

Simple Android Application for Native Calculator

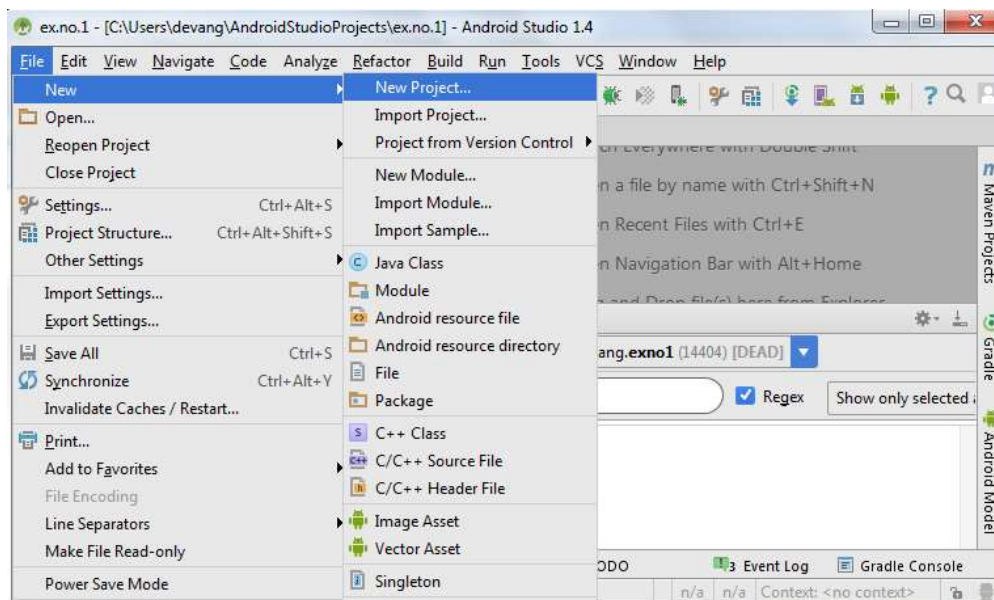
Aim:

To develop a Simple Android Application for Native Calculator.

Procedure:

Creating a New project:

- Open Android Studio and then click on **File -> New -> New project**.



- Then type the Application name as “**ex.no.3**” and click **Next**.

Create New Project

New Project

Android Studio

Configure your new project

Application name:

Company Domain:

Package name: [Edit](#)

Project location:

The application name for most apps begins with an uppercase letter

[Previous](#) [Next](#) [Cancel](#) [Finish](#)

- Then select the **Minimum SDK** as shown below and click **Next**.

Create New Project

Target Android Devices

Select the form factors your app will run on

Different platforms may require separate SDKs

☒ Phone and Tablet
Minimum SDK:

☐ Wear
Minimum SDK:

☐ TV
Minimum SDK:

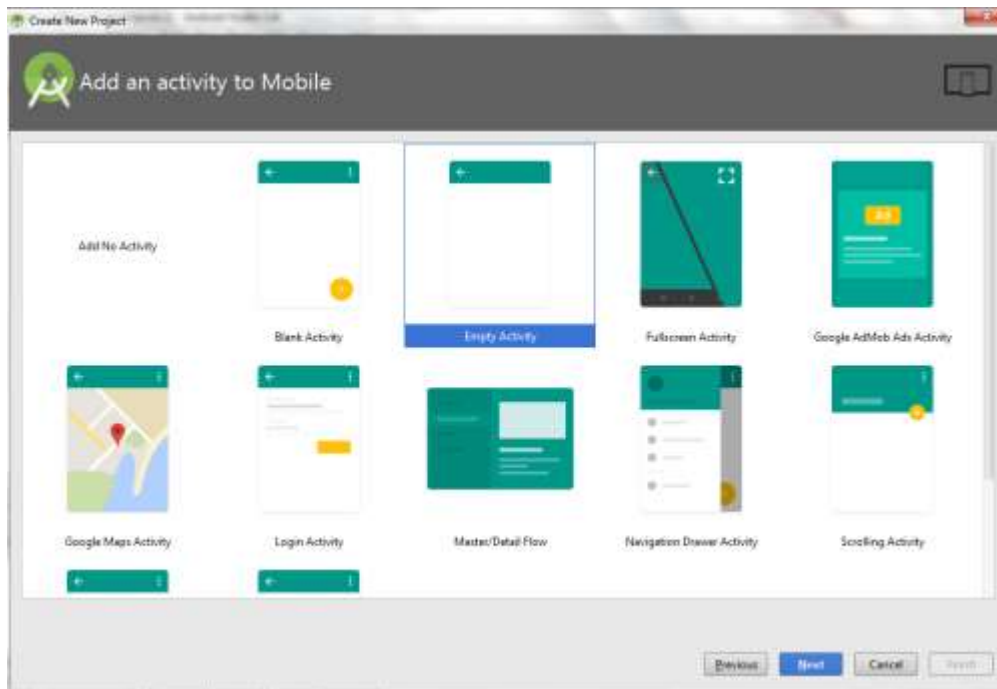
☐ Android Auto
Minimum SDK:

☐ Glass (Beta Disabled)
Minimum SDK:

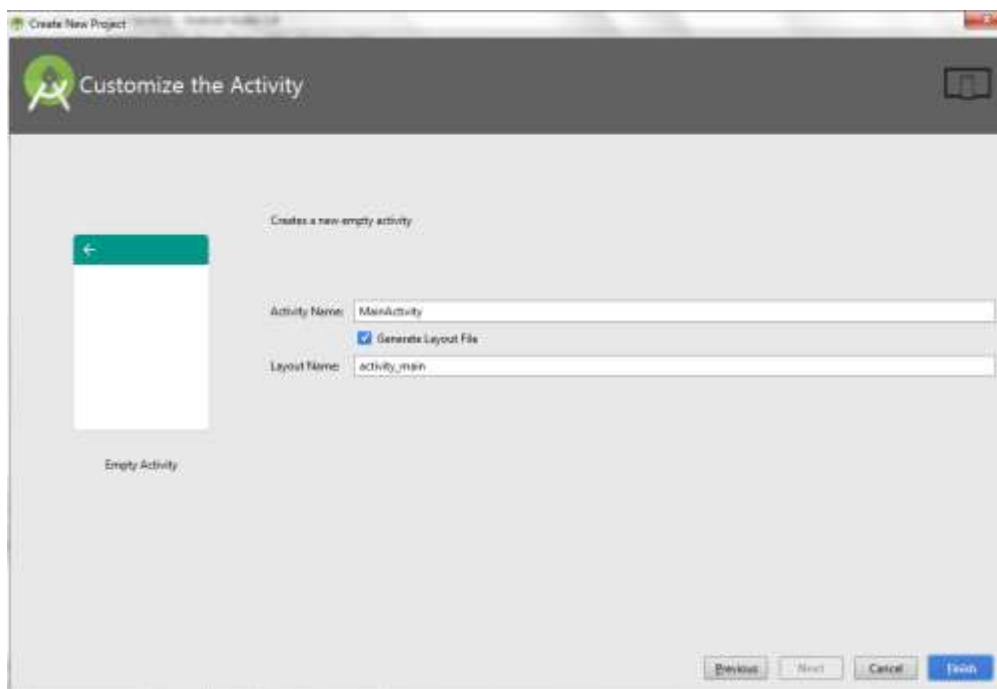
Lower API levels target more devices, but have fewer features available. By targeting API 15 and later, your app will run on approximately 94.0% of the devices that are active on the Google Play Store.
[Help me choose](#)

[Previous](#) [Next](#) [Cancel](#) [Finish](#)

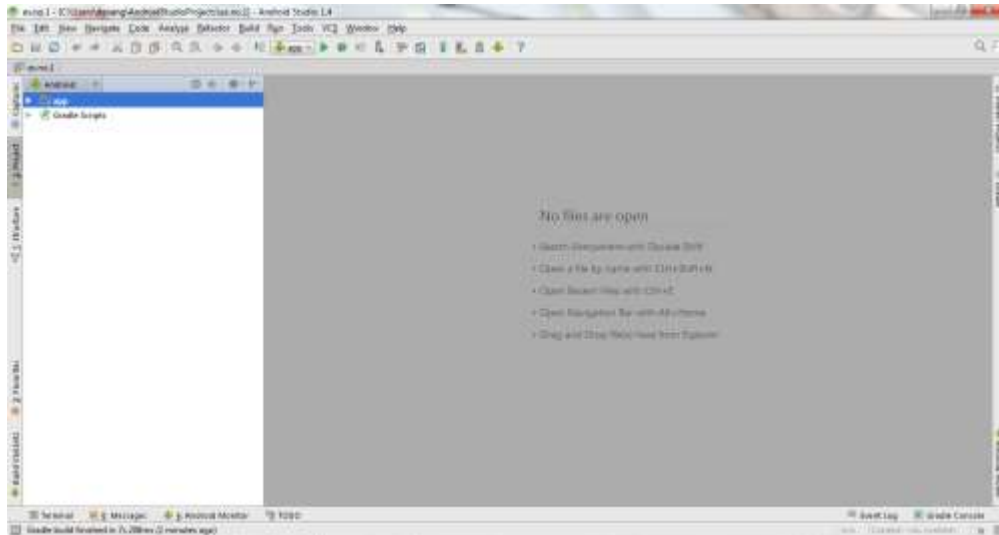
- Then select the **Empty Activity** and click **Next**.



- Finally click **Finish**.

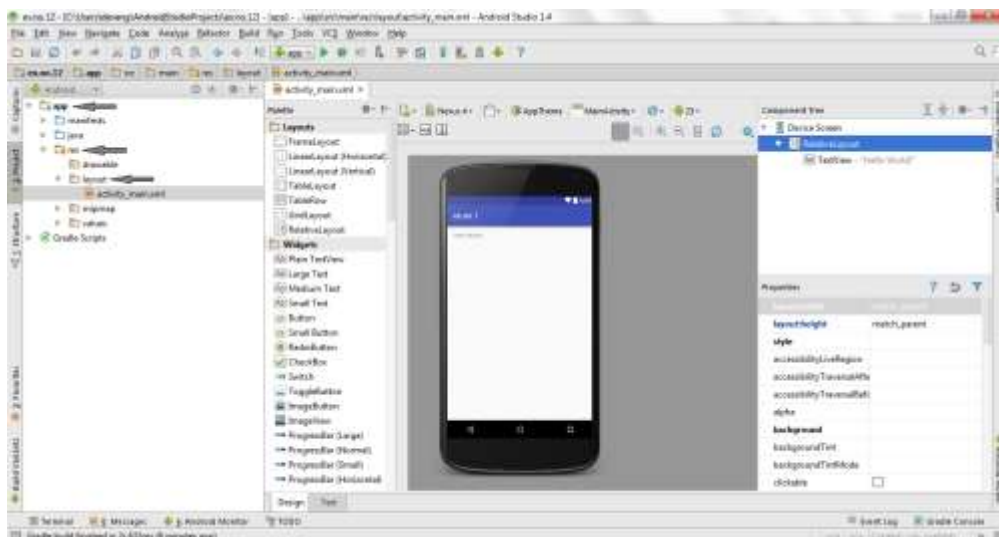


- It will take some time to build and load the project.
- After completion it will look as given below.

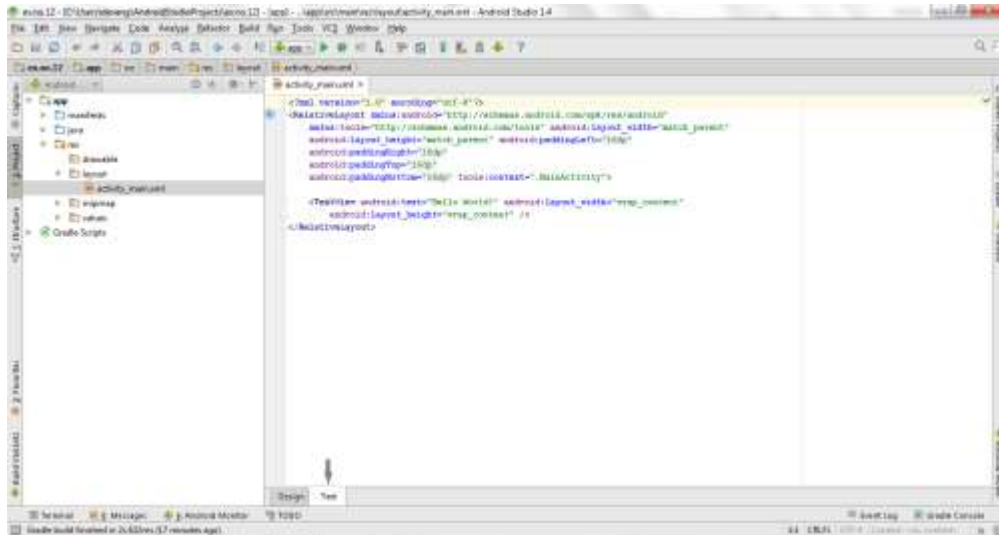


Designing layout for the Android Application:

- Click on **app -> res -> layout -> activity_main.xml**.



- Now click on **Text** as shown below.



- Then delete the code which is there and type the code as given below.

Code for Activity_main.xml:

```

1 <?xml version="1.0" encoding="utf-8"?>
2 <LinearLayout
3     xmlns:android="http://schemas.android.com/apk/res/android"
4     android:orientation="vertical"
5     android:layout_width="match_parent"
6     android:layout_height="match_parent"
7     android:layout_margin="20dp">
8     <LinearLayout
9         android:id="@+id/linearLayout1"
10        android:layout_width="match_parent"
11        android:layout_height="wrap_content"
12        android:layout_margin="20dp">
13         <EditText
14             android:id="@+id/editText1"
15             android:layout_width="match_parent"
16             android:layout_height="wrap_content"
17             android:layout_weight="1"
18             android:inputType="numberDecimal"
19             android:textSize="20sp" />
20         <EditText
21             android:id="@+id/editText2"
22             android:layout_width="match_parent"
23             android:layout_height="wrap_content"
24             android:layout_weight="1"
25             android:inputType="numberDecimal"
26             android:textSize="20sp" />
27     </LinearLayout>
28     <LinearLayout
29         android:id="@+id/linearLayout2"
30         android:layout_width="match_parent"

```

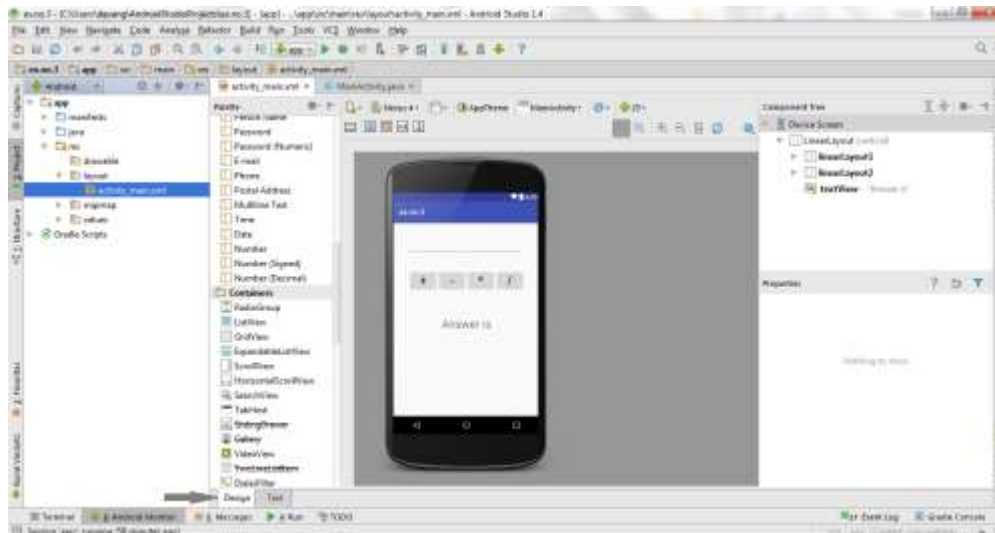
```

30     android:layout_height="wrap_content"
31     android:layout_margin="20dp">
32
33     <Button
34         android:id="@+id/Add"
35         android:layout_width="match_parent"
36         android:layout_height="wrap_content"
37         android:layout_weight="1"
38         android:text="+"
39         android:textSize="30sp"/>
40
41     <Button
42         android:id="@+id/Sub"
43         android:layout_width="match_parent"
44         android:layout_height="wrap_content"
45         android:layout_weight="1"
46         android:text="-"
47         android:textSize="30sp"/>
48
49     <Button
50         android:id="@+id/Mul"
51         android:layout_width="match_parent"
52         android:layout_height="wrap_content"
53         android:layout_weight="1"
54         android:text="*"
55         android:textSize="30sp"/>
56
57     <Button
58         android:id="@+id/Div"
59         android:layout_width="match_parent"
60         android:layout_height="wrap_content"
61         android:layout_weight="1"
62         android:text="/"
63         android:textSize="30sp"/>
64
65 </LinearLayout>
66
67 <TextView
68     android:id="@+id/textView"
69     android:layout_width="match_parent"
70     android:layout_height="wrap_content"
71     android:layout_marginTop="50dp"
72     android:text="Answer is"
73     android:textSize="30sp"
74     android:gravity="center"/>
75
76 </LinearLayout>
77
78
79

```

80
81
82

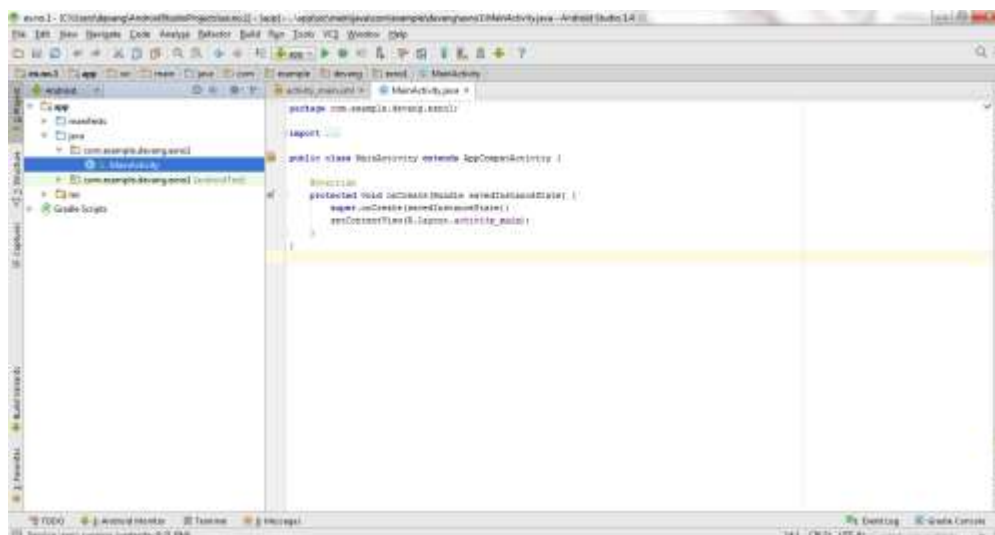
- Now click on Design and your application will look as given below.



- So now the designing part is completed.

Java Coding for the Android Application:

- Click on app -> java -> com.example.exno3 -> MainActivity.



- Then delete the code which is there and type the code as given below.

Code for MainActivity.java:

```
2  
1 package com.example.devang.exno3;  
2
```

```

3 import android.os.Bundle;
4 import android.support.v7.app.AppCompatActivity;
5 import android.text.TextUtils;
6 import android.view.View;
7 import android.view.View.OnClickListener;
8 import android.widget.Button;
9 import android.widget.EditText;
10 import android.widget.TextView;
11
12 public class MainActivity extends AppCompatActivity implements
13     OnClickListener
14 {
15     //Defining the Views
16     EditText Num1;
17     EditText Num2;
18     Button Add;
19     Button Sub;
20     Button Mul;
21     Button Div;
22     TextView Result;
23
24     @Override
25     public void onCreate(Bundle savedInstanceState)
26     {
27         super.onCreate(savedInstanceState);
28         setContentView(R.layout.activity_main);
29
30         //Referring the Views
31         Num1 = (EditText) findViewById(R.id.editText1);
32         Num2 = (EditText) findViewById(R.id.editText2);
33         Add = (Button) findViewById(R.id.Add);
34         Sub = (Button) findViewById(R.id.Sub);
35         Mul = (Button) findViewById(R.id.Mul);
36         Div = (Button) findViewById(R.id.Div);
37         Result = (TextView) findViewById(R.id.textView);
38
39         // set a listener
40         Add.setOnClickListener(this);
41         Sub.setOnClickListener(this);
42         Mul.setOnClickListener(this);
43         Div.setOnClickListener(this);
44     }
45
46     @Override
47     public void onClick (View v)
48     {
49         float num1 = 0;
50         float num2 = 0;
51         float result = 0;
52         String oper = "";
53
54         // check if the fields are empty
55         if (TextUtils.isEmpty(Num1.getText().toString()) ||
56             TextUtils.isEmpty(Num2.getText().toString()))
57             return;
58
59         // read EditText and fill variables with numbers
60         num1 = Float.parseFloat(Num1.getText().toString());

```



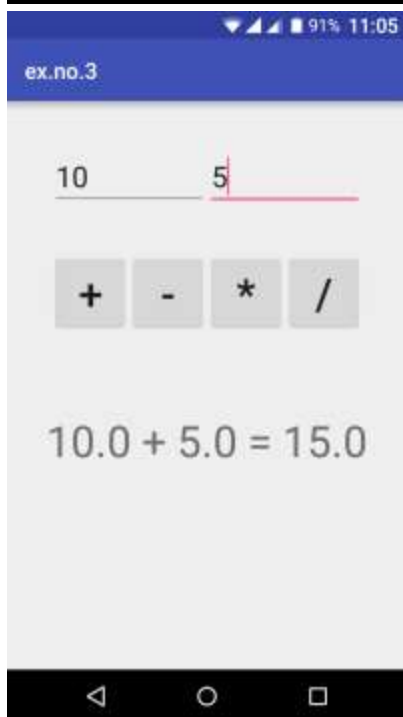
```

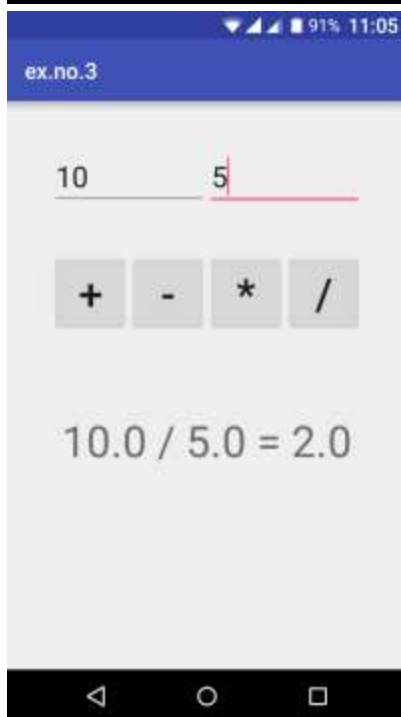
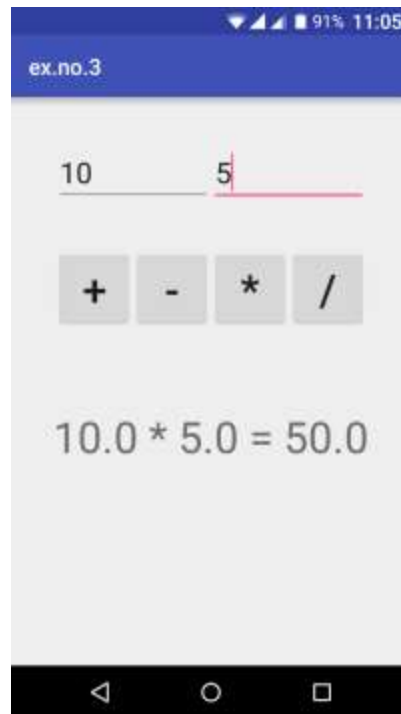
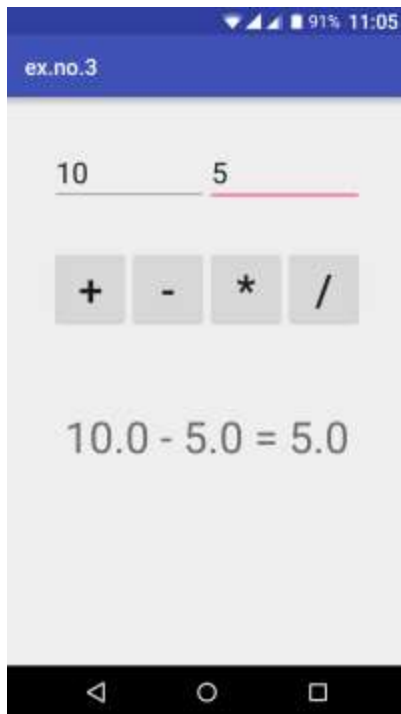
53         num2 = Float.parseFloat(Num2.getText().toString());
54
55         // defines the button that has been clicked and performs the
56         corresponding operation
57         // write operation into oper, we will use it later for output
58         switch (v.getId())
59         {
60             case R.id.Add:
61                 oper = "+";
62                 result = num1 + num2;
63                 break;
64             case R.id.Sub:
65                 oper = "-";
66                 result = num1 - num2;
67                 break;
68             case R.id.Mul:
69                 oper = "*";
70                 result = num1 * num2;
71                 break;
72             case R.id.Div:
73                 oper = "/";
74                 result = num1 / num2;
75                 break;
76             default:
77                 break;
78         }
79         // form the output line
80         Result.setText(num1 + " " + oper + " " + num2 + " = " + result);
81     }
82 }
83
84
85
86
87
88

```

- So now the Coding part is also completed.
- Now run the application to see the output.

Output:





Result:

Thus a Simple Android Application for Native Calculator is developed and executed successfully.