

# Ex.No:7 Develop a simple calculator using android studio.

## ' **AIM:**

To develop a program to develop a simple calculator in Android Studio.

## ' **EQUIPMENTS REQUIRED:**

Android Studio(Min.required Artic Fox)

## ' **ALGORITHM:**

### ' **Step 1:**

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

### ' **Step 2:**

Then type the Application name as calculator and click Next.

### ' **Step 3:**

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

### ' **Step 4:**

Then select the Empty Activity and click Next. Finally click Finish.

### ' **Step 5:**

Design layout using UI components in activity\_main.xml.

### ' **Step 6:**

Display the calculator operation in MainActivity file.

### ' **Step 7:**

Save and run the application.

## ' **PROGRAM:**

```
/*  
Program to print the text "calculator operation".  
Developed by:M.Hariharan  
Registration Number : 212221230034  
*/
```

## MainActivity.java

```
package com.example.calculator;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.EditText;  
import android.widget.TextView;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
    EditText e1, e2;  
    TextView t1;  
    int num1, num2;  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_main);  
    }  
  
    public boolean getNumbers() {  
  
        e1 = (EditText) findViewById(R.id.num1);  
  
        e2 = (EditText) findViewById(R.id.num2);  
  
        t1 = (TextView) findViewById(R.id.result);  
  
        String s1 = e1.getText().toString();  
  
        String s2 = e2.getText().toString();  
  
        if ((s1.equals(null) && s2.equals(null))  
            || (s1.equals("") && s2.equals(""))) {  
  
            String result = "Please enter a value";  
            t1.setText(result);  
  
            return false;  
        } else {
```

```

        num1 = Integer.parseInt(s1);

        num2 = Integer.parseInt(s2);
    }

    return true;
}

public void doSum(View v) {

    if (getNumbers()) {
        int sum = num1 + num2;
        t1.setText(num1+" "+num2+"="+Integer.toString(sum));
    }
}

public void doSub(View v) {

    if (getNumbers()) {
        int sub = num1 - num2;
        t1.setText(num1+"-"+num2+"="+Integer.toString(sub));
    }
}

public void doMul(View v) {

    if (getNumbers()) {
        int mul = num1 * num2;
        t1.setText(num1+"*"+num2+"="+Integer.toString(mul));
    }
}

public void doDiv(View v) {

    if (getNumbers()) {

        double div = num1 / (num2 * 1.0);
        t1.setText(num1+"/"+num2+"="+Double.toString(div));
    }
}
}

```

## ' activity\_main.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"
android:background="#8BC34A"
android:backgroundTint="@android:color/darker_gray"
tools:context=".MainActivity">
```

```
<TextView
```

```
    android:layout_width="194dp"
    android:layout_height="43dp"
    android:layout_marginStart="114dp"
    android:layout_marginLeft="114dp"
    android:layout_marginTop="58dp"
    android:layout_marginEnd="103dp"
    android:layout_marginRight="103dp"
    android:layout_marginBottom="502dp"
    android:scrollbarSize="30dp"
    android:text=" Calculator"
    android:textAppearance="@style/TextAppearance.AppCompat.Body1"
    android:textSize="30dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<EditText
```

```
    android:id="@+id/num1"
    android:layout_width="364dp"
    android:layout_height="28dp"
    android:layout_marginStart="72dp"
    android:layout_marginTop="70dp"
    android:layout_marginEnd="71dp"
    android:layout_marginBottom="416dp"
    android:background="@android:color/white"
    android:ems="10"
    android:hint="Number 1"
    android:inputType="number"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<EditText
```

```
    android:id="@+id/num2"
    android:layout_width="363dp"
    android:layout_height="30dp"
    android:layout_marginStart="72dp"
    android:layout_marginTop="112dp"
    android:layout_marginEnd="71dp"
    android:layout_marginBottom="374dp"
    android:background="@android:color/white"
    android:ems="10"
    android:hint="Number 2"
    android:inputType="number"
```

```
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
```

<TextView

```
android:id="@+id/result"
android:layout_width="356dp"
android:layout_height="71dp"
android:layout_marginStart="41dp"
android:layout_marginTop="151dp"
android:layout_marginEnd="48dp"
android:layout_marginBottom="287dp"
android:background="@android:color/white"
android:text="Result"
android:textColorLink="#673AB7"
android:textSize="25sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
```

<Button

```
android:id="@+id/sum"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="16dp"
android:layout_marginTop="292dp"
android:layout_marginEnd="307dp"
android:layout_marginBottom="263dp"
android:backgroundTint="@android:color/holo_red_light"
android:onClick="doSum"
android:text="+"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
```

<Button

```
android:id="@+id/sub"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="210dp"
android:layout_marginTop="292dp"
android:layout_marginEnd="113dp"
android:layout_marginBottom="263dp"
android:backgroundTint="@android:color/holo_red_light"
android:onClick="doSub"
android:text="-"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
```

```

<Button
    android:id="@+id/div"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="307dp"
    android:layout_marginTop="292dp"
    android:layout_marginEnd="16dp"
    android:layout_marginBottom="263dp"
    android:backgroundTint="@android:color/holo_red_light"
    android:onClick="doDiv"
    android:text="/"
    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/mul"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="113dp"
    android:layout_marginTop="292dp"
    android:layout_marginEnd="210dp"
    android:layout_marginBottom="263dp"
    android:backgroundTint="@android:color/holo_red_light"
    android:onClick="doMul"
    android:text="x"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

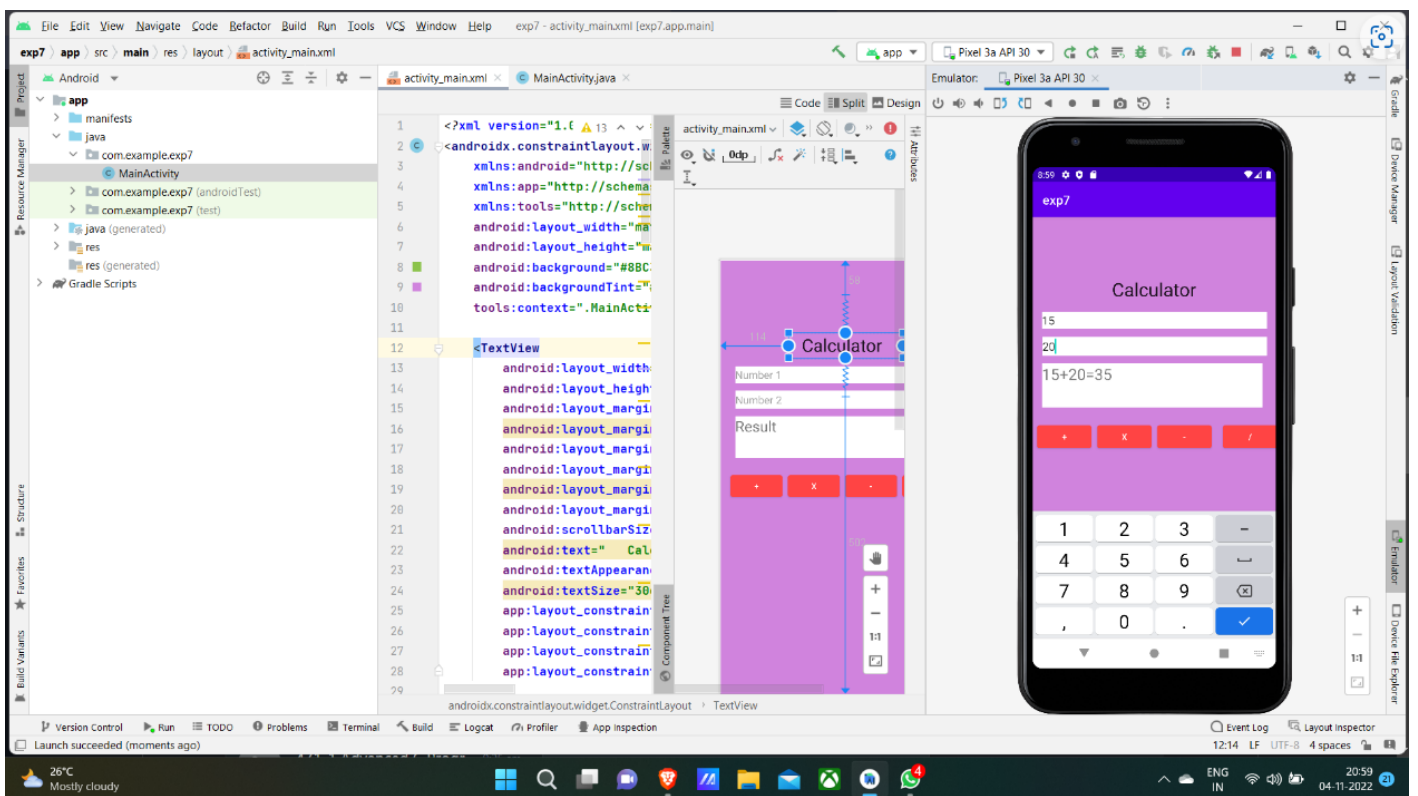
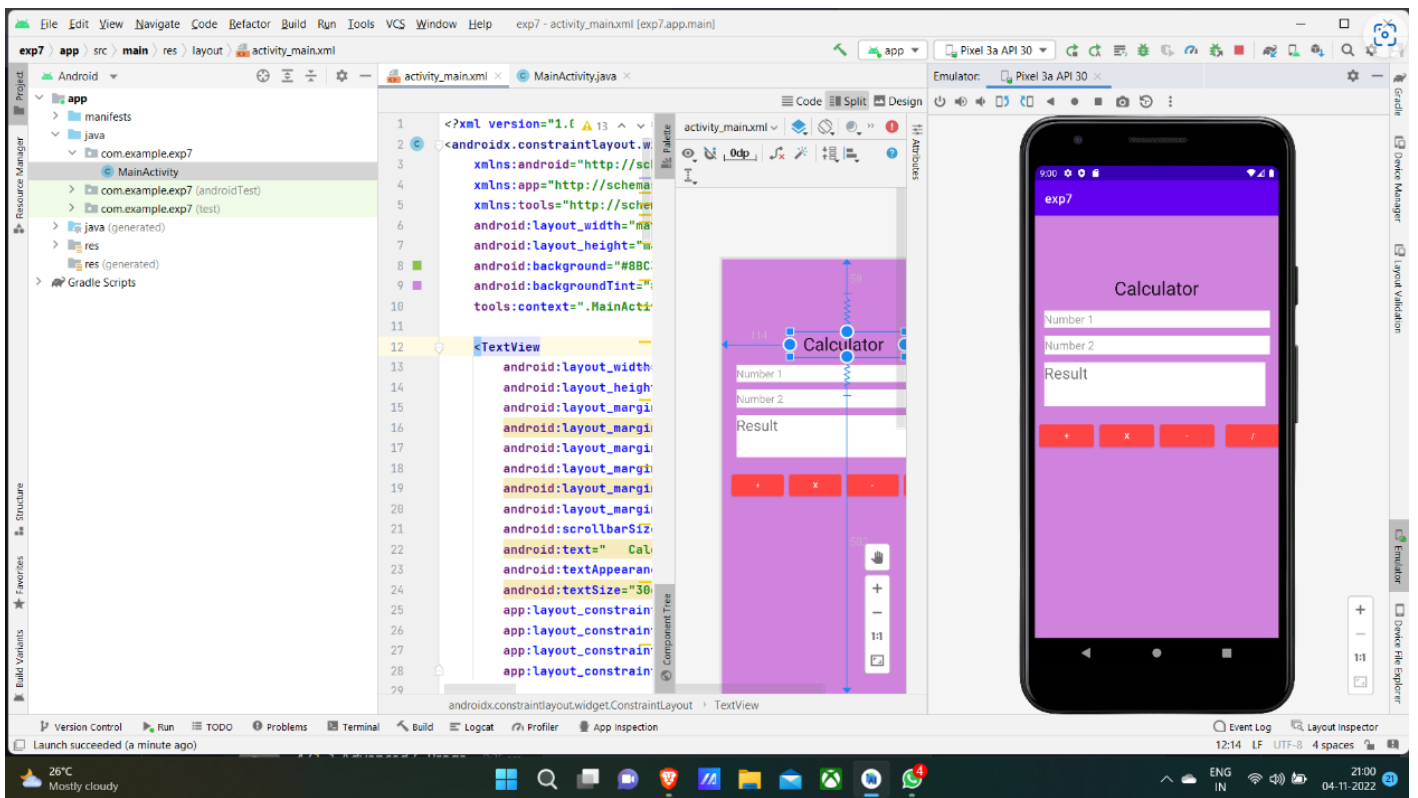
```

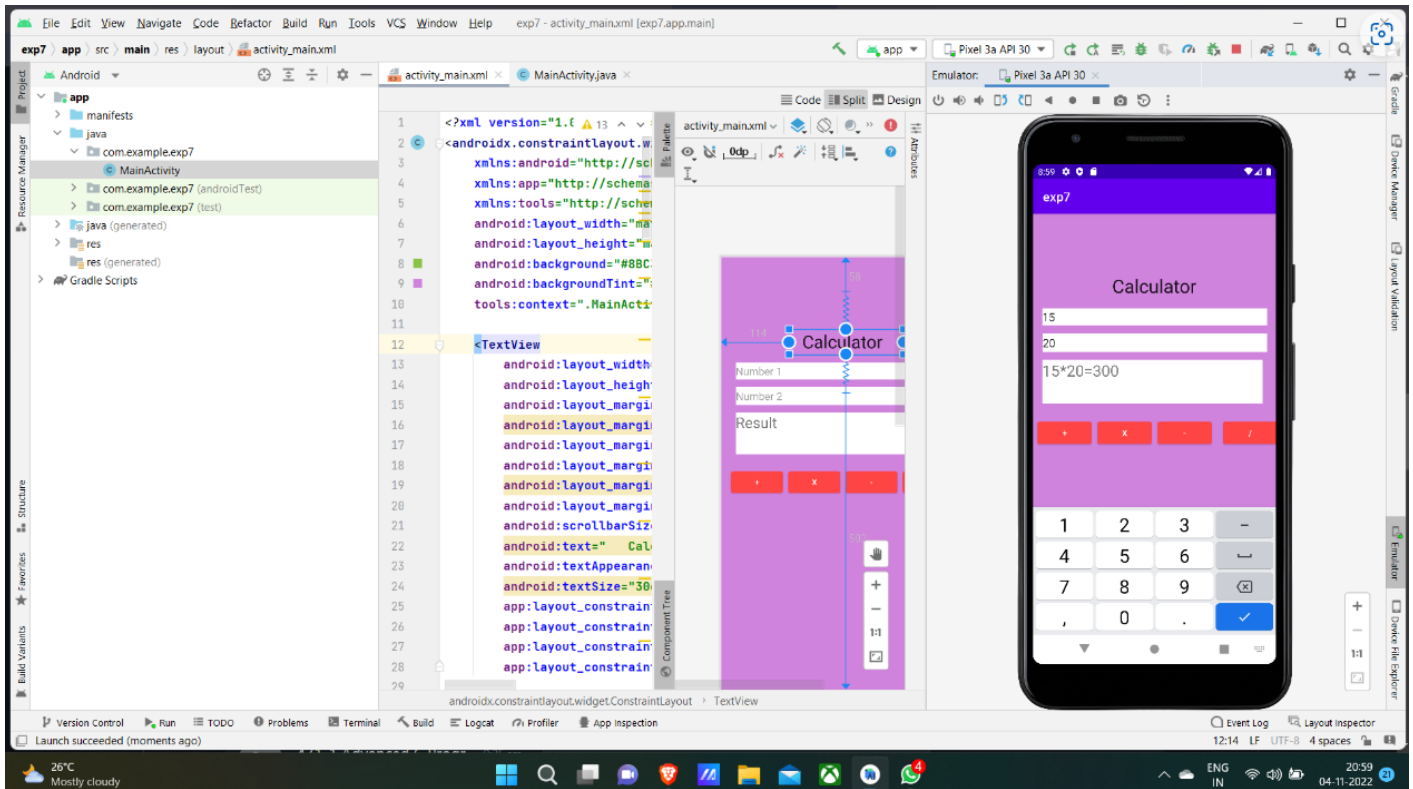
```

</androidx.constraintlayout.widget.ConstraintLayout>

```

' **OUTPUT**





## RESULT

Thus a Simple Android Application develop a program to create simple calculator in Android Studio is developed and executed successfully.