

Practical No : 04**Aim : Create the standard calculator application in android****activity_main.xml**

```
<?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"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/txtScreen"
        android:layout_width="match_parent"
        android:layout_height="81dp"
        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"
            android:padding="5dp">
            <Button
                android:layout_width="0dp"
                android:layout_height="match_parent"
                android:layout_weight="1"
                android:textSize="30sp"
                android:id="@+id/btnSeven"
                android:text="7"
                android:padding="5dp"
                android:onClick="displaySeven"/>
            <Button
                android:layout_width="0dp"
                android:layout_height="match_parent"
                android:layout_weight="1"
                android:textSize="30sp"
                android:id="@+id/btnEight"
                android:text="8"
                android:onClick="displayEight"/>
            <Button
                android:layout_width="0dp"
                android:layout_height="match_parent"
                android:layout_weight="1"
                android:textSize="30sp"
```

```
        android:id="@+id/btnNine"
        android:text="9"
        android:onClick="displayNine"/>

        <Button
            android:id="@+id/btnDivide"
            android:layout_width="0dp"
            android:layout_height="match_parent"
            android:layout_weight="1"
            android:onClick="displayDivision"
            android:text="/"
            android:textSize="30sp" />
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="0dp"
        android:layout_weight="1" >
        <Button
            android:layout_width="0dp"
            android:layout_height="match_parent"
            android:layout_weight="1"
            android:textSize="30sp"
            android:id="@+id/btnFour"
            android:text="4"
            android:onClick="displayFour"/>
        <Button
            android:layout_width="0dp"
            android:layout_height="match_parent"
            android:layout_weight="1"
            android:textSize="30sp"
            android:id="@+id/btnFive"
            android:text="5"
            android:onClick="displayFive"/>
        <Button
            android:layout_width="0dp"
            android:layout_height="match_parent"
            android:layout_weight="1"
            android:textSize="30sp"
            android:id="@+id/btnSix"
            android:text="6"
            android:onClick="displaySix"/>
        <Button
            android:layout_width="0dp"
            android:layout_height="match_parent"
            android:layout_weight="1"
            android:textSize="30sp"
            android:id="@+id/btnMultiply"
            android:text="*"
            android:onClick="displayMultiply"/>
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="0dp"
        android:layout_weight="1">
        <Button
            android:layout_width="0dp"
            android:layout_height="match_parent"
            android:layout_weight="1"
            android:textSize="30sp"
            android:id="@+id/btnOne"
            android:text="1"
```

```

        android:onClick="displayOne"/>
<Button
    android:layout_width="0dp"
    android:layout_height="match_parent"
    android:layout_weight="1"
    android:textSize="30sp"
    android:id="@+id/btnTwo"
    android:text="2"
    android:onClick="displayTwo"/>
<Button
    android:layout_width="0dp"
    android:layout_height="match_parent"
    android:layout_weight="1"
    android:textSize="30sp"
    android:id="@+id/btnThree"
    android:text="3"
    android:onClick="displayThree"/>
<Button
    android:layout_width="0dp"
    android:layout_height="match_parent"
    android:layout_weight="1"
    android:textSize="30sp"
    android:id="@+id/btnSubtract"
    android:text="-"
    android:onClick="displayMinus"/>
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="0dp"
    android:layout_weight="1">

    <Button
        android:layout_width="0dp"
        android:layout_height="match_parent"
        android:layout_weight="1"
        android:textSize="30sp"
        android:id="@+id/btnZero"
        android:text="0"
        android:onClick="displayZero"/>
    <Button
        android:layout_width="0dp"
        android:layout_height="match_parent"
        android:layout_weight="1"
        android:textSize="30sp"
        android:id="@+id/btnClear"
        android:text="C"
        android:onClick="displayClear"/>
    <Button
        android:layout_width="0dp"
        android:layout_height="match_parent"
        android:layout_weight="1"
        android:textSize="30sp"
        android:id="@+id/btnAdd"
        android:text="+"
        android:onClick="displayAdd"/>
</LinearLayout>

<Button
    android:layout_width="match_parent"
    android:layout_height="1dp"
    android:layout_weight="1"
    android:textSize="30sp"

```

```
        android:id="@+id/btnEqual"
        android:text="="
        android:onClick="displayEqual"/>
    </LinearLayout>
</RelativeLayout>
```

MainActivity.java

```
package com.example.calculator;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

    TextView t;

    float mValueOne , mValueTwo ;

    boolean mAddition , mSubtract ,mMultiplication ,mDivision ;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        t=(TextView) findViewById(R.id.txtScreen);
    }

    public void displayOne(View v)
    {
        t.setText(t.getText()+"1");
    }

    public void displayTwo(View v)
    {
        t.setText(t.getText()+"2");
    }
    public void displayThree(View v)
    {
        t.setText(t.getText()+"3");
    }

    public void displayFour(View v)
    {
        t.setText(t.getText()+"4");
    }

    public void displayFive(View v)
    {
        t.setText(t.getText()+"5");
    }
    public void displaySix(View v)
    {
        t.setText(t.getText()+"6");
    }

    public void displaySeven(View v)
    {
```

```
        t.setText(t.getText()+"7");
    }

    public void displayEight(View v)
    {
        t.setText(t.getText()+"8");
    }
    public void displayNine(View v)
    {
        t.setText(t.getText()+"9");
    }

    public void displayClear(View v)
    {
        t.setText(" ");
    }

    public void displayZero(View v)
    {
        t.setText(t.getText()+"0");
    }

    public void displayAdd(View v) {
        if (t == null) {
            t.setText("");
        } else {
            mValueOne = Float.parseFloat(t.getText() + "");
            mAddition = true;
            t.setText(null);
        }
    }

    public void displayMinus(View v) {
        if (t == null) {
            t.setText("");
        } else {
            mValueOne = Float.parseFloat(t.getText() + "");
            mSubtract = true;
            t.setText(null);
        }
    }

    public void displayMultiply(View v) {
        if (t == null) {
            t.setText("");
        } else {
            mValueOne = Float.parseFloat(t.getText() + "");
            mMultiplication = true;
            t.setText(null);
        }
    }

    public void displayDivision(View v) {
        if (t == null) {
            t.setText("");
        } else {
            mValueOne = Float.parseFloat(t.getText() + "");
            mDivision = true;
            t.setText(null);
        }
    }
}
```

```

    }

    public void displayEqual(View v) {

        mValueTwo = Float.parseFloat(t.getText() + "");

        if (mAddition == true) {

            t.setText(mValueOne + mValueTwo + "");
            mAddition = false;
        }

        if (mSubtract == true) {

            t.setText(mValueOne - mValueTwo + "");
            mAddition = false;
        }

        if (mMultiplication == true) {

            t.setText(mValueOne * mValueTwo + "");
            mMultiplication = false;
        }

        if (mDivision == true) {

            t.setText(mValueOne / mValueTwo + "");
            mDivision = false;
        }
    }
}

```

Output:

