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"</pre>
    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</pre>
        android:layout width="match parent"
        android:layout height="match parent"
        android:layout below="@+id/txtScreen"
        android:orientation="vertical">
        <LinearLayout</pre>
            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"
```

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```
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"
```

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```
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"
```

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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)
```

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```
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);
    }
```

```
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}

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```
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:





