**MAD LAB CYCLE -1**

**1.Design a login page.**

Program code:

Xml code

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

<**android.support.constraint.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="match\_parent"**

**android:layout\_height="match\_parent" android:orientation="vertical"**>

<**EditText**

**android:id="@+id/editText"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:ems="10"**

**android:inputType="textPersonName"**

**android:text="USERNAME"**

**android:textColor="@color/colorAccent"**

**tools:layout\_editor\_absoluteX="85dp"**

**tools:layout\_editor\_absoluteY="54dp"** />

<**EditText**

**android:id="@+id/editText2"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:ems="10"**

**android:inputType="textPersonName"**

**android:text="PASSWORD"**

**android:textColor="@color/colorAccent"**

**tools:layout\_editor\_absoluteX="85dp"**

**tools:layout\_editor\_absoluteY="175dp"** />

<**Button**

**android:id="@+id/button"**

**android:layout\_width="120dp"**

**android:layout\_height="wrap\_content"**

**android:background="@color/colorPrimary"**

**android:text="LOGIN"**

**android:textSize="30sp"**

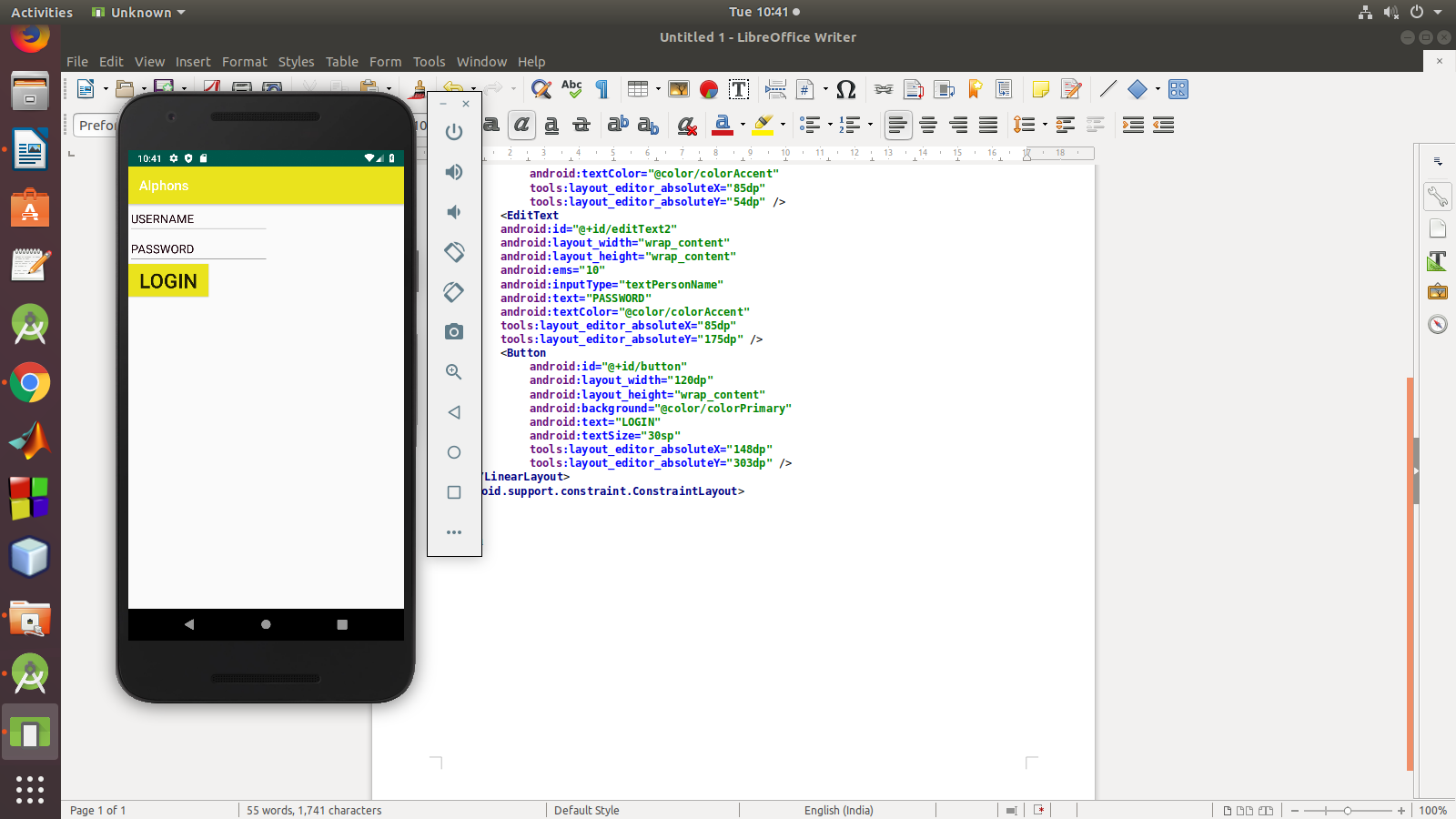
**tools:layout\_editor\_absoluteX="148dp"**

**tools:layout\_editor\_absoluteY="303dp"** />

</**LinearLayout**>

</**android.support.constraint.ConstraintLayout**>

Design



**2,Change the content in the text view on a button click**

program

Xml code

<**LinearLayout**

**android:layout\_width="match\_parent"**

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

**android:orientation="vertical"**

**android:gravity="center"**

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

<**TextView**

**android:id="@+id/tv"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:text="change button"**/>

<**Button**

**android:id="@+id/btn1"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:text="Change"**

**android:onClick="change"**/>

</**LinearLayout**>

JAVA

**package** com.example.sjcet.p2;

**import** android.support.v7.app.AppCompatActivity;

**import** android.os.Bundle;

**import** android.view.View;

**import** android.widget.TextView;

**public class** MainActivity **extends** AppCompatActivity {

TextView **tv**;

@Override

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

**super**.onCreate(savedInstanceState);

setContentView(R.layout.***activity\_main***);

**tv** = findViewById(R.id.***tv***);

}

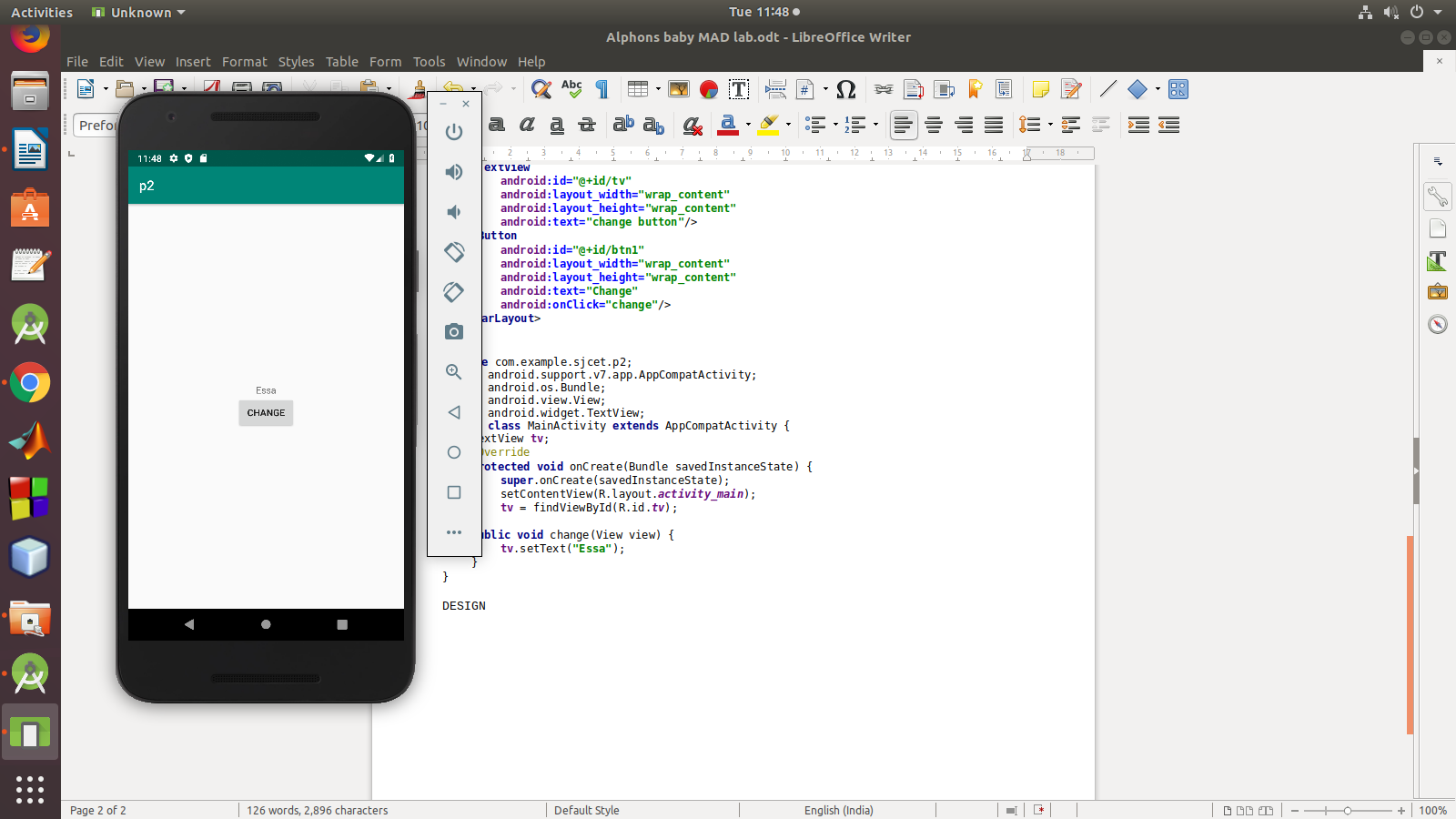
**public void** change(View view) {

**tv**.setText(**"Essa"**);

}

}

DESIGN



**3,READ A VALUE FROM EDIT TEXT AND PRINT IT IN A TEXT VIEW.**

Program

Xml code

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

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

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

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

**android:layout\_width="match\_parent"**

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

**android:background="#FFFF8D"**

**tools:context="com.example.akshay.studytonightandroid.MainActivity"**>

<**TextView**

**android:id="@+id/textView"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_alignParentLeft="true"**

**android:layout\_alignParentStart="true"**

**android:layout\_alignParentTop="true"**

**android:text="NAME"**

**android:textSize="20sp"**

**android:layout\_margin="20dp"** />

<**EditText**

**android:id="@+id/editName"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_alignParentTop="true"**

**android:layout\_alignParentEnd="true"**

**android:layout\_alignParentRight="true"**

**android:layout\_marginTop="21dp"**

**android:layout\_marginEnd="40dp"**

**android:layout\_marginRight="40dp"**

**android:ems="10"**

**android:hint="Enter Name"**

**android:inputType="textPersonName"** />

<**Button**

**android:id="@+id/buttonSubmit"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_alignParentStart="true"**

**android:layout\_alignParentLeft="true"**

**android:layout\_marginStart="32dp"**

**android:layout\_marginLeft="32dp"**

**android:layout\_marginTop="20dp"**

**android:text="SUBMIT"** />

<**TextView**

**android:id="@+id/tvResult"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

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

**android:layout\_alignParentLeft="true"**

**android:layout\_alignParentStart="true"**

**android:layout\_marginBottom="143dp"**

**android:textSize="30sp"** />

</**RelativeLayout**>

Java

**package** com.example.sjcet.c3;

**import** android.os.Bundle;

**import** android.support.v7.app.AppCompatActivity;

**import** android.view.View;

**import** android.widget.Button;

**import** android.widget.EditText;

**import** android.widget.TextView;

**public class** MainActivity **extends** AppCompatActivity {

*// These are the global variables*

EditText **editName**;

TextView **result**;

Button **buttonSubmit**;

@Override

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

**super**.onCreate(savedInstanceState);

setContentView(R.layout.***activity\_main***);

**editName** = (EditText) findViewById(R.id.***editName***);

**result** = (TextView) findViewById(R.id.***tvResult***);

**buttonSubmit** = (Button) findViewById(R.id.***buttonSubmit***);

**buttonSubmit**.setOnClickListener(**new** View.OnClickListener() {

@Override

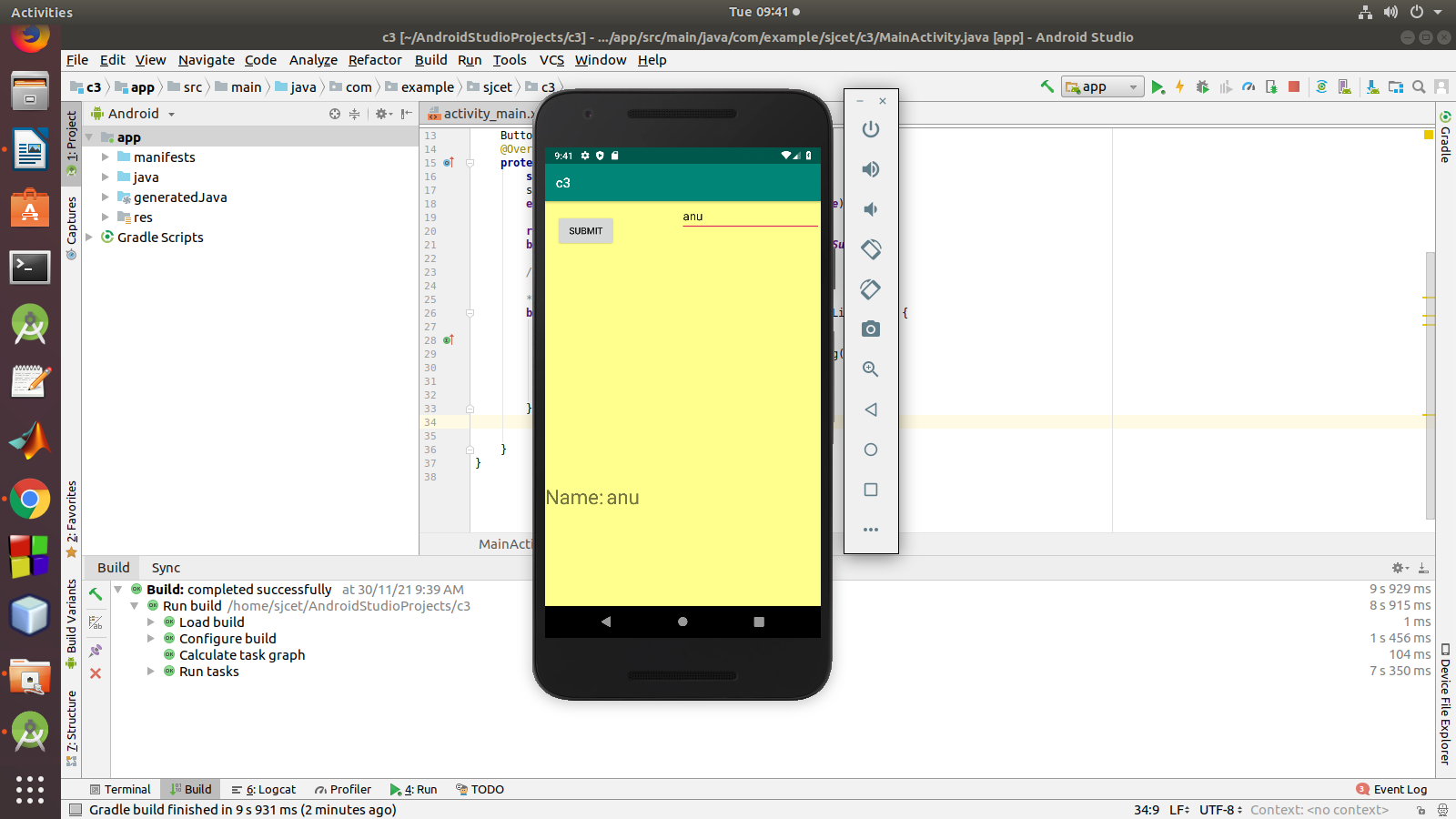
**public void** onClick(View v) {

String name = **editName**.getText().toString();

**result**.setText(**"Name:\t"** + name );

}});}}

output



**4.Change the backgroud color on a button click**

program

Xml code

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

<**RelativeLayout**

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

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

**android:id="@+id/rlVar1"**

**android:layout\_width="match\_parent"**

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

**android:background="@color/green"**

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

<**TextView**

**android:id="@+id/tvVar1"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

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

**android:layout\_marginTop="240dp"**

**android:text="What whould you like?"**

**android:textSize="30dp"**

**android:textStyle="bold"** />

<**LinearLayout**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_below="@+id/tvVar1"**

**android:layout\_centerInParent="true"**

**android:layout\_marginTop="60dp"**

**android:orientation="horizontal"**

**android:padding="10dp"**>

<**Button**

**android:id="@+id/btVar1"**

**android:layout\_width="150dp"**

**android:layout\_height="wrap\_content"**

**android:padding="20dp"**

**android:text="Cool"**

**android:textSize="25dp"** />

<**Button**

**android:id="@+id/btVar2"**

**android:layout\_width="150dp"**

**android:layout\_height="wrap\_content"**

**android:padding="20dp"**

**android:text="Warm"**

**android:textSize="25dp"** />

</**LinearLayout**>

</**RelativeLayout**>

java

**package** com.example.sjcet.background;

**import** android.support.v7.app.AppCompatActivity;

**import** android.os.Bundle;

**import** android.view.View;

**import** android.widget.Button;

**import** android.widget.RelativeLayout;

**public class** MainActivity **extends** AppCompatActivity {

@Override

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

**super**.onCreate(savedInstanceState);

setContentView(R.layout.***activity\_main***);

Button button1, button2;

**final** RelativeLayout relativeLayout;

button1 = findViewById(R.id.***btVar1***);

button2 = findViewById(R.id.***btVar2***);

relativeLayout = findViewById(R.id.***rlVar1***);

button1.setOnClickListener(**new** View.OnClickListener() {

@Override

**public void** onClick(View view) {

relativeLayout.setBackgroundResource(R.color.***cool***);

}

});

button2.setOnClickListener(**new** View.OnClickListener() {

@Override

**public void** onClick(View view) {

relativeLayout.setBackgroundResource(R.color.***warm***);

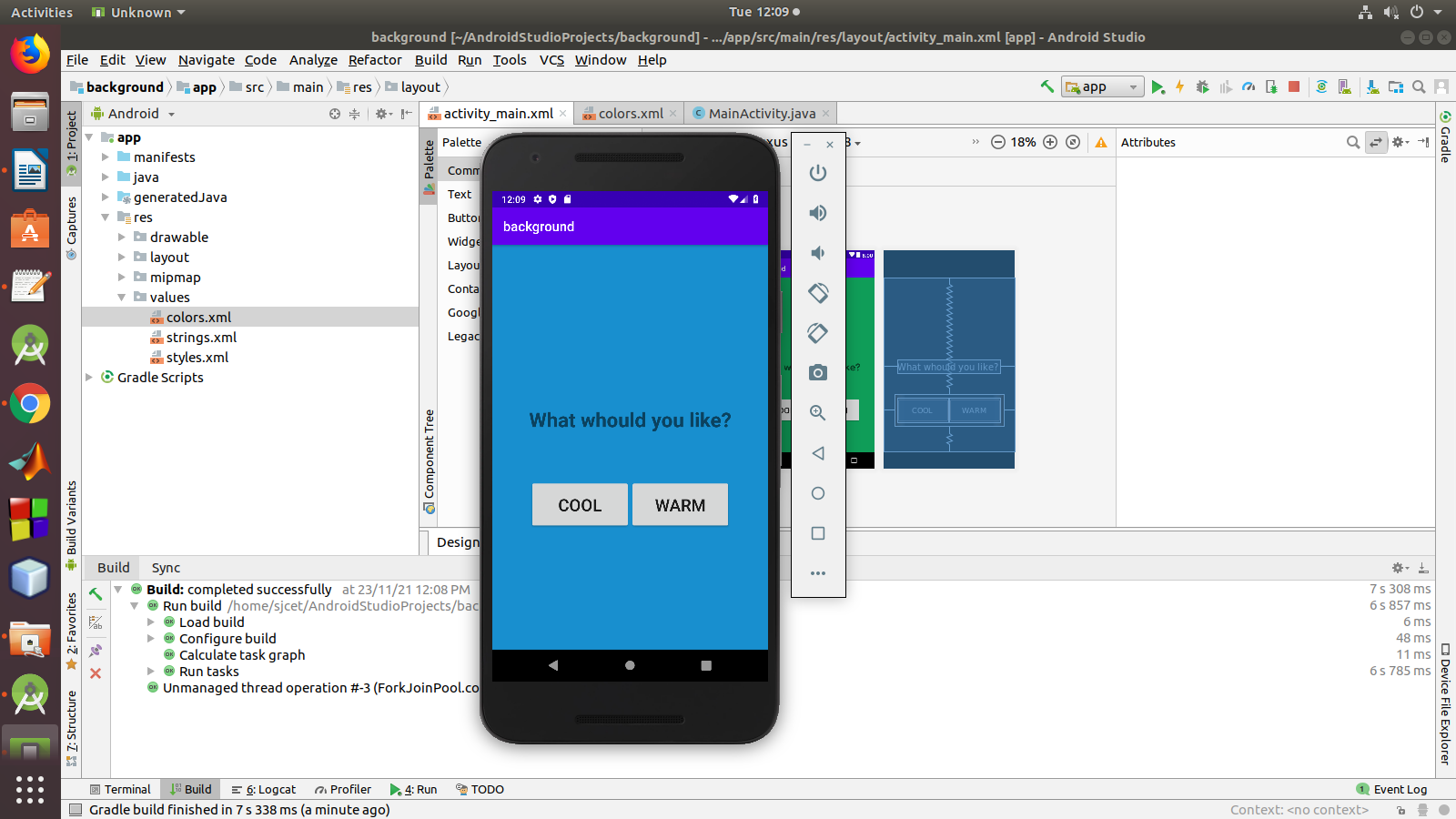
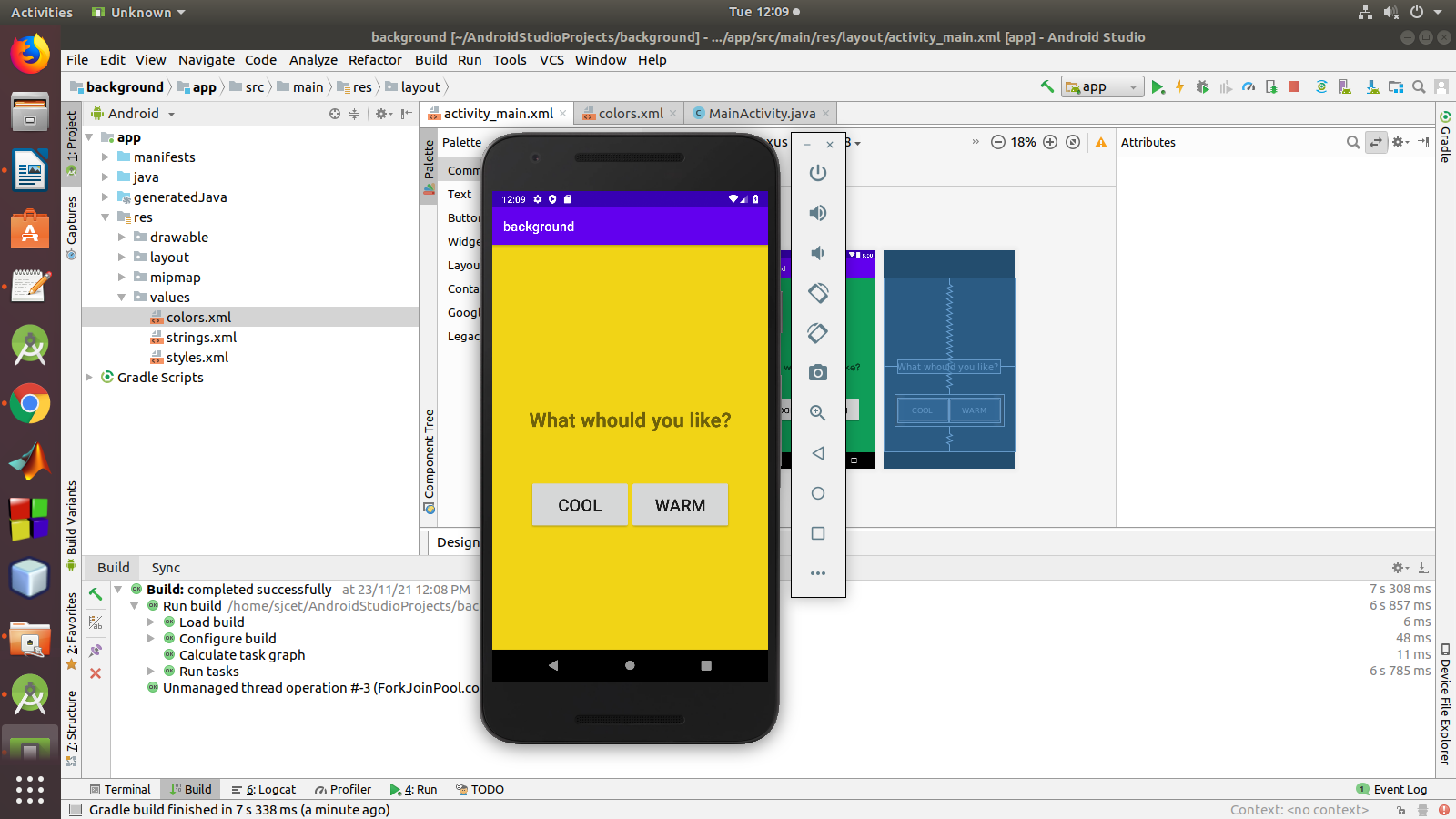
}

});

}

}

DESIGN



**5,Create a sample calculator**.

Program

Xml code

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

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

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

**android:id="@+id/relative1"**

**android:layout\_width="match\_parent"**

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

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

<**EditText**

**android:id="@+id/edt1"**

**android:layout\_width="match\_parent"**

**android:layout\_height="wrap\_content"** />

<**Button**

**android:id="@+id/button1"**

**style="?android:attr/buttonStyleSmall"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_alignEnd="@+id/button4"**

**android:layout\_alignRight="@+id/button4"**

**android:layout\_below="@+id/edt1"**

**android:layout\_marginTop="94dp"**

**android:text="1"** />

<**Button**

**android:id="@+id/button2"**

**style="?android:attr/buttonStyleSmall"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_alignTop="@+id/button1"**

**android:layout\_toLeftOf="@+id/button3"**

**android:layout\_toStartOf="@+id/button3"**

**android:text="2"** />

<**Button**

**android:id="@+id/button3"**

**style="?android:attr/buttonStyleSmall"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_alignTop="@+id/button2"**

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

**android:text="3"** />

<**Button**

**android:id="@+id/button4"**

**style="?android:attr/buttonStyleSmall"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_below="@+id/button1"**

**android:layout\_toLeftOf="@+id/button2"**

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

<**Button**

**android:id="@+id/button5"**

**style="?android:attr/buttonStyleSmall"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_alignBottom="@+id/button4"**

**android:layout\_alignLeft="@+id/button2"**

**android:layout\_alignStart="@+id/button2"**

**android:text="5"** />

<**Button**

**android:id="@+id/button6"**

**style="?android:attr/buttonStyleSmall"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_alignLeft="@+id/button3"**

**android:layout\_alignStart="@+id/button3"**

**android:layout\_below="@+id/button3"**

**android:text="6"** />

<**Button**

**android:id="@+id/button7"**

**style="?android:attr/buttonStyleSmall"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_below="@+id/button4"**

**android:layout\_toLeftOf="@+id/button2"**

**android:text="7"** />

<**Button**

**android:id="@+id/button8"**

**style="?android:attr/buttonStyleSmall"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_alignLeft="@+id/button5"**

**android:layout\_alignStart="@+id/button5"**

**android:layout\_below="@+id/button5"**

**android:text="8"** />

<**Button**

**android:id="@+id/button9"**

**style="?android:attr/buttonStyleSmall"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_alignLeft="@+id/button6"**

**android:layout\_alignStart="@+id/button6"**

**android:layout\_below="@+id/button6"**

**android:text="9"** />

<**Button**

**android:id="@+id/buttonadd"**

**style="?android:attr/buttonStyleSmall"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_alignEnd="@+id/edt1"**

**android:layout\_alignRight="@+id/edt1"**

**android:layout\_alignTop="@+id/button3"**

**android:layout\_marginLeft="46dp"**

**android:layout\_marginStart="46dp"**

**android:layout\_toRightOf="@+id/button3"**

**android:text="+"** />

<**Button**

**android:id="@+id/buttonsub"**

**style="?android:attr/buttonStyleSmall"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_alignEnd="@+id/buttonadd"**

**android:layout\_alignLeft="@+id/buttonadd"**

**android:layout\_alignRight="@+id/buttonadd"**

**android:layout\_alignStart="@+id/buttonadd"**

**android:layout\_below="@+id/buttonadd"**

**android:text="-"** />

<**Button**

**android:id="@+id/buttonmul"**

**style="?android:attr/buttonStyleSmall"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_alignLeft="@+id/buttonsub"**

**android:layout\_alignParentEnd="true"**

**android:layout\_alignParentRight="true"**

**android:layout\_alignStart="@+id/buttonsub"**

**android:layout\_below="@+id/buttonsub"**

**android:text="\*"** />

<**Button**

**android:id="@+id/button10"**

**style="?android:attr/buttonStyleSmall"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_below="@+id/button7"**

**android:layout\_toLeftOf="@+id/button2"**

**android:text="."** />

<**Button**

**android:id="@+id/button0"**

**style="?android:attr/buttonStyleSmall"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_alignLeft="@+id/button8"**

**android:layout\_alignStart="@+id/button8"**

**android:layout\_below="@+id/button8"**

**android:text="0"** />

<**Button**

**android:id="@+id/buttonC"**

**style="?android:attr/buttonStyleSmall"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_alignLeft="@+id/button9"**

**android:layout\_alignStart="@+id/button9"**

**android:layout\_below="@+id/button9"**

**android:text="C"** />

<**Button**

**android:id="@+id/buttondiv"**

**style="?android:attr/buttonStyleSmall"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_alignEnd="@+id/buttonmul"**

**android:layout\_alignLeft="@+id/buttonmul"**

**android:layout\_alignRight="@+id/buttonmul"**

**android:layout\_alignStart="@+id/buttonmul"**

**android:layout\_below="@+id/buttonmul"**

**android:text="/"** />

<**Button**

**android:id="@+id/buttoneql"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_alignEnd="@+id/buttondiv"**

**android:layout\_alignLeft="@+id/button10"**

**android:layout\_alignRight="@+id/buttondiv"**

**android:layout\_alignStart="@+id/button10"**

**android:layout\_below="@+id/button0"**

**android:layout\_marginTop="37dp"**

**android:text="="** />

</**RelativeLayout**>

JAVA

**package** com.example.sjcet.calculator;

**import** android.os.Bundle;

**import** android.support.v7.app.AppCompatActivity;

**import** android.view.View;

**import** android.widget.Button;

**import** android.widget.EditText;

**public class** MainActivity **extends** AppCompatActivity {

Button **button0**, **button1**, **button2**, **button3**, **button4**, **button5**, **button6**,

**button7**, **button8**, **button9**, **buttonAdd**, **buttonSub**, **buttonDivision**,

**buttonMul**, **button10**, **buttonC**, **buttonEqual**;

EditText **crunchifyEditText**;

**float mValueOne**, **mValueTwo**;

**boolean crunchifyAddition**, **mSubtract**, **crunchifyMultiplication**, **crunchifyDivision**;

@Override

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

**super**.onCreate(savedInstanceState);

setContentView(R.layout.***activity\_main***);

**button0** = (Button) findViewById(R.id.***button0***);

**button1** = (Button) findViewById(R.id.***button1***);

**button2** = (Button) findViewById(R.id.***button2***);

**button3** = (Button) findViewById(R.id.***button3***);

**button4** = (Button) findViewById(R.id.***button4***);

**button5** = (Button) findViewById(R.id.***button5***);

**button6** = (Button) findViewById(R.id.***button6***);

**button7** = (Button) findViewById(R.id.***button7***);

**button8** = (Button) findViewById(R.id.***button8***);

**button9** = (Button) findViewById(R.id.***button9***);

**button10** = (Button) findViewById(R.id.***button10***);

**buttonAdd** = (Button) findViewById(R.id.***buttonadd***);

**buttonSub** = (Button) findViewById(R.id.***buttonsub***);

**buttonMul** = (Button) findViewById(R.id.***buttonmul***);

**buttonDivision** = (Button) findViewById(R.id.***buttondiv***);

**buttonC** = (Button) findViewById(R.id.***buttonC***);

**buttonEqual** = (Button) findViewById(R.id.***buttoneql***);

**crunchifyEditText** = (EditText) findViewById(R.id.***edt1***);

**button1**.setOnClickListener(**new** View.OnClickListener() {

@Override

**public void** onClick(View v) {

**crunchifyEditText**.setText(**crunchifyEditText**.getText() + **"1"**);

}

});

**button2**.setOnClickListener(**new** View.OnClickListener() {

@Override

**public void** onClick(View v) {

**crunchifyEditText**.setText(**crunchifyEditText**.getText() + **"2"**);

}

});

**button3**.setOnClickListener(**new** View.OnClickListener() {

@Override

**public void** onClick(View v) {

**crunchifyEditText**.setText(**crunchifyEditText**.getText() + **"3"**);

}

});

**button4**.setOnClickListener(**new** View.OnClickListener() {

@Override

**public void** onClick(View v) {

**crunchifyEditText**.setText(**crunchifyEditText**.getText() + **"4"**);

}

});

**button5**.setOnClickListener(**new** View.OnClickListener() {

@Override

**public void** onClick(View v) {

**crunchifyEditText**.setText(**crunchifyEditText**.getText() + **"5"**);

}

});

**button6**.setOnClickListener(**new** View.OnClickListener() {

@Override

**public void** onClick(View v) {

**crunchifyEditText**.setText(**crunchifyEditText**.getText() + **"6"**);

}

});

**button7**.setOnClickListener(**new** View.OnClickListener() {

@Override

**public void** onClick(View v) {

**crunchifyEditText**.setText(**crunchifyEditText**.getText() + **"7"**);

}

});

**button8**.setOnClickListener(**new** View.OnClickListener() {

@Override

**public void** onClick(View v) {

**crunchifyEditText**.setText(**crunchifyEditText**.getText() + **"8"**);

}

});

**button9**.setOnClickListener(**new** View.OnClickListener() {

@Override

**public void** onClick(View v) {

**crunchifyEditText**.setText(**crunchifyEditText**.getText() + **"9"**);

}

});

**button0**.setOnClickListener(**new** View.OnClickListener() {

@Override

**public void** onClick(View v) {

**crunchifyEditText**.setText(**crunchifyEditText**.getText() + **"0"**);

}

});

**buttonAdd**.setOnClickListener(**new** View.OnClickListener() {

@Override

**public void** onClick(View v) {

**if** (**crunchifyEditText** == **null**) {

**crunchifyEditText**.setText(**""**);

} **else** {

**mValueOne** = Float.*parseFloat*(**crunchifyEditText**.getText() + **""**);

**crunchifyAddition** = **true**;

**crunchifyEditText**.setText(**null**);

}

}

});

**buttonSub**.setOnClickListener(**new** View.OnClickListener() {

@Override

**public void** onClick(View v) {

**mValueOne** = Float.*parseFloat*(**crunchifyEditText**.getText() + **""**);

**mSubtract** = **true**;

**crunchifyEditText**.setText(**null**);

}

});

**buttonMul**.setOnClickListener(**new** View.OnClickListener() {

@Override

**public void** onClick(View v) {

**mValueOne** = Float.*parseFloat*(**crunchifyEditText**.getText() + **""**);

**crunchifyMultiplication** = **true**;

**crunchifyEditText**.setText(**null**);

}

});

**buttonDivision**.setOnClickListener(**new** View.OnClickListener() {

@Override

**public void** onClick(View v) {

**mValueOne** = Float.*parseFloat*(**crunchifyEditText**.getText() + **""**);

**crunchifyDivision** = **true**;

**crunchifyEditText**.setText(**null**);

}

});

**buttonEqual**.setOnClickListener(**new** View.OnClickListener() {

@Override

**public void** onClick(View v) {

**mValueTwo** = Float.*parseFloat*(**crunchifyEditText**.getText() + **""**);

**if** (**crunchifyAddition** == **true**) {

**crunchifyEditText**.setText(**mValueOne** + **mValueTwo** + **""**);

**crunchifyAddition** = **false**;

}

**if** (**mSubtract** == **true**) {

**crunchifyEditText**.setText(**mValueOne** - **mValueTwo** + **""**);

**mSubtract** = **false**;

}

**if** (**crunchifyMultiplication** == **true**) {

**crunchifyEditText**.setText(**mValueOne** \* **mValueTwo** + **""**);

**crunchifyMultiplication** = **false**;

}

**if** (**crunchifyDivision** == **true**) {

**crunchifyEditText**.setText(**mValueOne** / **mValueTwo** + **""**);

**crunchifyDivision** = **false**;

}

}

});

**buttonC**.setOnClickListener(**new** View.OnClickListener() {

@Override

**public void** onClick(View v) {

**crunchifyEditText**.setText(**""**);

}

});

**button10**.setOnClickListener(**new** View.OnClickListener() {

@Override

**public void** onClick(View v) {

**crunchifyEditText**.setText(**crunchifyEditText**.getText() + **"."**);

}

});

}

}

DESIGN

