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**How to create a Calculator App for Android**

In this article, we will learn about the creation of Quick Calculator application in android that is useful to get quick mathematical results.

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This application will perform primary mathematical operations like:

* @ Addition of two numbers
* @ Subtraction of two numbers
* @ Multiplication of two numbers
* @ Division of two numbers

This application is developed and composed of two layouts and two primary java classes.

Layouts:

**@ home.xml Layout**: This layout is the welcome layout for Quick Calculator application. In this layout, a wallpaper is set as background of the layout. While we start this application, this layout runs for 3 seconds.

**Listing 1**: home.xml layout

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

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

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:background="@drawable/calc"

android:orientation="vertical" >

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="35dp"

android:layout\_marginLeft="20dp"

android:layout\_marginTop="25dp"

android:text="@string/app\_name"

android:textColor="#000"

android:textSize="25sp" />

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="25dp"

android:layout\_marginLeft="70dp"

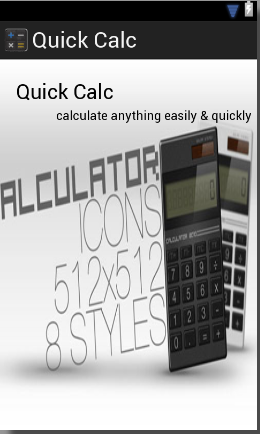
android:layout\_weight="0.04"

android:text="@string/app\_name\_slogan"

android:textColor="#000"

android:textSize="15sp" />

</LinearLayout>



**Figure 1**: Quick Calculator

Java Class Files:

Every Android project contains a "res" (reources) folder. This folder is meant to comprise of number of subfolders.

**Listing 2**: calc.xml

<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"

android:paddingBottom="@dimen/activity\_vertical\_margin"

android:paddingLeft="@dimen/activity\_horizontal\_margin"

android:paddingRight="@dimen/activity\_horizontal\_margin"

android:paddingTop="@dimen/activity\_vertical\_margin"

tools:context=".Home"

android:background="#fff" >

<EditText

android:layout\_width="fill\_parent"

android:layout\_height="wrap\_content"

android:text="@string/disp"

android:id = "@+id/display"

android:hint="@string/dispHint" />

<LinearLayout android:orientation="horizontal"

android:layout\_width="fill\_parent"

android:layout\_height="wrap\_content"

android:layout\_gravity="center"

android:gravity="center"

android:paddingTop="20dp">

<Button

android:layout\_width="55dp"

android:layout\_height="wrap\_content"

android:id = "@+id/seven"

android:text="@string/seven"

/>

<Button

android:layout\_width="55dp"

android:layout\_height="wrap\_content"

android:id = "@+id/eight"

android:text="@string/eight"

/>

<Button

android:layout\_width="55dp"

android:layout\_height="wrap\_content"

android:id = "@+id/nine"

android:text="@string/nine"

/>

<Button

android:layout\_width="55dp"

android:layout\_height="wrap\_content"

android:id = "@+id/div"

android:text="@string/div"

/>

</LinearLayout>

<LinearLayout android:orientation="horizontal"

android:layout\_width="fill\_parent"

android:layout\_height="wrap\_content"

android:layout\_gravity="center"

android:gravity="center"

android:paddingTop="20dp">

<Button

android:layout\_width="55dp"

android:layout\_height="wrap\_content"

android:id = "@+id/four"

android:text="@string/four"

/>

<Button

android:layout\_width="55dp"

android:layout\_height="wrap\_content"

android:id = "@+id/five"

android:text="@string/five"

/>

<Button

android:layout\_width="55dp"

android:layout\_height="wrap\_content"

android:id = "@+id/six"

android:text="@string/six"

/>

<Button

android:layout\_width="55dp"

android:layout\_height="wrap\_content"

android:id = "@+id/mul"

android:text="@string/mul"

/>

</LinearLayout>

<LinearLayout android:orientation="horizontal"

android:layout\_width="fill\_parent"

android:layout\_height="wrap\_content"

android:layout\_gravity="center"

android:gravity="center"

android:paddingTop="20dp">

<Button

android:layout\_width="55dp"

android:layout\_height="wrap\_content"

android:id = "@+id/one"

android:text="@string/one"

/>

<Button

android:layout\_width="55dp"

android:layout\_height="wrap\_content"

android:id = "@+id/two"

android:text="@string/two"

/>

<Button

android:layout\_width="55dp"

android:layout\_height="wrap\_content"

android:id = "@+id/three"

android:text="@string/three"

/>

<Button

android:layout\_width="55dp"

android:layout\_height="wrap\_content"

android:id = "@+id/sub"

android:text="@string/sub"

/>

</LinearLayout>

<LinearLayout android:orientation="horizontal"

android:layout\_width="fill\_parent"

android:layout\_height="wrap\_content"

android:layout\_gravity="center"

android:gravity="center"

android:paddingTop="20dp">

<Button

android:layout\_width="55dp"

android:layout\_height="wrap\_content"

android:id = "@+id/cancel"

android:text="@string/cancel"

/>

<Button

android:layout\_width="55dp"

android:layout\_height="wrap\_content"

android:id = "@+id/zero"

android:text="@string/zero"

/>

<Button

android:layout\_width="55dp"

android:layout\_height="wrap\_content"

android:id = "@+id/equal"

android:text="@string/equal"

/>

<Button

android:layout\_width="55dp"

android:layout\_height="wrap\_content"

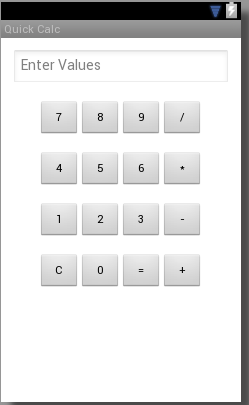
android:id = "@+id/add"

android:text="@string/add"

/>

</LinearLayout>

</LinearLayout>



**Figure 2**: Quick Calculator

In this layout one EditText is used as display and rest of object are button objects, which are labeled from 1 to 0 natural numbers, mathematical operations, equal button, and reset button.

Two java classes are created in order to manage these two layouts for this application, the first class named home class run home.xml layout for 3 seconds using Thread concept and loads the next layout after 3 seconds by closing the running layout (home.xml).

***Note****: Layout is closed by calling method finish() and other layout is loaded using new Intent mechanism.*

**Listing 3**: Home class defined in the Home.java file.

import android.app.Activity;

import android.content.Intent;

import android.os.Bundle;

public class Home extends Activity{

@Override

protected void onCreate(Bundle savedInstanceState) {

// TODO Auto-generated method stub

super.onCreate(savedInstanceState);

setContentView(R.layout.home);

Thread th = new Thread(){

public void run(){

try{

sleep(1000);

}

catch(Exception e){

e.printStackTrace();

}

finally{

onPause();

startActivity(new Intent("com.one.slate.CALC"));

}

}

};

th.start();

}

@Override

public void onPause(){

super.onPause();

finish();

}

}

This class extends an Activity class. Two methods of Activity class are overridden in this class, which are onCreate(Bundle) and onPause(). onCreate() method defines, which layout is to be loaded using method: setContentView(R.layout.home);

Next, it defines a new thread, which runs the layout for 3 seconds and load next activity layout by starting a new activity: startActivity(new Intent(“com.one.slate.CALC”));

Before starting a new activity, we should close running activity, if it will not be used in future. This can be achieved using onPause() method.

**Listing 3**: Calculator class defind into the Calc.java file.

import android.os.Bundle;

import android.app.Activity;

import android.text.Editable;

import android.view.Menu;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

public class Calc extends Activity implements View.OnClickListener{

Button one, two, three, four, five, six, seven, eight, nine, zero, add, sub, mul, div, cancel, equal;

EditText disp;

int op1;

int op2;

String optr;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_home);

one = (Button) findViewById(R.id.one);

two = (Button) findViewById(R.id.two);

three = (Button) findViewById(R.id.three);

four = (Button) findViewById(R.id.four);

five = (Button) findViewById(R.id.five);

six = (Button) findViewById(R.id.six);

seven = (Button) findViewById(R.id.seven);

eight = (Button) findViewById(R.id.eight);

nine = (Button) findViewById(R.id.nine);

zero = (Button) findViewById(R.id.zero);

add = (Button) findViewById(R.id.add);

sub = (Button) findViewById(R.id.sub);

mul = (Button) findViewById(R.id.mul);

div = (Button) findViewById(R.id.div);

cancel = (Button) findViewById(R.id.cancel);

equal = (Button) findViewById(R.id.equal);

disp = (EditText) findViewById(R.id.display);

try{

one.setOnClickListener(this);

two.setOnClickListener(this);

three.setOnClickListener(this);

four.setOnClickListener(this);

five.setOnClickListener(this);

six.setOnClickListener(this);

seven.setOnClickListener(this);

eight.setOnClickListener(this);

nine.setOnClickListener(this);

zero.setOnClickListener(this);

cancel.setOnClickListener(this);

add.setOnClickListener(this);

sub.setOnClickListener(this);

mul.setOnClickListener(this);

div.setOnClickListener(this);

equal.setOnClickListener(this);

}

catch(Exception e){

}

}

public void operation(){

if(optr.equals("+")){

op2 = Integer.parseInt(disp.getText().toString());

disp.setText("");

op1 = op1 + op2;

disp.setText("Result : " + Integer.toString(op1));

}

else if(optr.equals("-")){

op2 = Integer.parseInt(disp.getText().toString());

disp.setText("");

op1 = op1 - op2;

disp.setText("Result : " + Integer.toString(op1));

}

else if(optr.equals("\*")){

op2 = Integer.parseInt(disp.getText().toString());

disp.setText("");

op1 = op1 \* op2;

disp.setText("Result : " + Integer.toString(op1));

}

else if(optr.equals("/")){

op2 = Integer.parseInt(disp.getText().toString());

disp.setText("");

op1 = op1 / op2;

disp.setText("Result : " + Integer.toString(op1));

}

}

@Override

public void onClick(View arg0) {

Editable str = disp.getText();

switch(arg0.getId()){

case R.id.one:

if(op2 != 0){

op2 = 0;

disp.setText("");

}

str = str.append(two.getText());

disp.setText(str);

break;

case R.id.two:

if(op2 != 0){

op2 = 0;

disp.setText("");

}

str = str.append(two.getText());

disp.setText(str);

break;

case R.id.three:

if(op2 != 0){

op2 = 0;

disp.setText("");

}

str = str.append(three.getText());

disp.setText(str);

break;

case R.id.four:

if(op2 != 0){

op2 = 0;

disp.setText("");

}

str = str.append(four.getText());

disp.setText(str);

break;

case R.id.five:

if(op2 != 0){

op2 = 0;

disp.setText("");

}

str = str.append(five.getText());

disp.setText(str);

break;

case R.id.six:

if(op2 != 0){

op2 = 0;

disp.setText("");

}

str = str.append(six.getText());

disp.setText(str);

break;

case R.id.seven:

if(op2 != 0){

op2 = 0;

disp.setText("");

}

str = str.append(eight.getText());

disp.setText(str);

break;

case R.id.eight:

if(op2 != 0){

op2 = 0;

disp.setText("");

}

str = str.append(nine.getText());

disp.setText(str);

break;

case R.id.nine:

if(op2 != 0){

op2 = 0;

disp.setText("");

}

str = str.append(zero.getText());

disp.setText(str);

break;

case R.id.cancel:

op1 = 0;

op2 = 0;

disp.setText("");

disp.setHint("Perform Operation :)");

break;

case R.id.add:

optr = "+";

if(op1 == 0){

op1 = Integer.parseInt(disp.getText().toString());

disp.setText("");

}

else if(op2 != 0){

op2 = 0;

disp.setText("");

}

else{

op2 = Integer.parseInt(disp.getText().toString());

disp.setText("");

op1 = op1 + op2;

disp.setText("Result : " + Integer.toString(op1));

}

break;

case R.id.sub:

optr = "-";

if(op1 == 0){

op1 = Integer.parseInt(disp.getText().toString());

disp.setText("");

}

else if(op2 != 0){

op2 = 0;

disp.setText("");

}

else{

op2 = Integer.parseInt(disp.getText().toString());

disp.setText("");

op1 = op1 - op2;

disp.setText("Result : " + Integer.toString(op1));

}

break;

case R.id.mul:

optr = "\*";

if(op1 == 0){

op1 = Integer.parseInt(disp.getText().toString());

disp.setText("");

}

else if(op2 != 0){

op2 = 0;

disp.setText("");

}

else{

op2 = Integer.parseInt(disp.getText().toString());

disp.setText("");

op1 = op1 \* op2;

disp.setText("Result : " + Integer.toString(op1));

}

break;

case R.id.div:

optr = "/";

if(op1 == 0){

op1 = Integer.parseInt(disp.getText().toString());

disp.setText("");

}

else if(op2 != 0){

op2 = 0;

disp.setText("");

}

else{

op2 = Integer.parseInt(disp.getText().toString());

disp.setText("");

op1 = op1 / op2;

disp.setText("Result : " + Integer.toString(op1));

}

break;

case R.id.equal:

if(!optr.equals(null)){

if(op2 != 0){

if(optr.equals("+")){

disp.setText("");

/\*op1 = op1 + op2;\*/

disp.setText("Result : " + Integer.toString(op1));

}

else if(optr.equals("-")){

disp.setText("");/\*

op1 = op1 - op2;\*/

disp.setText("Result : " + Integer.toString(op1));

}

else if(optr.equals("\*")){

disp.setText("");/\*

op1 = op1 \* op2;\*/

disp.setText("Result : " + Integer.toString(op1));

}

else if(optr.equals("/")){

disp.setText("");/\*

op1 = op1 / op2;\*/

disp.setText("Result : " + Integer.toString(op1));

}

}

else{

operation();

}

}

break;

}

}

}

This class describe all the complete functionality for a calculator. This class extends Activity class and implements method of View.OnClickListener interface.

* onCreate(Bundle) method loads the calc.xml layout.
* operation() method define all the basic operation for calculator.
* onClick() method is implemented of OnClickListener interface, which handle all the clicking buttons of calculator application.
* These all buttons clicks are managed by switch case conditional statement, where case represents the layout attributes id and describe their functionality.
* setOnClickListener(this) points out click event defined as a switch case in the onClick() method respectively.

**Listing 4**: XML : AndroidManifest.xml

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

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

package="com.one.slate"

android:versionCode="1"

android:versionName="1.0" >

<uses-sdk

android:minSdkVersion="8"

android:targetSdkVersion="17" />

<application

android:allowBackup="true"

android:icon="@drawable/ic\_launcher"

android:label="@string/app\_name"

android:theme="@style/AppTheme" >

<activity

android:name="com.one.slate.Home"

android:label="@string/app\_name" >

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-filter>

</activity>

<activity

android:name="com.one.slate.Calc"

android:label="@string/app\_name" >

<intent-filter>

<action android:name="com.one.slate.CALC" />

<category android:name="android.intent.category.DEFAULT" />

</intent-filter>

</activity>

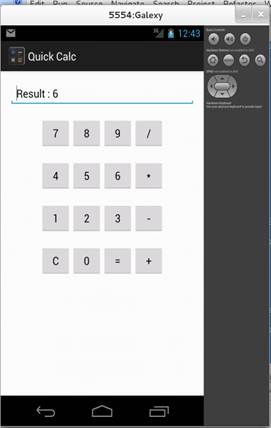
</application>

</manifest>

The AndroidManifest.xml file is the main configuration file for Quick Calculator android application. This loads home layout by default using class Home.class, whose parameters are set into the activity name “.Home”. The next activity defines, how to load next layout (calc). This layout is loaded by Calc.class defined as parameters in this second activity.

These two activities are enclosed into the main xml tag , which describes information about the application representing, when an application starts.

Sample Output:



**Figure 3**: Sample Output of a Quick Calculator

Conclusion

We learned the process to come up with a simple calculator application in Android. See you next time.

[](http://www.mrbool.com/space.asp?id=330959)  
[Anant Khurana](http://www.mrbool.com/space.asp?id=330959)

Working in Software Development domain from 7 years now and is well equipped with programming languages like HTML, CSS, Java, PHP, .NET etc.

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ninad  
hi switch(arg0.getId()){ case R.id.one: if(op2 != 0){ op2 = 0; disp.setText(""); } str = str.append(two.getText()); disp.setText(str); break; case R.id.two: if(op2 != 0){ op2 = 0; disp.setText(""); } str = str.append(two.getText()); disp.setText(str); break; in this code what this line means str = str.append(two.getText()); what is this two.getText() what is this two here? is it button id or what?   
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Mr.Bool Editor  
Yes two is indeed a button. <Button android:layout\_width="55dp" android:layout\_height="wrap\_content" android:id = "@+id/two" android:text="@string/two" /> Button one, two, three, four, five, six, seven, eight, nine, zero, add, sub, mul, div, cancel, equal; two = (Button) findViewById(R.id.two); Looking at the code: case R.id.one: if(op2 != 0){ op2 = 0; disp.setText(""); } str = str.append(two.getText()); disp.setText(str); break; two.getText()gets whatever text is contained in the string named two. But for case R.id.one: it should read as follows: case R.id.one: if(op2 != 0){ op2 = 0; disp.setText(""); } str = str.append(one.getText()); disp.setText(str); getting the text from the one Button. For case R.id.two: it is correct as: case R.id.two: if(op2 != 0){ op2 = 0; disp.setText(""); } str = str.append(two.getText()); disp.setText(str); break;   
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ninad  
please explain this case R.id.two: if(op2 != 0){ op2 = 0; disp.setText(""); } str = str.append(two.getText()); disp.setText(str); break; sorry but i am new.   
[+1 year ago]    [Answer it](http://mrbool.com/rte3/addcomment.asp?idcomp=28100&idco_pai=41319)

http://mrbool.com/images/columnist/158615_20140507182234.png

Mr.Bool Editor  
Here it’s just making sure that when op2 is not equal to zero then it’s set to zero. Then the correct value is assigned according to the button pressed which here in button 2. (R.id.two). op2 is an integer as seen defined below: Button one, two, three, four, five, six, seven, eight, nine, zero, add, sub, mul, div, cancel, equal; EditText disp; int op1; int op2; String optr; Code: case R.id.two: if(op2 != 0){ if op2 is not equal to zero op2 = 0; it sets it to zero disp.setText("");display is set to nothing } str = str.append(two.getText());str is appended with two.getText() disp.setText(str); display sets text as the str break;   
3/12/2014 5:27pm   [Answer it](http://mrbool.com/rte3/addcomment.asp?idcomp=28100&idco_pai=41319)

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Roger W  
Hi, I'm using your code as a tutorial and trying to modify your code to handle double variables and also to add some extra functionality like adding M+, MR and MC Buttons so I've had to delve into your code. Sadly I've found a couple of typos in your Calc java file in the onClick method as shown below in my commented code. If you've got any ideas on handling double variables that would be useful too. public void onClick(View arg0) { Editable str = disp.getText(); switch(arg0.getId()){ case R.id.one: if(op2 != 0){ op2 = 0; disp.setText(""); } str = str.append(two.getText()); // This should refer to one.getText() disp.setText(str); break; case R.id.two: if(op2 != 0){ op2 = 0; disp.setText(""); } str = str.append(two.getText()); disp.setText(str); break; case R.id.three: if(op2 != 0){ op2 = 0; disp.setText(""); } str = str.append(three.getText()); disp.setText(str); break; case R.id.four: if(op2 != 0){ op2 = 0; disp.setText(""); } str = str.append(four.getText()); disp.setText(str); break; case R.id.five: if(op2 != 0){ op2 = 0; disp.setText(""); } str = str.append(five.getText()); disp.setText(str); break; case R.id.six: if(op2 != 0){ op2 = 0; disp.setText(""); } str = str.append(six.getText()); disp.setText(str); break; case R.id.seven: if(op2 != 0){ op2 = 0; disp.setText(""); } str = str.append(eight.getText()); // This should refer to seven.getText() disp.setText(str); break; case R.id.eight: if(op2 != 0){ op2 = 0; disp.setText(""); } str = str.append(nine.getText()); // This should refer to nine.getText() disp.setText(str); break; case R.id.nine: if(op2 != 0){ op2 = 0; disp.setText(""); } str = str.append(zero.getText()); // This should refer to zero.getText() disp.setText(str); break;   
[+1 year ago]    [Answer it](http://mrbool.com/rte3/addcomment.asp?idcomp=28100&idco_pai=41329)

http://mrbool.com/images/columnist/158615_20140507182234.png

Mr.Bool Editor  
Well spotted there are several typos. Even the best make mistakes eh lol Just be aware to get the right text for the correct button e.g. case R.id.one: if(op2 != 0){ op2 = 0; disp.setText(""); } str = str.append(one.getText()); disp.setText(str); should of course be one.getText() as seen above. case R.id.two: should be: two.getText() case R.id.eight should be: eight.getText() etc. etc. Thank you for pointing that out Roger. It’s much appreciated. It’s good to see you are using the code, learning and improving it to add extra functionality. Good stuff ☺   
3/12/2014 5:28pm   [Answer it](http://mrbool.com/rte3/addcomment.asp?idcomp=28100&idco_pai=41329)

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sandeep  
by executing above code while pressing 1 it is giving 2   
[+1 year ago]    [Answer it](http://mrbool.com/rte3/addcomment.asp?idcomp=28100&idco_pai=42487)

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Mr.Bool Editor  
Looking at the code: case R.id.one: if(op2 != 0){ op2 = 0; disp.setText(""); } str = str.append(two.getText()); disp.setText(str); break; Here we can see in the case of Button one being pressed it gets the text of Button two instead of button one. It should read: case R.id.one: if(op2 != 0){ op2 = 0; disp.setText(""); } str = str.append(one.getText()); disp.setText(str);   
3/12/2014 5:30pm   [Answer it](http://mrbool.com/rte3/addcomment.asp?idcomp=28100&idco_pai=42487)

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Chinmoy  
An error occur. Build failed Unable to find an Ant file to run. How to fix it???   
[+1 year ago]    [Answer it](http://mrbool.com/rte3/addcomment.asp?idcomp=28100&idco_pai=42781)

http://mrbool.com/images/columnist/158615_20140507182234.png

Mr.Bool Editor  
Start a new project and copy and paste in the code and try that. Check you have the Eclipse Plugin for Android installed? That may be the problem. Here's the link: developer.android.com/tools/sdk/eclipse-adt.html Or try right click on the project, run as – android application.   
3/12/2014 5:31pm   [Answer it](http://mrbool.com/rte3/addcomment.asp?idcomp=28100&idco_pai=42781)

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MArek  
Hi. I'm new in programing with Android. Can you help me with your code: I'll put some code from me. I'll put another buttons( Bkcs, dot) but unfortunately somethings goes wrong. Can you put your cod about this functionally ?? I'll be very gratefull.   
[+1 year ago]    [Answer it](http://mrbool.com/rte3/addcomment.asp?idcomp=28100&idco_pai=43306)

http://mrbool.com/images/columnist/158615_20140507182234.png

Mr.Bool Editor  
Hello Marek, we published this article for help your question, can you please check it out and see if it helps you ? http://mrbool.com/android-calculator-tutorial-creating-an-calculator-app/30315  
3/24/2014 11:56am   [Answer it](http://mrbool.com/rte3/addcomment.asp?idcomp=28100&idco_pai=43306)

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Pearl Pyae  
I want to add back space and point function for my calculator.How can I do that?   
[+1 year ago]    [Answer it](http://mrbool.com/rte3/addcomment.asp?idcomp=28100&idco_pai=53083)

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john  
I've put your code into Android Studio. Upon compiling, it cannot find the reference to package R. Is there a class missing somewhere in your sample code, or perhaps an include or a package I need to reference? I'm using your sample code for Programming Merit Badge--heavily modified eventually, but it's a great starter for Android programming introduction. Thx!   
[+1 year ago]    [Answer it](http://mrbool.com/rte3/addcomment.asp?idcomp=28100&idco_pai=53127)

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Mr.Bool Editor  
We contacted the author and he will reply your comment soon  
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Billy  
works at 1000000000% the logical alghoritmic structure this is the entire code adapted only for the MainActivity.java lo he tropicalizado al español aca si pueden ver funciona a la perfeccion ya lo probe el codigo algoritmico esta bien. lo unico que tienen que hacer es crear la interfaz grafica del main activity y eso es todo funciona de 10000% todo package com.example.password.kalkuleitor; import android.support.v7.app.ActionBarActivity; import android.os.Bundle; import android.text.Editable; import android.view.Menu; import android.view.MenuItem; import android.view.View; import android.widget.Button; import android.widget.EditText; import android.widget.TextView; public class MainActivity extends ActionBarActivity implements View.OnClickListener { Button uno, dos, tres, cuatro, cinco, seis, siete, ocho, nueve, cero, sumar, restar, multiplikar, dividor, salir, igual; EditText imprimir; int op1; int op2; String optr; @Override protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main); initControls(); } private void initControls() { uno = (Button) findViewById(R.id.button); dos = (Button) findViewById(R.id.button2); tres = (Button) findViewById(R.id.button3); cuatro = (Button) findViewById(R.id.button4); cinco = (Button) findViewById(R.id.button5); seis = (Button) findViewById(R.id.button6); siete = (Button) findViewById(R.id.button7); ocho = (Button) findViewById(R.id.button8); nueve = (Button) findViewById(R.id.button9); cero = (Button) findViewById(R.id.button10); sumar = (Button) findViewById(R.id.button13); restar = (Button) findViewById(R.id.button11); multiplikar = (Button) findViewById(R.id.button12); dividor = (Button) findViewById(R.id.button14); salir = (Button) findViewById(R.id.button15); imprimir = (EditText) findViewById(R.id.editText); igual = (Button) findViewById(R.id.button16); try { uno.setOnClickListener(this); dos.setOnClickListener(this); tres.setOnClickListener(this); cuatro.setOnClickListener(this); cinco.setOnClickListener(this); seis.setOnClickListener(this); siete.setOnClickListener(this); ocho.setOnClickListener(this); nueve.setOnClickListener(this); cero.setOnClickListener(this); salir.setOnClickListener(this); sumar.setOnClickListener(this); restar.setOnClickListener(this); multiplikar.setOnClickListener(this); dividor.setOnClickListener(this); igual.setOnClickListener(this); } catch (Exception e) { } } public void operacion() { if (optr.equals("+")) { op2 = Integer.parseInt(imprimir.getText().toString()); imprimir.setText(""); op1 = op1 + op2; imprimir.setText("Result : " + Integer.toString(op1)); } else if (optr.equals("-")) { op2 = Integer.parseInt(imprimir.getText().toString()); imprimir.setText(""); op1 = op1 - op2; imprimir.setText("Result : " + Integer.toString(op1)); } else if (optr.equals("\*")) { op2 = Integer.parseInt(imprimir.getText().toString()); imprimir.setText(""); op1 = op1 \* op2; imprimir.setText("Result : " + Integer.toString(op1)); } else if (optr.equals("/")) { op2 = Integer.parseInt(imprimir.getText().toString()); imprimir.setText(""); op1 = op1 / op2; imprimir.setText("Result : " + Integer.toString(op1)); } } @Override public void onClick(View arg0) { Editable str = imprimir.getText(); switch (arg0.getId()) { case R.id.button: if (op2 != 0) { op2 = 0; imprimir.setText(""); } str = str.append(uno.getText()); imprimir.setText(str); break; case R.id.button2: if (op2 != 0) { op2 = 0; imprimir.setText(""); } str = str.append(dos.getText()); imprimir.setText(str); break; case R.id.button3: if (op2 != 0) { op2 = 0; imprimir.setText(""); } str = str.append(tres.getText()); imprimir.setText(str); break; case R.id.button4: if (op2 != 0) { op2 = 0; imprimir.setText(""); } str = str.append(cuatro.getText()); imprimir.setText(str); break; case R.id.button5: if (op2 != 0) { op2 = 0; imprimir.setText(""); } str = str.append(cinco.getText()); imprimir.setText(str); break; case R.id.button6: if (op2 != 0) { op2 = 0; imprimir.setText(""); } str = str.append(seis.getText()); imprimir.setText(str); break; case R.id.button7: if (op2 != 0) { op2 = 0; imprimir.setText(""); } str = str.append(siete.getText()); imprimir.setText(str); break; case R.id.button8: if (op2 != 0) { op2 = 0; imprimir.setText(""); } str = str.append(ocho.getText()); imprimir.setText(str); break; case R.id.button9: if (op2 != 0) { op2 = 0; imprimir.setText(""); } str = str.append(nueve.getText()); imprimir.setText(str); break; case R.id.button10: if (op2 != 0) { op2 = 0; imprimir.setText(""); } str = str.append(cero.getText()); imprimir.setText(str); break; case R.id.button15: System.exit(0); break; case R.id.button13: optr = "+"; if (op1 == 0) { op1 = Integer.parseInt(imprimir.getText().toString()); imprimir.setText(""); } else if (op2 != 0) { op2 = 0; imprimir.setText(""); } else { op2 = Integer.parseInt(imprimir.getText().toString()); imprimir.setText(""); op1 = op1 + op2; imprimir.setText("Result : " + Integer.toString(op1)); } break; case R.id.button11: optr = "-"; if (op1 == 0) { op1 = Integer.parseInt(imprimir.getText().toString()); imprimir.setText(""); } else if (op2 != 0) { op2 = 0; imprimir.setText(""); } else { op2 = Integer.parseInt(imprimir.getText().toString()); imprimir.setText(""); op1 = op1 - op2; imprimir.setText("Result : " + Integer.toString(op1)); } break; case R.id.button12: optr = "\*"; if (op1 == 0) { op1 = Integer.parseInt(imprimir.getText().toString()); imprimir.setText(""); } else if (op2 != 0) { op2 = 0; imprimir.setText(""); } else { op2 = Integer.parseInt(imprimir.getText().toString()); imprimir.setText(""); op1 = op1 \* op2; imprimir.setText("Result : " + Integer.toString(op1)); } break; case R.id.button14: optr = "/"; if (op1 == 0) { op1 = Integer.parseInt(imprimir.getText().toString()); imprimir.setText(""); } else if (op2 != 0) { op2 = 0; imprimir.setText(""); } else { op2 = Integer.parseInt(imprimir.getText().toString()); imprimir.setText(""); op1 = op1 / op2; imprimir.setText("Result : " + Integer.toString(op1)); } break; case R.id.button16: if (!optr.equals(null)) { if (op2 != 0) { if (optr.equals("+")) { imprimir.setText(""); imprimir.setText("Result : " + Integer.toString(op1)); } else if (optr.equals("-")) { imprimir.setText(""); imprimir.setText("Result : " + Integer.toString(op1)); } else if (optr.equals("\*")) { imprimir.setText(""); imprimir.setText("Result : " + Integer.toString(op1)); } else if (optr.equals("/")) { imprimir.setText(""); imprimir.setText("Result : " + Integer.toString(op1)); } } else { operacion(); } } break; } } @Override public boolean onCreateOptionsMenu(Menu menu) { // Inflate the menu; this adds items to the action bar if it is present. getMenuInflater().inflate(R.menu.menu\_main, menu); return true; } @Override public boolean onOptionsItemSelected(MenuItem item) { // Handle action bar item clicks here. The action bar will // automatically handle clicks on the Home/Up button, so long // as you specify a parent activity in AndroidManifest.xml. int id = item.getItemId(); //noinspection SimplifiableIfStatement if (id == R.id.action\_settings) { return true; } return super.onOptionsItemSelected(item); } }   
[+1 year ago]    [Answer it](http://mrbool.com/rte3/addcomment.asp?idcomp=28100&idco_pai=57267)

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Mr.Bool Editor  
Thanks Billy for sharing with us.  
2/19/2015 7:51pm   [Answer it](http://mrbool.com/rte3/addcomment.asp?idcomp=28100&idco_pai=57267)

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dheeraj  
I am using this code but on mobile screen it only gernates home xml file and then it gets stoped   
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oumeir  
hello i need help please. when i run my emulator i only see a blank screen with hello world. i cant do any calculation as no button is available. <activity android:name="com.one.slate.Home" and i have com.one.slate.Home underlined in red. please help!!!   
[+1 month ago]    [Answer it](http://mrbool.com/rte3/addcomment.asp?idcomp=28100&idco_pai=63488)

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Brown Dw  
This tutorial was very helpful to build my basics. I was able to build my own app for Play store. Thank you Sir. App Link : https://goo.gl/oMlqmn   
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package com.example.app;

import android.support.v7.app.ActionBarActivity;

import android.support.v7.app.ActionBar;

import android.support.v4.app.Fragment;

import android.os.Bundle;

import android.view.LayoutInflater;

import android.view.Menu;

import android.view.MenuItem;

import android.view.View;

import android.view.ViewGroup;

import android.os.Build;

import android.widget.Button;

import android.widget.EditText;

import static android.view.View.OnClickListener;

public class MainActivity extends ActionBarActivity {

private EditText Scr;

private float NumberBf;

private String Operation;

private ButtonClickListener btnClick;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

Scr = (EditText)findViewById(R.id.textView);

int idList[]= {

R.id.button,R.id.button2,R.id.button3,R.id.button4,R.id.button5,

R.id.button6,R.id.button7,R.id.button8,

R.id.button9,R.id.button10,R.id.buttonC,

R.id.buttonEq,R.id.buttonAdd,R.id.buttonSub,R.id.buttonDiv,

R.id.buttonDot,R.id.buttonMul};

for(int id:idList)

{

View v = (View) findViewById(id);

v.setOnClickListener(btnClick);

}

}

public void mMath(String str){

NumberBf=Float.parseFloat(Scr.getText().toString());

Operation=str;

Scr.setText("0");

}

public void getKeyboard(String str)

{

String ScrCurrent = Scr.getText().toString();

ScrCurrent += str;

Scr.setText(ScrCurrent);

}

public void mResult()

{

float NumAf=Float.parseFloat(Scr.getText().toString());

float result=0;

if(Operation.equals("+"))

{

result =NumAf + NumberBf;

}

if(Operation.equals("-"))

{

result =NumAf - NumberBf;

}

if(Operation.equals("\*"))

{

result =NumAf \* NumberBf;

}

if(Operation.equals("/"))

{

result =NumAf / NumberBf;

}

Scr.setText(String.valueOf(result));

}

private class ButtonClickListener implements OnClickListener {

public void onClick(View v){

switch (v.getId()){

case R.id.buttonC:

Scr.setText("0");

NumberBf=0;

Operation="";

break;

case R.id.buttonAdd:

mMath("+");

break;

case R.id.buttonSub:

mMath("-");

break;

case R.id.buttonDiv:

mMath("/");

break;

case R.id.buttonMul:

mMath("\*");

break;

case R.id.buttonEq:

mResult();

break;

default :

String numb;

numb = ((Button)v).getText().toString();

getKeyboard(numb);

break;

}

}

}

}

And Here is the XML Code.

<EditText

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:textAppearance="?android:attr/textAppearanceLarge"

android:text="0"

android:id="@+id/textView"

android:layout\_alignParentTop="true"

android:layout\_alignParentLeft="true"

android:layout\_alignParentStart="true"

android:layout\_marginLeft="54dp"

android:layout\_marginTop="73dp"

android:layout\_alignParentRight="true"

android:layout\_alignParentEnd="true"

android:gravity="right"

android:onClick="setContentView" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="7"

android:id="@+id/button"

android:textStyle="bold"

android:layout\_below="@+id/textView"

android:layout\_alignLeft="@+id/textView"

android:layout\_alignStart="@+id/textView"

android:onClick="onClick" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="8"

android:id="@+id/button2"

android:layout\_alignTop="@+id/button"

android:layout\_toRightOf="@+id/button"

android:textStyle="bold" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="9"

android:id="@+id/button3"

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

android:layout\_toRightOf="@+id/button2"

android:textStyle="bold" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="4"

android:id="@+id/button4"

android:layout\_below="@+id/button"

android:layout\_alignLeft="@+id/button"

android:layout\_alignStart="@+id/button"

android:textStyle="bold" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="5"

android:id="@+id/button5"

android:layout\_below="@+id/button2"

android:layout\_toRightOf="@+id/button4"

android:textStyle="bold" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="6"

android:id="@+id/button6"

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

android:layout\_toRightOf="@+id/button5"

android:textStyle="bold" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="1"

android:id="@+id/button7"

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

android:layout\_alignLeft="@+id/button4"

android:layout\_alignStart="@+id/button4"

android:textStyle="bold" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="2"

android:id="@+id/button8"

android:layout\_alignTop="@+id/button7"

android:layout\_toRightOf="@+id/button7"

android:textStyle="bold" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="3"

android:id="@+id/button9"

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

android:layout\_toRightOf="@+id/button8"

android:textStyle="bold" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="0"

android:id="@+id/button10"

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

android:layout\_alignLeft="@+id/button7"

android:layout\_alignStart="@+id/button7"

android:textStyle="bold" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="."

android:id="@+id/buttonDot"

android:layout\_alignTop="@+id/button10"

android:layout\_toRightOf="@+id/button10"

android:textStyle="bold" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="C"

android:id="@+id/buttonC"

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

android:layout\_alignParentRight="true"

android:layout\_alignParentEnd="true"

android:textStyle="bold" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="+"

android:id="@+id/buttonAdd"

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

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

android:textStyle="bold" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="-"

android:id="@+id/buttonSub"

android:layout\_above="@+id/button9"

android:layout\_toRightOf="@+id/button6"

android:textStyle="bold" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="\*"

android:id="@+id/buttonMul"

android:layout\_above="@+id/buttonDot"

android:layout\_toRightOf="@+id/button9"

android:textStyle="bold" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="/"

android:id="@+id/buttonDiv"

android:layout\_alignTop="@+id/buttonDot"

android:layout\_alignLeft="@+id/buttonMul"

android:layout\_alignStart="@+id/buttonMul"

android:textStyle="bold" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="="

android:id="@+id/buttonEq"

android:layout\_alignTop="@+id/buttonDiv"

android:layout\_toLeftOf="@+id/buttonDiv"

android:textStyle="bold" />

[android](http://stackoverflow.com/questions/tagged/android)

# Android: Simple Calculator

[Gobinath Loganathan](https://plus.google.com/107491250200348919329)  [a year ago](http://www.javahelps.com/2015/03/android-simple-calculator.html)

This tutorial guide you to develop a basic Calculator Android application in Android Studio.

**Step 1:**

Create a new Android application project with an application name: “*Calculator*” and package name: “*com.javahelps.calculator*”.

**Step 2:**

By default Android uses a green Android robot icon. In this project, we are going to use a custom application icon. Therefore, delete the default *ic\_launcher* icon set from the “*mipmap*” folder.

**Step 3:**

Get any PNG image file for the application icon. (It is recommended to have a minimum size 256x256 pixels). This icon is used to display in the Google Play as well as in the applications menu of Android devices.

**Step 4:**

Right click on the “*mipmap*” folder and select New → Image Asset

**Step 5:**

Browse and select your icon as the image file and click on Next → Finish buttons. (Make sure that the resource name is: *ic\_launcher*)

**Step 6:**

Replace the content of *activity\_main.xml* file by the following code. This code creates a*TextView* as the calculator number screen and some necessary buttons. *TextView* is used instead of *EditText*, in order to prevent manual user input using the default keypad of Android. In this code, some common properties of Buttons are not provided to reduce the length of this tutorial. In your code make sure that you have included these four attributes for all the Buttons.

android:layout\_width="0dp"

android:layout\_height="match\_parent"

android:layout\_weight="1"

android:textSize="30sp"

<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=".MainActivity">

<TextView

android:id="@+id/txtScreen"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_alignParentTop="true"

android:layout\_centerHorizontal="true"

android:gravity="right|center\_vertical"

android:maxLength="16"

android:padding="10dp"

android:textAppearance="?android:attr/textAppearanceLarge"

android:textSize="30sp"

android:typeface="serif" />

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:layout\_below="@+id/txtScreen"

android:orientation="vertical">

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="0dp"

android:layout\_weight="1">

<Button

android:id="@+id/btnSeven"

android:text="7" />

<Button

android:id="@+id/btnEight"

android:text="8" />

<Button

android:id="@+id/btnNine"

android:text="9"/>

<Button

android:id="@+id/btnDivide"

android:text="/"/>

</LinearLayout>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="0dp"

android:layout\_weight="1">

<Button

android:id="@+id/btnFour"

android:text="4"/>

<Button

android:id="@+id/btnFive"

android:text="5" />

<Button

android:id="@+id/btnSix"

android:text="6" />

<Button

android:id="@+id/btnMultiply"

android:text="\*" />

</LinearLayout>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="0dp"

android:layout\_weight="1">

<Button

android:id="@+id/btnOne"

android:text="1" />

<Button

android:id="@+id/btnTwo"

android:text="2" />

<Button

android:id="@+id/btnThree"

android:text="3" />

<Button

android:id="@+id/btnSubtract"

android:text="-" />

</LinearLayout>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="0dp"

android:layout\_weight="1">

<Button

android:id="@+id/btnDot"

android:text="." />

<Button

android:id="@+id/btnZero"

android:text="0" />

<Button

android:id="@+id/btnClear"

android:text="C" />

<Button

android:id="@+id/btnAdd"

android:text="+" />

</LinearLayout>

<Button

android:id="@+id/btnEqual"

android:text="=" />

</LinearLayout>

</RelativeLayout>

**Step 7:**

Right click on the “*drawable*” folder and select New → Drawable resource file.

**Step 8:**

Create a *drawable* file with a name button.

**Step 9:**

Replace the content of *button.xml* by the following code. This drawable resource is used to decorate the buttons of the calculator. There are two gradient shapes in this code; one is for button pressed state and another for normal state.

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

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

<item android:state\_pressed="true">

<shape>

<gradient android:angle="90" android:endColor="#FFFFFF" android:startColor="#9EB8FF" android:type="linear" />

<padding android:bottom="0dp" android:left="0dp" android:right="0dp" android:top="0dp" />

<size android:width="60dp" android:height="60dp" />

<stroke android:width="1dp" android:color="#ff3da6ef" />

</shape>

</item>

<item>

<shape>

<gradient android:angle="90" android:endColor="#FFFFFF" android:startColor="#ffd9d9d9" android:type="linear" />

<padding android:bottom="0dp" android:left="0dp" android:right="0dp" android:top="0dp" />

<size android:width="60dp" android:height="60dp" />

<stroke android:width="0.5dp" android:color="#ffcecece" />

</shape>

</item>

</selector>

**Step 10:**

For all the buttons in the *activity\_main.xml*, add a property “*android:background*”.

android:background="@drawable/button"

After the modification, *activity\_main.xml* must be like [this](https://github.com/slgobinath/Java-Helps-Android/blob/master/projects/Calculator/app/src/main/res/layout/activity_main.xml).

**Step 11:**

To evaluate the arithmetic expressions, [exp4J](http://www.objecthunter.net/exp4j/) library is used in this project. Open the “*build.gradle (Module: app)*” file from the Gradle scripts. Add a dependency '*net.objecthunter:exp4j:0.4.4*' to the project as shown below.

dependencies {

compile fileTree(dir: 'libs', include: ['\*.jar'])

compile 'com.android.support:appcompat-v7:21.0.3'

compile 'net.objecthunter:exp4j:0.4.4'

}

Once you save the file, Android Studio will ask to sync the project. Allow it to sync by clicking on the link appeared on top left corner. (You need an active Internet connection to download the libraries by Gradle)

**Step 12:**

Modify the MainActivity.java as provided below. Complete description about the code is provided in comments.

*package* com.javahelps.calculator;

*import* android.os.Bundle;

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

*import* android.view.View;

*import* android.widget.Button;

*import* android.widget.TextView;

*import* net.objecthunter.exp4j.Expression;

*import* net.objecthunter.exp4j.ExpressionBuilder;

*public* *class* MainActivity *extends* ActionBarActivity {

*// IDs of all the numeric buttons*

*private* *int*[] numericButtons = {R.id.btnZero, R.id.btnOne, R.id.btnTwo, R.id.btnThree, R.id.btnFour, R.id.btnFive, R.id.btnSix, R.id.btnSeven, R.id.btnEight, R.id.btnNine};

*// IDs of all the operator buttons*

*private* *int*[] operatorButtons = {R.id.btnAdd, R.id.btnSubtract, R.id.btnMultiply, R.id.btnDivide};

*// TextView used to display the output*

*private* TextView txtScreen;

*// Represent whether the lastly pressed key is numeric or not*

*private* *boolean* lastNumeric;

*// Represent that current state is in error or not*

*private* *boolean* stateError;

*// If true, do not allow to add another DOT*

*private* *boolean* lastDot;

@Override

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

*super*.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

*// Find the TextView*

*this*.txtScreen = (TextView) findViewById(R.id.txtScreen);

*// Find and set OnClickListener to numeric buttons*

setNumericOnClickListener();

*// Find and set OnClickListener to operator buttons, equal button and decimal point button*

setOperatorOnClickListener();

}

*/\*\**

*\* Find and set OnClickListener to numeric buttons.*

*\*/*

*private* *void* setNumericOnClickListener() {

*// Create a common OnClickListener*

View.OnClickListener listener = *new* View.OnClickListener() {

@Override

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

*// Just append/set the text of clicked button*

Button button = (Button) v;

*if* (stateError) {

*// If current state is Error, replace the error message*

txtScreen.setText(button.getText());

stateError = false;

} *else* {

*// If not, already there is a valid expression so append to it*

txtScreen.append(button.getText());

}

*// Set the flag*

lastNumeric = true;

}

};

*// Assign the listener to all the numeric buttons*

*for* (*int* id : numericButtons) {

findViewById(id).setOnClickListener(listener);

}

}

*/\*\**

*\* Find and set OnClickListener to operator buttons, equal button and decimal point button.*

*\*/*

*private* *void* setOperatorOnClickListener() {

*// Create a common OnClickListener for operators*

View.OnClickListener listener = *new* View.OnClickListener() {

@Override

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

*// If the current state is Error do not append the operator*

*// If the last input is number only, append the operator*

*if* (lastNumeric && !stateError) {

Button button = (Button) v;

txtScreen.append(button.getText());

lastNumeric = false;

lastDot = false; *// Reset the DOT flag*

}

}

};

*// Assign the listener to all the operator buttons*

*for* (*int* id : operatorButtons) {

findViewById(id).setOnClickListener(listener);

}

*// Decimal point*

findViewById(R.id.btnDot).setOnClickListener(*new* View.OnClickListener() {

@Override

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

*if* (lastNumeric && !stateError && !lastDot) {

txtScreen.append(".");

lastNumeric = false;

lastDot = true;

}

}

});

*// Clear button*

findViewById(R.id.btnClear).setOnClickListener(*new* View.OnClickListener() {

@Override

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

txtScreen.setText(""); *// Clear the screen*

*// Reset all the states and flags*

lastNumeric = false;

stateError = false;

lastDot = false;

}

});

*// Equal button*

findViewById(R.id.btnEqual).setOnClickListener(*new* View.OnClickListener() {

@Override

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

onEqual();

}

});

}

*/\*\**

*\* Logic to calculate the solution.*

*\*/*

*private* *void* onEqual() {

*// If the current state is error, nothing to do.*

*// If the last input is a number only, solution can be found.*

*if* (lastNumeric && !stateError) {

*// Read the expression*

String txt = txtScreen.getText().toString();

*// Create an Expression (A class from exp4j library)*

Expression expression = *new* ExpressionBuilder(txt).build();

*try* {

*// Calculate the result and display*

*double* result = expression.evaluate();

txtScreen.setText(Double.toString(result));

lastDot = true; *// Result contains a dot*

} *catch* (ArithmeticException ex) {

*// Display an error message*

txtScreen.setText("Error");

stateError = true;

lastNumeric = false;

}

}

}

}

**Step 13:**

Save all the changes and run the application.

**Note:**

Purpose of this tutorial and the project is not developing a perfect Calculator, but providing a basic knowledge to develop a simple application in Android. The application has not been tested completely, so if there are any bugs, please comment below and I will try my best to fix them as soon as possible.