PRACTICAL NO: 1

Aim: Java Android Program to Perform all Operations using Calculators (addition, subtraction, multiplication, and division, Log, Clear).

activity main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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"
  android:orientation="vertical">
   <EditText
       android:id="@+id/editText"
       android:layout width="match parent"
       android:layout height="wrap content"
       android:layout weight="1"
       android:background="@color/gray"
       android:gravity="right|center"
       android:textColor="@color/black"
       android:textSize="40pt"
       android:ems="10"
       android:inputType="textPersonName"
       android:text="0"
       android:layout marginBottom="1pt"/>
   <TableLayout
       android:layout width="match parent"
       android:layout height="wrap content"
       <TableRow
           android:layout width="match parent"
           android:layout height="match parent"
           android:layout marginBottom="1pt">
           <Button
               android:id="@+id/buAC"
               android:layout width="30pt"
               android:layout height="30pt"
               android:layout marginRight="1pt"
               android:layout weight="1"
               android:background="@color/teal"
               android:text="AC"
               android:textColor="#A1887F"
               app:backgroundTint="@color/teal"
               android:onClick="acEvent"></Button>
           <Button
               android:id="@+id/buLog"
```

```
android:layout width="30pt"
        android:layout height="30pt"
        android:layout_marginRight="1pt"
        android:layout weight="1"
        android:background="@color/teal"
        android:text="Log"
        android:textColor="#A1887F"
        app:backgroundTint="@color/teal"
        android:onClick="logEvent"></Button>
    <Button
        android:id="@+id/buDivide"
        android:layout width="30pt"
        android:layout height="30pt"
        android:layout marginRight="1pt"
        android:layout weight="1"
        android:background="@color/teal"
        android:text="/"
        android:textColor="#A1887F"
        app:backgroundTint="@color/teal"
        android:onClick="operatorEvent"></Button>
    <Button
        android:id="@+id/buMultiply"
        android:layout width="30pt"
        android:layout height="30pt"
        android:layout marginRight="1pt"
        android:layout weight="1"
        android:background="@color/teal 700"
        android:text="*"
        android:textColor="#000000"
        app:backgroundTint="@color/teal 700"
        android:onClick="operatorEvent"></Button>
</TableRow>
<TableRow
    android:layout_width="match parent"
    android:layout height="match parent"
    android:layout marginBottom="1pt">
    <Button
        android:id="@+id/bu7"
        android:layout_width="30pt"
        android:layout_height="30pt"
        android:layout marginRight="1pt"
        android:layout weight="1"
        android:background="@color/teal"
        android:text="7"
        android:textColor="#A1887F"
        app:backgroundTint="@color/teal"
        android:onClick="numberEvent"></Button>
    <Button
        android:id="@+id/bu8"
        android:layout width="30pt"
        android:layout height="30pt"
```

```
android:layout marginRight="1pt"
        android:layout weight="1"
        android:background="@color/teal"
        android:text="8"
        android:textColor="#A1887F"
        app:backgroundTint="@color/teal"
        android:onClick="numberEvent"></Button>
    <Button
        android:id="@+id/bu9"
        android:layout width="30pt"
        android:layout height="30pt"
        android:layout marginRight="1pt"
        android:layout_weight="1"
        android:background="@color/teal"
        android:text="9"
        android:textColor="#A1887F"
        app:backgroundTint="@color/teal"
        android:onClick="numberEvent"></Button>
    <Button
        android:id="@+id/buPercent"
        android:layout width="30pt"
        android:layout_height="30pt"
        android:layout marginRight="1pt"
        android:layout weight="1"
        android:background="@color/teal 700"
        android:text="%"
        android:textColor="#000000"
        app:backgroundTint="@color/teal 700"
        android:onClick="percentEvent"
        ></Button>
</TableRow>
<TableRow
    android:layout width="match parent"
    android:layout_height="match_parent"
    android:layout marginBottom="1pt">
    <Button
        android:id="@+id/bu4"
        android:layout width="30pt"
        android:layout height="30pt"
        android:layout marginRight="1pt"
        android:layout weight="1"
        android:background="@color/teal"
        android:text="4"
        android:textColor="#A1887F"
        app:backgroundTint="@color/teal"
        android:onClick="numberEvent"></Button>
    <Button
        android:id="@+id/bu5"
        android:layout width="30pt"
        android:layout height="30pt"
        android:layout_marginRight="1pt"
        android:layout weight="1"
        android:background="@color/teal"
```

```
android:text="5"
        android:textColor="#A1887F"
        app:backgroundTint="@color/teal"
        android:onClick="numberEvent"></Button>
    <Button
        android:id="@+id/bu6"
        android:layout width="30pt"
        android:layout height="30pt"
        android:layout_marginRight="1pt"
        android:layout weight="1"
        android:background="@color/teal"
        android:text="6"
        android:textColor="#A1887F"
        app:backgroundTint="@color/teal"
        android:onClick="numberEvent"></Button>
    <Button
        android:id="@+id/buPlus"
        android:layout width="30pt"
        android:layout_height="30pt"
        android:layout marginRight="1pt"
        android:layout weight="1"
        android:background="@color/teal 700"
        android:text="+"
        android:textColor="#000000"
        app:backgroundTint="@color/teal 700"
        android:onClick="operatorEvent"></Button>
</TableRow>
<TableRow
    android:layout width="match parent"
    android:layout height="match parent"
    android:layout marginBottom="1pt">
    <Button
        android:id="@+id/bu1"
        android:layout width="30pt"
        android:layout height="30pt"
        android:layout marginRight="1pt"
        android:layout weight="1"
        android:background="@color/teal"
        android:text="1"
        android:textColor="#A1887F"
        app:backgroundTint="@color/teal"
        android:onClick="numberEvent"></Button>
    <Button
        android:id="@+id/bu2"
        android:layout width="30pt"
        android:layout height="30pt"
        android:layout marginRight="1pt"
        android:layout_weight="1"
        android:background="@color/teal"
        android:text="2"
        android:textColor="#A1887F"
        app:backgroundTint="@color/teal"
```

```
<Button
            android:id="@+id/bu3"
            android:layout width="30pt"
            android:layout height="30pt"
            android:layout marginRight="1pt"
            android:layout weight="1"
            android:background="@color/teal"
            android:text="3"
            android:textColor="#A1887F"
            app:backgroundTint="@color/teal"
            android:onClick="numberEvent"></Button>
        <But.ton
            android:id="@+id/buMinus"
            android:layout width="30pt"
            android:layout height="30pt"
            android:layout marginRight="1pt"
            android:layout weight="1"
            android:background="@color/teal 700"
            android:text="-"
            android:textColor="#000000"
            app:backgroundTint="@color/teal 700"
            android:onClick="operatorEvent"></Button>
   </TableRow>
</TableLayout>
<LinearLayout
   android:layout width="match parent"
   android:layout height="wrap content"
   android:orientation="horizontal">
   <Button
       android:id="@+id/bu0"
       android:layout width="46pt"
       android:layout height="30pt"
       android:layout marginRight="1pt"
       android:layout weight="2"
       android:background="@color/teal"
       android:text="0"
       android:textColor="#A1887F"
        app:backgroundTint="@color/teal"
       android:onClick="numberEvent"></Button>
   <Button
       android:id="@+id/buDot"
        android:layout width="46pt"
        android:layout height="30pt"
        android:layout marginRight="1pt"
        android:layout weight="2"
        android:background="@color/teal"
       android:text="."
       android:textColor="#A1887F"
        app:backgroundTint="@color/teal"
        android:onClick="numberEvent"></Button>
```

android:onClick="numberEvent"></Button>

color.xml:

MainActivity.java:

```
package com.example.myapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
  EditText ed1;
  boolean isNewOp=true;
  String op="";
   String oldNumber="";
   @Override
  protected void onCreate(Bundle savedInstanceState) {
       super.onCreate(savedInstanceState);
       setContentView(R.layout.activity_main);
       ed1=(EditText) findViewById(R.id.editText);
   public void numberEvent(View view) {
       if(isNewOp==true)
       {
           ed1.setText("");
           isNewOp=false;
       String number=ed1.getText().toString();
       switch(view.getId())
       {
           case R.id.bul:
               number +="1";
               break;
           case R.id.bu2:
               number +="2";
               break;
           case R.id.bu3:
               number +="3";
               break;
           case R.id.bu4:
              number +="4";
               break;
           case R.id.bu5:
```

```
number +="5";
               break;
           case R.id.bu6:
               number +="6";
               break;
           case R.id.bu7:
               number +="7";
               break;
           case R.id.bu8:
               number +="8";
               break;
           case R.id.bu9:
               number +="9";
               break;
           case R.id.buDot:
               number +=".";
               break;
           case R.id.bu0:
               number +="0";
               break;
       }
       ed1.setText(number);
// Toast.makeText(getApplicationContext(),"7",Toast.LENGTH_LONG).show();
   }
  public void operatorEvent(View view) {
       isNewOp=true;
       oldNumber=ed1.getText().toString();
       switch(view.getId())
           case R.id.buDivide:
               op="/";
               break;
           case R.id.buMultiply:
               op="*";
               break;
           case R.id.buPlus:
               op="+";
               break;
           case R.id.buMinus:
               op="-";
               break;
       }
  public void equalEvent(View view) {
       String newNumber=ed1.getText().toString();
       double result = 0.0;
       switch (op)
           case "/":
```

```
result=Double.parseDouble(oldNumber)/Double.parseDouble(newNumber);
               break;
          case "*":
result=Double.parseDouble(oldNumber)*Double.parseDouble(newNumber);
              break;
           case "+":
result=Double.parseDouble(oldNumber)+Double.parseDouble(newNumber);
              break;
           case "-":
result=Double.parseDouble(oldNumber)-Double.parseDouble(newNumber);
               break;
       }
       ed1.setText(result+"");
   }
  public void acEvent(View view) {
       ed1.setText("0");
      isNewOp=true;
  public void percentEvent(View view) {
       double no = Double.parseDouble(ed1.getText().toString())/100;
       ed1.setText(no+"");
      isNewOp=true;
   }
   public void logEvent(View view) {
       Double temp=0.0;
       Double x=0.0;
       String newNumber=ed1.getText().toString();
       temp=Double.parseDouble(newNumber);
       x= Math.log(temp);
       ed1.setText(x+"");
       isNewOp=true;
   }
}
```

Output:

			0
AC	LOG	/	*
7	8	9	%
4	5	6	+
1	2	3	-
0			-



