3.Calculator Program

Aim:

Develop a simple calculator application with all the arithmetic features in it

Activity_calculator.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    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="#FFFFFF"
    android:orientation="vertical"
    android:paddingLeft="5dp"
    android:paddingRight="5dp"
    android:paddingBottom="5dp"
    tools:context=".MainActivity">

    <ScrollView
        android:layout_width="match_parent"
        android:layout_height="match_parent">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical"
        android:gravity="bottom"
        android:layout_gravity="bottom"
        android:paddingRight="5dp"
        android:paddingLeft="5dp">
        <LinearLayout
            android:layout_width="match_parent"
            android:orientation="vertical"
            android:layout_marginBottom="30dp"
            android:layout_height="wrap_content">
            <androidx.recyclerview.widget.RecyclerView
                android:layout_width="match_parent"
                android:id="@+id/list"
                android:layout_height="200dp"/>
            <TextView
                android:id="@+id/txt"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:background="@drawable/calculator_button"
                android:gravity="center_horizontal"
                android:hint="0"
                android:padding="7dp"
                android:textColorHint="#ffffff"
                android:textColor="#ffffff"
                android:textSize="22dp"/>

        </LinearLayout>

        <LinearLayout
```

```
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginBottom="20dp"
        android:layout_marginTop="10dp">

        <Button
            android:id="@+id/modulousbtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:text="%"
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textSize="20dp"
            android:textStyle="bold"/>

        <Button
            android:id="@+id/xfactorialbtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:textAllCaps="false"
            android:layout_weight="1"
            android:text="x!"
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textSize="20dp"
            android:textStyle="italic" />

        <Button
            android:id="@+id/epowerbtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:textAllCaps="false"
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textSize="20dp"
            android:text="@string/exponent"
            android:textStyle="italic" />
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginBottom="20dp">

        <Button
            android:id="@+id/squarerootbtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:text="@string/square_root_symbol"
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textSize="20dp"
            android:textStyle="bold" />

        <Button
            android:id="@+id/istpower2nd"
            android:layout_width="wrap_content"
```

```
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:text="^"
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textSize="20dp"
            android:textStyle="bold" />

        <Button
            android:id="@+id/sinbtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:text="sin"
            android:textAllCaps="false"
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textStyle="bold"
            android:textSize="20dp"/>

        <Button
            android:id="@+id/cosbtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:textAllCaps="false"
            android:layout_weight="1"
            android:text="cos"
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textStyle="bold"
            android:textSize="20dp"/>

        <Button
            android:id="@+id/tanbtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:text="tan"
            android:textAllCaps="false"
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textStyle="bold"
            android:textSize="20dp"/>

    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginBottom="20dp">

        <Button
            android:id="@+id/sevenbtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:text="7"
            android:background="#FFFFFF"
            android:textColor="#000000"
```

```
            android:textSize="20dp"
            android:textStyle="bold" />

        <Button
            android:id="@+id/eightbtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:text="8"
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textSize="20dp"
            android:textStyle="bold" />

        <Button
            android:id="@+id/ninebtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:text="9"
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textSize="20dp"
            android:textStyle="bold" />

        <Button
            android:id="@+id/deletebtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:layout_marginRight="2.5dp"
            android:background="@drawable/calculator_button"
            android:text="DEL"
            android:textColor="#F7F7F7"
            android:textStyle="bold" />

        <Button
            android:id="@+id/clearrbtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:layout_marginLeft="2.5dp"
            android:background="@drawable/calculator_button"
            android:text="AC"
            android:textColor="#F7F7F7"
            android:textStyle="bold" />

    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginBottom="20dp">

        <Button
            android:id="@+id/fourbtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:text="4"
            android:background="#FFFFFF"
```

```
            android:textColor="#000000"
            android:textSize="20dp"
            android:textStyle="bold" />

        <Button
            android:id="@+id/fivebtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:text="5"
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textSize="20dp"
            android:textStyle="bold" />

        <Button
            android:id="@+id/sixbtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:text="6"
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textSize="20dp"
            android:textStyle="bold" />

        <Button
            android:id="@+id/plusbtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:text="+"
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textSize="20dp"
            android:textStyle="bold" />

        <Button
            android:id="@+id/minusbtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:text="-"
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textSize="20dp"
            android:textStyle="bold" />

    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginBottom="20dp">

        <Button
            android:id="@+id/onebtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
```

```
            android:layout_weight="1"
            android:text="1"
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textSize="20dp"
            android:textStyle="bold" />

        <Button
            android:id="@+id/twobtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:text="2"
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textSize="20dp"
            android:textStyle="bold" />

        <Button
            android:id="@+id/threebtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:text="3"
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textSize="20dp"
            android:textStyle="bold" />

        <Button
            android:id="@+id/multiplybtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:text="*"
            android:textAllCaps="true"
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textSize="20dp"
            android:textStyle="bold" />

        <Button
            android:id="@+id/dividebtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:text="/"
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textSize="20dp"
            android:textStyle="bold" />

    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content">
        <Button
            android:id="@+id/zerobtn"
            android:layout_width="wrap_content"
```

```
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:text="0"
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textSize="20dp"
            android:textStyle="bold" />

        <Button
            android:id="@+id/pointbtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:text="."
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textSize="20dp"
            android:textStyle="bold" />

        <Button
            android:id="@+id/piebtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:layout_margin="2dp"
            android:text="@string/pie_symbol"
            android:background="#FFFFFF"
            android:textColor="#000000"
            android:textSize="20dp"
            android:textStyle="bold"/>
        <Button

            android:id="@+id/ansbtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:text="ANS"
            android:layout_margin="2dp"
            android:background="#FFFFFF"
            android:layout_marginRight="2.5dp"
            android:textColor="#000000"
            android:textSize="20dp"
            android:textStyle="bold" />

        <Button
            android:id="@+id/equalbtn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:layout_marginLeft="2.5dp"
            android:background="@drawable/calculator_button"
            android:text="="
            android:textColor="#F7F7F7"
            android:textSize="23dp"
            android:textStyle="bold"/>
    </LinearLayout>



</LinearLayout>
</ScrollView>
```

```
</LinearLayout>
```

Java Coding:

Calculator.java:

```
package com.ceg.sharandeveloper.ceg;

import androidx.appcompat.app.AppCompatActivity;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;

import android.content.Intent;
import android.os.Bundle;
import android.view.Gravity;
import android.view.View;
import android.widget.Adapter;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.ListView;
import android.widget.TextView;
import android.widget.Toast;

import com.ceg.sharandeveloper.ceg.adapter.calc_adapter;

import java.util.ArrayList;

public class calculator extends AppCompatActivity implements
calc_adapter.ItemClickListener{

    TextView txtview;
    static ArrayList<String> alist;
    RecyclerView list;
    calc_adapter  adapter;
    float ValueOne , ValueTwo ;
    double a, ans = 0;
    boolean Addition, Subtract, Multiplication, Division, Reminder,
NoPower,
            istpower, Sin, Arithmetic, Cos, Tan;

    Button   clearbutton, dividebutton, multiplybutton, deletebutton,
button7, button8, button9, minusbutton, button4,
            button5, button6, plusbutton, button1, button2, button3,
button0, pointbutton, equalbutton, xfactorialbutton,
            sinbutton, cosbutton, tanbutton, piebutton, squarerootbutton,
modulosbutton,
            epowerbtn, stpower2nd, ansbuttton;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_calculator);
//        scientific_operation();
//    }
//    public void scientific_operation(){

        txtview=(TextView) findViewById(R.id.txt);
        clearbutton=(Button) findViewById(R.id.clearrbtn);
        dividebutton=(Button) findViewById(R.id.dividebtn);
        multiplybutton=(Button) findViewById(R.id.multiplybtn);
        deletebutton=(Button) findViewById(R.id.deletebtn);
        button7=(Button) findViewById(R.id.sevenbtn);
```

```
        button8=(Button) findViewById(R.id.eightbtn);
        button9=(Button) findViewById(R.id.ninebtn);
        minusbutton=(Button) findViewById(R.id.minusbtn);
        button4=(Button) findViewById(R.id.fourbtn);
        button5=(Button) findViewById(R.id.fivebtn);
        button6=(Button) findViewById(R.id.sixbtn);
        plusbutton=(Button) findViewById(R.id.plusbtn);
        button1=(Button) findViewById(R.id.onebtn);
        button2=(Button) findViewById(R.id.twobtn);
        button3=(Button) findViewById(R.id.threebtn);
        button0=(Button) findViewById(R.id.zerobtn);
        pointbutton=(Button) findViewById(R.id.pointbtn);
        equalbutton=(Button) findViewById(R.id.equalbtn);
        squarerootbutton=(Button) findViewById(R.id.squarerootbtn);
        xfactorialbutton=(Button) findViewById(R.id.xfactorialbtn);
        sinbutton=(Button) findViewById(R.id.sinbtn);
        cosbutton=(Button) findViewById(R.id.cosbtn);
        tanbutton=(Button)findViewById(R.id.tanbtn);
        ansbuttton=(Button) findViewById(R.id.ansbtn);
        piebutton=(Button) findViewById(R.id.piebtn);
        deletebutton=(Button) findViewById(R.id.deletebtn);
        modulosbutton=(Button)findViewById(R.id.modulousbtn);
        epowerbtn=(Button) findViewById(R.id.epowerbtn);
        stpower2nd=(Button) findViewById(R.id.istpower2nd);
        list=findViewById(R.id.list);
        alist=new ArrayList<>();
        list.setLayoutManager(new LinearLayoutManager(calculator.this));
        adapter = new calc_adapter(calculator.this, alist);
        adapter.setClickListener(calculator.this);
        list.setAdapter(adapter);

        stpower2nd.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                try{
                    ValueOne = Float.parseFloat(txtview.getText() + "");
                    istpower = true;
                    txtview.setText(null);
                }
                catch (Exception e) {
                    Toast t = Toast.makeText(calculator.this, "Syntax
ERROR", Toast.LENGTH_LONG);
                    t.setGravity(Gravity.CENTER, 0, 0);
                    t.show();
                }
            }
        });
        epowerbtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                try {
                    Double n =
Double.parseDouble(txtview.getText().toString());
                    Double exp = (Double) Math.pow(2.718281828, n);
                    txtview.setText(exp+"");
                    adapter.addnewvalue( "exp("+ n + ")
="+txtview.getText().toString());
                }
                catch (Exception e){
                    Toast t = Toast.makeText(calculator.this, "Syntax
ERROR", Toast.LENGTH_LONG);
                    t.setGravity(Gravity.CENTER, 0, 0);
                    t.show();
                }
```

```
            }
        });
        modulosbutton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                try {
                    ValueOne = Float.parseFloat(txtview.getText() + "");
                    Reminder = true;
                    txtview.setText(null);

//                    a = Double.parseDouble(txtbtn.getText().toString());
//                    Double result = (Double) Math.cos(Math.toRadians(a));
//                    txtbtn.setText(result + "");
                }
                catch (Exception e) {
                    Toast t = Toast.makeText(calculator.this, "Syntax
ERROR", Toast.LENGTH_LONG);
                    t.setGravity(Gravity.CENTER, 0, 0);
                    t.show();
                }
            }
        });
        deletebutton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                try {
                    String str;
                    str = txtview.getText().toString();
                    str = str.substring(0, str.length() - 1);
                    txtview.setText(str);
                }
                catch (Exception e){}
            }
        });
        piebutton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
//                txtbtn.setText(Math.PI + " ");
                txtview.setText(Double.parseDouble(String.valueOf(Math.PI))
+ " ");
            }
        });
```

```
        sinbutton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                try {
                    a = Double.parseDouble(txtview.getText().toString());
                    Double result = (Double) Math.sin(Math.toRadians(a));
                    txtview.setText(result + "");
                    adapter.addnewvalue( "sin("+ a + ")
="+txtview.getText().toString());
                }
                catch(Exception e){
                    Toast t = Toast.makeText(calculator.this, "Syntax
ERROR", Toast.LENGTH_LONG);
                    t.setGravity(Gravity.CENTER, 0, 0);
                    t.show();
                }
            }
        });
        cosbutton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                try {
                    a = Double.parseDouble(txtview.getText().toString());
                    Double result = (Double) Math.cos(Math.toRadians(a));
                    txtview.setText(result + "");
                    adapter.addnewvalue( "cos("+ a+ ")
="+txtview.getText().toString());
                }
                catch(Exception e){
                    Toast t = Toast.makeText(calculator.this, "Syntax
ERROR", Toast.LENGTH_LONG);
                    t.setGravity(Gravity.CENTER, 0, 0);
                    t.show();
                }
            }
        });
        tanbutton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                try {
                    a = Double.parseDouble(txtview.getText().toString());
                    Double result = (Double) Math.tan(Math.toRadians(a));
                    txtview.setText(result + "");
                    adapter.addnewvalue( "tan("+ a + ")
="+txtview.getText().toString());
                }
                catch(Exception e){
                    Toast t = Toast.makeText(calculator.this, "Syntax
ERROR", Toast.LENGTH_LONG);
                    t.setGravity(Gravity.CENTER, 0, 0);
                    t.show();
                }
            }
        });
        xfactorialbutton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                try {
                    a = Double.parseDouble(txtview.getText().toString());
                    int er = 0; double i, s = 1;
                    if (a< 0) {
                        er = 20;
                    }
                    else {
```

```
                        for (i = 2; i <= a; i += 1.0)
                            s *= i;
                    }
                    txtview.setText("");
                    txtview.setText(txtview.getText().toString() + s);
                    adapter.addnewvalue(  a + "!
="+txtview.getText().toString());
                }
                catch(Exception e){
                    Toast t = Toast.makeText(calculator.this, "Syntax
ERROR", Toast.LENGTH_LONG);
                    t.setGravity(Gravity.CENTER, 0, 0);
                    t.show();
                }
            }
        });
        squarerootbutton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                try {
                    String an=txtview.getText().toString();
                    a =
Math.sqrt(Double.parseDouble(txtview.getText().toString()));
                    txtview.setText("");
                    txtview.setText(txtview.getText().toString() + a);
                    adapter.addnewvalue( "sqrt("+ an +
")="+txtview.getText().toString());
                }
                catch(Exception e){}
            }

        );
        clearbutton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                txtview.setText("");
            }
        });
        dividebutton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                txtview.setText(null);
            }
        });
        button1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                txtview.setText(txtview.getText()+"1");
                Arithmetic=true;
            }
        });
        button2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                txtview.setText(txtview.getText()+"2");
                Arithmetic=true;
            }
        });
        button3.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                txtview.setText(txtview.getText()+"3");
                Arithmetic=true;
            }
        });
```

```
button4.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        txtview.setText(txtview.getText()+"4");
        Arithmetic=true;
    }
});
button5.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        txtview.setText(txtview.getText()+"5");
        Arithmetic=true;
    }
});
button6.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        txtview.setText(txtview.getText()+"6");
        Arithmetic=true;
    }
});
button7.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        txtview.setText(txtview.getText()+"7");
        Arithmetic=true;
    }
});
button8.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        txtview.setText(txtview.getText()+"8");
        Arithmetic=true;
    }
});
button9.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        txtview.setText(txtview.getText()+"9");
        Arithmetic=true;
    }
});
button0.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        txtview.setText(txtview.getText()+"0");
        Arithmetic=true;
    }
});
plusbutton.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        try{
            ValueOne = Float.parseFloat(txtview.getText() + "");
            Addition = true;
            txtview.setText(null);
        }
        catch (Exception e) {}
    }
});
minusbutton.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        try {
```

```
                    ValueOne = Float.parseFloat(txtview.getText() + "");
                    Subtract = true;
                    txtview.setText(null);
                            Arithmetic = false;
                            Tan = false;
                        }
                    }
                    if (istpower == true) {
                        ValueTwo = Float.parseFloat(txtview.getText() +
""");
                        int exp = (int) Math.pow(ValueOne, ValueTwo);
                        txtview.setText(exp + "");
                        adapter.addnewvalue(ValueOne+ " exp "+ ValueTwo +
"="+txtview.getText().toString());
                        istpower = false;
                    }
                    if (Addition == true) {
                        ValueTwo = Float.parseFloat(txtview.getText() +
"");
                        txtview.setText(ValueOne + ValueTwo + "");
                        adapter.addnewvalue(ValueOne+ "+"+ ValueTwo +
"="+txtview.getText().toString());
                        Addition = false;
                    }
                    if (Reminder == true) {
                        ValueTwo = Float.parseFloat(txtview.getText() +
"");
                        txtview.setText(ValueOne % ValueTwo + "");
                        adapter.addnewvalue(ValueOne+ "%"+ ValueTwo +
"="+txtview.getText().toString());
                        Reminder = false;
                    }
                    if (NoPower == true) {
                        ValueTwo = Float.parseFloat(txtview.getText() +
```

```
"");
                        int exp = (int) Math.pow(ValueOne, ValueTwo);
                        adapter.addnewvalue(ValueOne+ " exp "+ ValueTwo +
"="+txtview.getText().toString());
                        txtview.setText(exp + "");
                        NoPower = false;
                    }

                    if (Subtract == true) {
                        ValueTwo = Float.parseFloat(txtview.getText() +
"");
                        txtview.setText(ValueOne - ValueTwo + "");
                        adapter.addnewvalue(ValueOne+ "-"+ ValueTwo +
"="+txtview.getText().toString());
                        Subtract = false;
                    }

                    if (Multiplication == true) {
                        ValueTwo = Float.parseFloat(txtview.getText() +
"");
                        txtview.setText(ValueOne * ValueTwo + "");
                        adapter.addnewvalue(ValueOne+ "*"+ ValueTwo +
"="+txtview.getText().toString());
                        Multiplication = false;
                    }

                    if (Division == true) {
                        ValueTwo = Float.parseFloat(txtview.getText() +
"");
                        txtview.setText(ValueOne / ValueTwo + "");
                        adapter.addnewvalue(ValueOne+ "/"+ ValueTwo +
```

```
"="+txtview.getText().toString());
                        Division = false;
                    }
                    ans = Double.parseDouble(txtview.getText().toString());
                    //alist.add(txtview.getText().toString());


                }catch(Exception e){
                    Toast t = Toast.makeText(calculator.this, "Syntax
ERROR", Toast.LENGTH_LONG);
                    t.setGravity(Gravity.CENTER, 0, 0);
                    t.show();
                }
            }
        });
        clearbutton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                txtview.setText(null);
            }
        });
        pointbutton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                txtview.setText(txtview.getText()+".");
            }
        });
        ansbuttton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                txtview.setText(ans+"");
            }
        });

    }
    @Override
    public void onItemClick(View view, int position) {
        Toast.makeText(this, "You clicked " + adapter.getItem(position) + "
on row number " + position, Toast.LENGTH_SHORT).show();
    }
}
```

calc_adapter.java (Recycler-view)

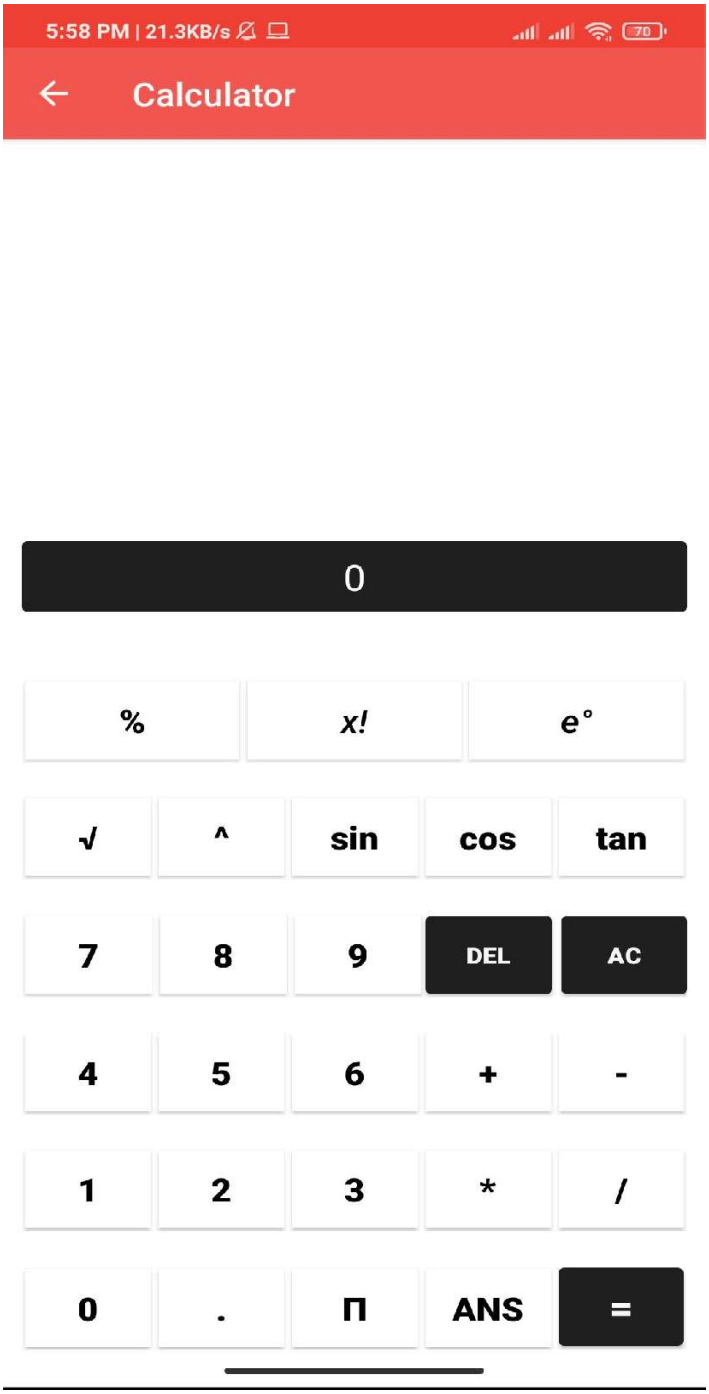
```
package com.ceg.sharandeveloper.ceg.adapter;

import android.content.Context;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.TextView;

import androidx.recyclerview.widget.RecyclerView;

import com.ceg.sharandeveloper.ceg.R;

import java.util.List;
```

```
public class calc_adapter extends
RecyclerView.Adapter<calc_adapter.ViewHolder>{

    private List<String> mData;
    private LayoutInflater mInflater;
    private ItemClickListener mClickListener;

    // data is passed into the constructor
    public calc_adapter(Context context, List<String> data) {
        this.mInflater = LayoutInflater.from(context);
        this.mData = data;
    }

    // inflates the row layout from xml when needed
    @Override
    public ViewHolder onCreateViewHolder(ViewGroup parent, int viewType) {
        View view = mInflater.inflate(R.layout.cal_list, parent, false);
        return new ViewHolder(view);
    }

    // binds the data to the TextView in each row
    @Override
    public void onBindViewHolder(ViewHolder holder, int position) {
        String animal = mData.get(position);
        holder.myTextView.setText(animal);
    }

    // total number of rows
    @Override
    public int getItemCount() {
        return mData.size();
    }


    // stores and recycles views as they are scrolled off screen
    Public class ViewHolder extends RecyclerView.ViewHolder implements
View.OnClickListener {
        TextView myTextView;

        ViewHolder(View itemView) {
            super(itemView);
            myTextView = itemView.findViewById(R.id.listtext);
            itemView.setOnClickListener(this);
        }

        @Override
        public void onClick(View view) {
            if (mClickListener != null) mClickListener.onItemClick(view,
getAdapterPosition());
        }
    }

    // convenience method for getting data at click position
    public String getItem(int id) {
        return mData.get(id);
    }

    // allows clicks events to be caught
    public void setClickListener(ItemClickListener itemClickListener) {
        this.mClickListener = itemClickListener;
    }

    // parent activity will implement this method to respond to click
events
```

```
    public interface ItemClickListener {
        void onItemClick(View view, int position);
    }

    public void addnewvalue(String company_name){
        mData.add(company_name);
        notifyDataSetChanged();
    }
}
```

Screenshots:


5:58 PM | 0.1KB/s
Calculator
9.0+5.0=14.0
14.0
% x! e°
√ ^ sin cos tan
7 8 9 DEL AC
4 5 6 + -
1 2 3 * /
0 . Π ANS =
5:59 PM | 0.5KB/s
Calculator
9.0+5.0=14.0
sin(9.0) =0.15643446504023087
8.0! =40320.0
8.0 exp 2.0=64
sqrt(7)=2.6457513110645907
2.6457513110645907
% x! e°
√ ^ sin cos tan
7 8 9 DEL AC
4 5 6 + -
1 2 3 * /
0 . Π ANS =


5:58 PM | 21.3KB/s
Calculator
0
%
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DEL
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1
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