Log.*d*("Activity\_Lifecycle","onDestroy invoked");  
 Toast.*makeText*(MainActivity.this,"Destroy",Toast.*LENGTH\_LONG*).show();

}

}

**OUTPUT**



**PROGRAM NO:5**

**AIM:**

Create an Android Application for Implementing a Basic Calculator.

**GUL DESIGN**

**MainActivity.xml**

<LinearLayout  
 android:layout\_height="match\_parent"  
 android:layout\_width="match\_parent"  
 android:orientation="vertical"  
 xmlns:android="http://schemas.android.com/apk/res/android" >  
  
 <EditText  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Enter First Number"  
 android:inputType="number"  
 android:id="@+id/fno"  
 android:layout\_margin="10dp"  
 android:textColor="@color/black"/>  
  
 <EditText  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Enter Second Number"  
 android:inputType="number"  
 android:id="@+id/sno"  
 android:layout\_margin="10dp"  
 android:textColor="@color/black"/>  
  
 <androidx.appcompat.widget.AppCompatButton  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="+"  
 android:id="@+id/add"  
 android:layout\_margin="10dp"  
 android:textColor="@color/black"/>  
  
 <androidx.appcompat.widget.AppCompatButton  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="-"  
 android:id="@+id/sub"  
 android:layout\_margin="10dp"  
 android:textColor="@color/black"/>  
  
<androidx.appcompat.widget.AppCompatButton  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="/"  
 android:id="@+id/div"  
 android:layout\_margin="10dp"  
 android:textColor="@color/black"/>  
  
 <androidx.appcompat.widget.AppCompatButton  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="\*"  
 android:id="@+id/multi"  
 android:layout\_margin="10dp"  
 android:textColor="@color/black"/>

<androidx.appcompat.widget.AppCompatButton  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="clear"  
 android:id="@+id/clear"  
 android:layout\_margin="10dp"  
 android:textColor="@color/black"/>  
  
 <EditText  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="result:"  
 android:id="@+id/res"  
 android:layout\_margin="10dp"  
 android:textColor="@color/black"/>  
</LinearLayout>

**MainActivity.java**

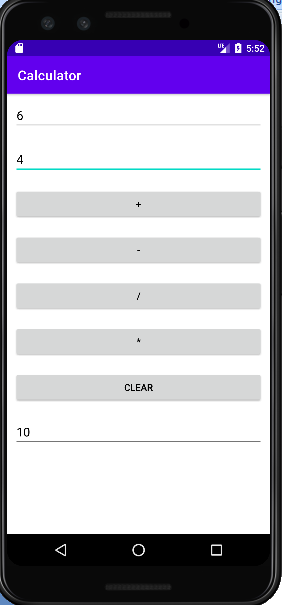
package com.example.calculator;  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.appcompat.widget.AppCompatButton;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.EditText;  
import android.widget.Toast;  
public class MainActivity extends AppCompatActivity {  
 EditText ed1,ed2,ed3;  
 AppCompatButton b1,b2,b3,b4,b5;  
 // String getResult;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 ed1=(EditText) findViewById(R.id.*fno*);  
 ed2=(EditText) findViewById(R.id.*sno*);  
 ed3=(EditText) findViewById(R.id.*res*);  
 b1=(AppCompatButton) findViewById(R.id.*add*);  
 b2=(AppCompatButton) findViewById(R.id.*sub*);  
 b3=(AppCompatButton) findViewById(R.id.*div*);  
 b4=(AppCompatButton) findViewById(R.id.*multi*);  
 b5=(AppCompatButton) findViewById(R.id.*clear*);  
 b1.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
if(ed1.getText().length()>0 &&(ed2.getText().length()>0))  
 {  
 int first=Integer.*parseInt*(ed1.getText().toString());

int second=Integer.*parseInt*(ed2.getText().toString());  
 int result=first+second;  
 ed3.setText(Integer.*toString*(result));  
 }  
 }  
 });  
 b2.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 if(ed1.getText().length()>0 &&(ed2.getText().length()>0))  
 {  
 double first=Double.*parseDouble*(ed1.getText().toString());  
 double second=Double.*parseDouble*(ed2.getText().toString());  
 double result=first-second;  
 ed3.setText(Double.*toString*(result));  
 }  
  
 }  
 });  
 b3.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 if(ed1.getText().length()>0 &&(ed2.getText().length()>0))  
 {  
 double first=Double.*parseDouble*(ed1.getText().toString());  
 double second=Double.*parseDouble*(ed2.getText().toString());  
 double result=first/second;  
 ed3.setText(Double.*toString*(result));  
 }  
  
 }  
 });

b4.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 if(ed1.getText().length()>0 &&(ed2.getText().length()>0))  
 {  
 double first=Double.*parseDouble*(ed1.getText().toString());  
 double second=Double.*parseDouble*(ed2.getText().toString());  
 double result=first\*second;  
 ed3.setText(Double.*toString*(result));  
 }  
  
 }  
 });  
  
 b5.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 ed1.setText("");  
 ed2.setText("");  
 ed3.setText("");

}  
 }); }  
}

**OUTPUT**



**PROGRAM - 6**

**AIM**

**Implement Validations on Various UI Controls**

**GUI DESIGN**

**MainActivity.xml**

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

<LinearLayout

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

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

    android:layout\_width="match\_parent"

    android:layout\_height="match\_parent"

    android:orientation="vertical"

    tools:context=".MainActivity"

    tools:ignore="HardcodedText">

    <EditText

        android:id="@+id/firstName"

        android:layout\_width="match\_parent"

        android:layout\_height="wrap\_content"

        android:layout\_marginStart="16dp"

        android:layout\_marginTop="16dp"

        android:layout\_marginEnd="16dp"

        android:hint="First Name"

        android:inputType="text" />

     <EditText

        android:id="@+id/lastName"

        android:layout\_width="match\_parent"

        android:layout\_height="wrap\_content"

        android:layout\_marginStart="16dp"

        android:layout\_marginTop="16dp"

        android:layout\_marginEnd="16dp"

        android:hint="Last Name"

        android:inputType="text" />

     <EditText

        android:id="@+id/email"

        android:layout\_width="match\_parent"

        android:layout\_height="wrap\_content"

        android:layout\_marginStart="16dp"

        android:layout\_marginTop="16dp"

        android:layout\_marginEnd="16dp"

        android:hint="Email"

        android:inputType="textEmailAddress" />

     <EditText

        android:id="@+id/password"

        android:layout\_width="match\_parent"

        android:layout\_height="wrap\_content"

        android:layout\_marginStart="16dp"

        android:layout\_marginTop="16dp"

        android:layout\_marginEnd="16dp"

        android:hint="Password"

        android:inputType="textPassword" />

    <LinearLayout

        android:layout\_width="match\_parent"

        android:layout\_height="wrap\_content"

        android:layout\_marginTop="8dp"

        android:gravity="end"

        android:orientation="horizontal">

         <Button

            android:id="@+id/cancelButton"

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

            android:layout\_width="wrap\_content"

            android:layout\_height="wrap\_content"

            android:layout\_marginEnd="4dp"

            android:text="CANCEL"

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

         <Button

            android:id="@+id/proceedButton"

            android:layout\_width="wrap\_content"

            android:layout\_height="wrap\_content"

            android:layout\_marginEnd="16dp"

            android:backgroundTint="@color/colorPrimary"

            android:text="PROCEED"

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

            tools:ignore="ButtonStyle" />

     </LinearLayout>

</LinearLayout

**GUI DESIGN**

**MainActivity2.xml**

<RelativeLayout

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

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

    android:layout\_width="match\_parent"

    android:layout\_height="match\_parent"

    tools:context=".MainActivity2"

    tools:ignore="HardcodedText">

     <TextView

        android:layout\_width="wrap\_content"

        android:layout\_height="wrap\_content"

        android:layout\_centerInParent="true"

        android:text="ACTIVITY 2"

        android:textSize="18sp" />

</RelativeLayout>

**MainActivity.java file**

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

public class MainActivity extends AppCompatActivity {

    // two buttons

    Button bCancel, bProceed;

    // four text fields

    EditText etFirstName, etLastName, etEmail, etPassword;

    // one boolean variable to check whether all the text fields

      // are filled by the user, properly or not.

    boolean isAllFieldsChecked = false;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity\_main);

        // register buttons with their proper IDs.

        bProceed = findViewById(R.id.proceedButton);

        bCancel = findViewById(R.id.cancelButton);

        // register all the EditText fields with their IDs.

        etFirstName = findViewById(R.id.firstName);

        etLastName = findViewById(R.id.lastName);

        etEmail = findViewById(R.id.email);

        etPassword = findViewById(R.id.password);

        // handle the PROCEED button

        bProceed.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                // store the returned value of the dedicated function which checks

                // whether the entered data is valid or if any fields are left blank.

                isAllFieldsChecked = CheckAllFields();

                // the boolean variable turns to be true then

                  // only the user must be proceed to the activity2

                if (isAllFieldsChecked) {

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

                    startActivity(i);

                }

            }

        });

        // if user presses the cancel button then close the

          // application or the particular activity.

        bCancel.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                MainActivity.this.finish();

                System.exit(0);

            }

        });

    }

    // function which checks all the text fields

      // are filled or not by the user.

    // when user clicks on the PROCEED button

      // this function is triggered.

    private boolean CheckAllFields() {

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

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

            return false;

        }

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

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

            return false;

        }

        if (etEmail.length() == 0) {

            etEmail.setError("Email is required");

            return false;

        }

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

            etPassword.setError("Password is required");

            return false;

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

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

            return false;

        }

          // after all validation return true.

        return true;

    }

}

**OUTPUT**

**CO2 PROGRAMS**

**PROGRAM – 7**

**AIM**

Demonstrate The Use of Implicit Intent

**Activity\_main.xml file**

<?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/editText"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

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

<Button

android:id="@+id/btn"

android:text="Search"

android:onClick="search"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/editText" />

</androidx.constraintlayout.widget.ConstraintLayout>

### Mainactivity JAVA. File

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.net.Uri;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

EditText editText;

Button button;

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

button = findViewById(R.id.btn);

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

button.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

String url=editText.getText().toString();

Intent intent = new Intent(Intent.ACTION\_VIEW, Uri.parse(url));

startActivity(intent);

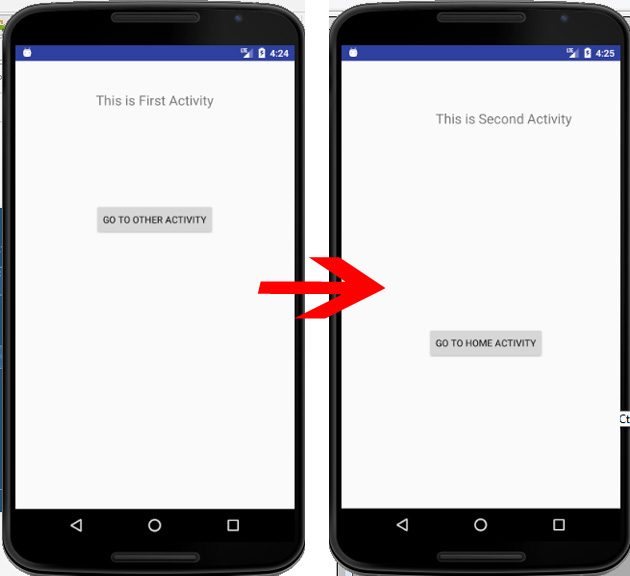
}

});

}

}

**OUTPUT**



**PROGRAM – 8**

**AIM**

**Program To Demonstrate Explicit Intent**

**activity\_main.xml file**

<?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/editText"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Welcome to Home Screen"

android:textAlignment="center"

android:textSize="28sp"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintHorizontal\_bias="0.0"

app:layout\_constraintStart\_toStartOf="parent"

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

<Button

android:id="@+id/btn1"

android:text="Go to News Screen"

android:onClick="newsScreen"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/editText" />

</androidx.constraintlayout.widget.ConstraintLayout>

**MainActvity.java**

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

}

public void newsScreen(View view) {

Intent i = new Intent(getApplicationContext(), MainActivity2.class);

startActivity(i);

}

}

### **Mainactvity2.xml file**

<?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/editText"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Welcome to GFG News Screen"

android:textAlignment="center"

android:textSize="28sp"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintHorizontal\_bias="0.0"

app:layout\_constraintStart\_toStartOf="parent"

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

<Button

android:id="@+id/btn2"

android:text="Go to Home Screen"

android:onClick="homeScreen"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/editText" />

</androidx.constraintlayout.widget.ConstraintLayout>

**Mainactivity2.java**

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

public class MainActivity2 extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main2);

}

public void homeScreen(View view) {

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

startActivity(i);

}

**}**

**OUTPUT**

**PROGRAM – 9**

**AIM**

**Design a simple calculator using GridLayout.**

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

<RelativeLayout

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

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

android:layout\_width="match\_parent"

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

<TextView

android:layout\_height="match\_parent"

android:layout\_width="match\_parent"

android:text="0"

android:layout\_above="@+id/gridLayout" android:layout\_alignParentLeft="true"

android:layout\_alignParentStart="true" android:gravity="bottom|end"

android:singleLine="true" android:textAppearance="@style/TextAppearance.AppCompat.Headline"

android:textSize="48sp" android:background="#e3e7ea" android:paddingBottom="32dp"

android:padding="16dp"/>

<android.support.v7.widget.GridLayout

android:id="@+id/gridLayout"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_alignParentBottom="true" android:layout\_centerHorizontal="true"

grid:useDefaultMargins="false" grid:alignmentMode="alignBounds" grid:columnCount="7" grid:rowCount="9">

<!-- Row 1 -->

<Button

android:text="C"

grid:layout\_row="0" grid:layout\_column="0"

style="@style/calcAction" android:textStyle="bold" android:textColor="@color/calcAccent"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<ImageButton

android:src="@android:drawable/ic\_input\_delete"

grid:layout\_row="0" grid:layout\_column="2"

style="@style/calcAction"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1" />

<Button

android:text="&#247;"

grid:layout\_row="0"

style="@style/calcAction"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1" grid:layout\_column="4"/>

<Button

android:text="x"

grid:layout\_row="0" grid:layout\_column="6"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"

style="@style/calcAction"/>

<!-- Row 2 -->

<View

grid:layout\_gravity="fill\_horizontal"

android:layout\_height="1dp"

grid:layout\_row="1" grid:layout\_column="0" grid:layout\_columnSpan="7"

android:background="#eee"/>

<Button

android:text="7" grid:layout\_row="2" grid:layout\_column="0"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"

style="@style/calcNumber"/>

<Button

android:text="8" grid:layout\_row="2" grid:layout\_column="2"

style="@style/calcNumber"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<Button

android:text="9" grid:layout\_row="2" grid:layout\_column="4"

style="@style/calcNumber"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<Button

android:text="-" grid:layout\_row="2" grid:layout\_column="6"

style="@style/calcAction"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<!-- Row 3 -->

<View

grid:layout\_gravity="fill\_horizontal"

android:layout\_height="1dp"

grid:layout\_row="3" grid:layout\_column="0" grid:layout\_columnSpan="7"

android:background="#eee"/>

<Button

android:text="4" grid:layout\_row="4" grid:layout\_column="0"

style="@style/calcNumber"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<Button

android:text="5" grid:layout\_row="4" grid:layout\_column="2"

style="@style/calcNumber"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<Button

android:text="6" grid:layout\_row="4" grid:layout\_column="4"

style="@style/calcNumber"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<Button

android:text="+" grid:layout\_row="4" grid:layout\_column="6"

style="@style/calcAction"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<View

grid:layout\_gravity="fill\_horizontal"

android:layout\_height="1dp"

grid:layout\_row="7" grid:layout\_column="0" grid:layout\_columnSpan="7"

android:background="#eee"/>

<!-- Row 4 -->

<Button

android:text="1" grid:layout\_row="6" grid:layout\_column="0"

style="@style/calcNumber"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<Button

android:text="2" grid:layout\_row="6" grid:layout\_column="2"

style="@style/calcNumber"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<Button

android:text="3" grid:layout\_row="6" grid:layout\_column="4"

style="@style/calcNumber"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<Button

android:text="=" grid:layout\_row="6" grid:layout\_column="6"

style="@style/calcNumber" android:background="@color/calcAccent"

grid:layout\_rowSpan="3"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"

android:textAppearance="@style/TextAppearance.AppCompat.Large"

android:textColor="@color/primary\_material\_light" android:textStyle="bold" android:textSize="22sp"

android:gravity="bottom|center\_horizontal" android:padding="8dp"/>

<!-- Row 5 -->

<Button

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"

android:text="0"

grid:layout\_row="8" grid:layout\_column="0" grid:layout\_columnSpan="3"

style="@style/calcNumber"/>

<Button

android:text="."

grid:layout\_row="8" grid:layout\_column="4"

grid:layout\_columnWeight="1" style="@style/calcNumber"/>

<!-- Horizontal Grid -->

<View

grid:layout\_gravity="fill\_horizontal"

android:layout\_height="1dp"

grid:layout\_row="5" grid:layout\_column="0" grid:layout\_columnSpan="7"

android:background="#eee"/>

</android.support.v7.widget.GridLayout>

</RelativeLayout>

**color.xml**

<color name="calcAccent">#ef6c00</color>

**styles.xml**

<style name="calcAction">

<item name="android:background">#f7f8fa</item>

</style>

<style name="calcNumber">

<item name="android:background">#fafbfd</item>

</style>

**OUTPUT**

**PROGRAM – 10**

**AIM**

**Design a simple calculator using GridLayout.**

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

<RelativeLayout

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

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

android:layout\_width="match\_parent"

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

<TextView

android:layout\_height="match\_parent"

android:layout\_width="match\_parent"

android:text="0"

android:layout\_above="@+id/gridLayout" android:layout\_alignParentLeft="true"

android:layout\_alignParentStart="true" android:gravity="bottom|end"

android:singleLine="true" android:textAppearance="@style/TextAppearance.AppCompat.Headline"

android:textSize="48sp" android:background="#e3e7ea" android:paddingBottom="32dp"

android:padding="16dp"/>

<android.support.v7.widget.GridLayout

android:id="@+id/gridLayout"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_alignParentBottom="true" android:layout\_centerHorizontal="true"

grid:useDefaultMargins="false" grid:alignmentMode="alignBounds" grid:columnCount="7" grid:rowCount="9">

<!-- Row 1 -->

<Button

android:text="C"

grid:layout\_row="0" grid:layout\_column="0"

style="@style/calcAction" android:textStyle="bold" android:textColor="@color/calcAccent"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<ImageButton

android:src="@android:drawable/ic\_input\_delete"

grid:layout\_row="0" grid:layout\_column="2"

style="@style/calcAction"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1" />

<Button

android:text="&#247;"

grid:layout\_row="0"

style="@style/calcAction"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1" grid:layout\_column="4"/>

<Button

android:text="x"

grid:layout\_row="0" grid:layout\_column="6"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"

style="@style/calcAction"/>

<!-- Row 2 -->

<View

grid:layout\_gravity="fill\_horizontal"

android:layout\_height="1dp"

grid:layout\_row="1" grid:layout\_column="0" grid:layout\_columnSpan="7"

android:background="#eee"/>

<Button

android:text="7" grid:layout\_row="2" grid:layout\_column="0"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"

style="@style/calcNumber"/>

<Button

android:text="8" grid:layout\_row="2" grid:layout\_column="2"

style="@style/calcNumber"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<Button

android:text="9" grid:layout\_row="2" grid:layout\_column="4"

style="@style/calcNumber"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<Button

android:text="-" grid:layout\_row="2" grid:layout\_column="6"

style="@style/calcAction"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<!-- Row 3 -->

<View

grid:layout\_gravity="fill\_horizontal"

android:layout\_height="1dp"

grid:layout\_row="3" grid:layout\_column="0" grid:layout\_columnSpan="7"

android:background="#eee"/>

<Button

android:text="4" grid:layout\_row="4" grid:layout\_column="0"

style="@style/calcNumber"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<Button

android:text="5" grid:layout\_row="4" grid:layout\_column="2"

style="@style/calcNumber"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<Button

android:text="6" grid:layout\_row="4" grid:layout\_column="4"

style="@style/calcNumber"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<Button

android:text="+" grid:layout\_row="4" grid:layout\_column="6"

style="@style/calcAction"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<View

grid:layout\_gravity="fill\_horizontal"

android:layout\_height="1dp"

grid:layout\_row="7" grid:layout\_column="0" grid:layout\_columnSpan="7"

android:background="#eee"/>

<!-- Row 4 -->

<Button

android:text="1" grid:layout\_row="6" grid:layout\_column="0"

style="@style/calcNumber"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<Button

android:text="2" grid:layout\_row="6" grid:layout\_column="2"

style="@style/calcNumber"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<Button

android:text="3" grid:layout\_row="6" grid:layout\_column="4"

style="@style/calcNumber"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"/>

<Button

android:text="=" grid:layout\_row="6" grid:layout\_column="6"

style="@style/calcNumber" android:background="@color/calcAccent"

grid:layout\_rowSpan="3"

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"

android:textAppearance="@style/TextAppearance.AppCompat.Large"

android:textColor="@color/primary\_material\_light" android:textStyle="bold" android:textSize="22sp"

android:gravity="bottom|center\_horizontal" android:padding="8dp"/>

<!-- Row 5 -->

<Button

grid:layout\_columnWeight="1" grid:layout\_rowWeight="1"

android:text="0"

grid:layout\_row="8" grid:layout\_column="0" grid:layout\_columnSpan="3"

style="@style/calcNumber"/>

<Button

android:text="."

grid:layout\_row="8" grid:layout\_column="4"

grid:layout\_columnWeight="1" style="@style/calcNumber"/>

<!-- Horizontal Grid -->

<View

grid:layout\_gravity="fill\_horizontal"

android:layout\_height="1dp"

grid:layout\_row="5" grid:layout\_column="0" grid:layout\_columnSpan="7"

android:background="#eee"/>

</android.support.v7.widget.GridLayout>

</RelativeLayout>

**color.xml**

<color name="calcAccent">#ef6c00</color>

**styles.xml**

<style name="calcAction">

<item name="android:background">#f7f8fa</item>

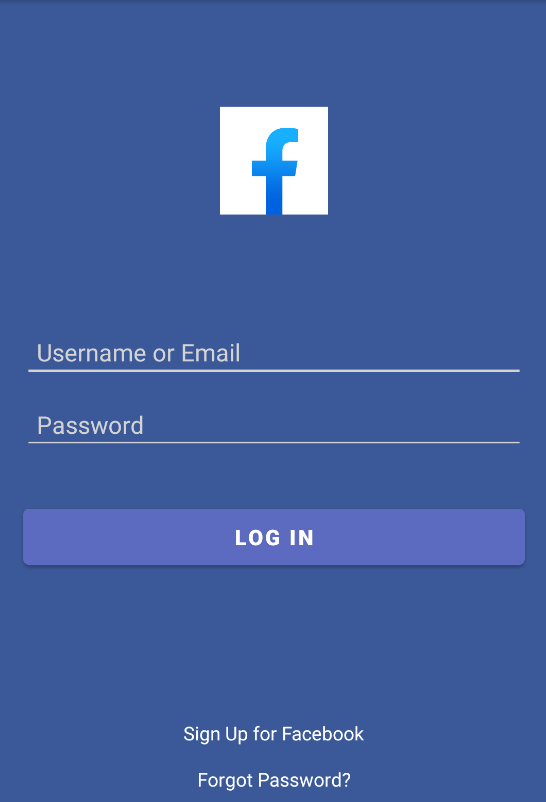
</style>

<style name="calcNumber">

<item name="android:background">#fafbfd</item>

</style>

**OUTPUT**



**PROGRAM – 11**

**AIM**

**CO 3 POGRAMS**