**EXPERIMENT NO.7**

package easy.tuto.easycalculator;

import androidx.appcompat.app.AppCompatActivity;

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

import com.google.android.material.button.MaterialButton; import org.mozilla.javascript.Context; import org.mozilla.javascript.Scriptable;

public class MainActivity extends AppCompatActivity implements View.OnClickListener{

TextView resultTv,solutionTv;

MaterialButton buttonC,buttonBrackOpen,buttonBrackClose;

MaterialButton buttonDivide,buttonMultiply,buttonPlus,buttonMinus,buttonEquals;

MaterialButton

button0,button1,button2,button3,button4,button5,button6,button7,button8,button9; MaterialButton buttonAC,buttonDot;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main); resultTv = findViewById(R.id.result\_tv);

solutionTv = findViewById(R.id.solution\_tv);

assignId(buttonC,R.id.button\_c);

assignId(buttonBrackOpen,R.id.button\_open\_bracket); assignId(buttonBrackClose,R.id.button\_close\_bracket); assignId(buttonDivide,R.id.button\_divide); assignId(buttonMultiply,R.id.button\_multiply); assignId(buttonPlus,R.id.button\_plus); assignId(buttonMinus,R.id.button\_minus); assignId(buttonEquals,R.id.button\_equals); assignId(button0,R.id.button\_0); assignId(button1,R.id.button\_1); assignId(button2,R.id.button\_2); assignId(button3,R.id.button\_3); assignId(button4,R.id.button\_4); assignId(button5,R.id.button\_5); assignId(button6,R.id.button\_6); assignId(button7,R.id.button\_7); assignId(button8,R.id.button\_8); assignId(button9,R.id.button\_9); assignId(buttonAC,R.id.button\_ac); assignId(buttonDot,R.id.button\_dot);

}

void assignId(MaterialButton btn,int id){ btn = findViewById(id); btn.setOnClickListener(this);

}

@Override

public void onClick(View view) {

MaterialButton button =(MaterialButton) view;

String buttonText = button.getText().toString();

String dataToCalculate = solutionTv.getText().toString();

if(buttonText.equals("AC")){ solutionTv.setText(""); resultTv.setText("0"); return;

}

if(buttonText.equals("=")){

solutionTv.setText(resultTv.getText()); return;

}

if(buttonText.equals("C")){

dataToCalculate = dataToCalculate.substring(0,dataToCalculate.length()-1);

}else{

dataToCalculate = dataToCalculate+buttonText;

}

solutionTv.setText(dataToCalculate);

String finalResult = getResult(dataToCalculate);

if(!finalResult.equals("Err")){ resultTv.setText(finalResult);

}

}

String getResult(String data){

try{

Context context = Context.enter(); context.setOptimizationLevel(-1);

Scriptable scriptable = context.initStandardObjects();

String finalResult =

context.evaluateString(scriptable,data,"Javascript",1,null).toString(); if(finalResult.endsWith(".0")){ finalResult = finalResult.replace(".0","");

}

return finalResult; }catch (Exception e){ return "Err";

}

}

}

# XML CODE-

<?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/solution\_tv" android:layout\_width="match\_parent" android:layout\_height="match\_parent" android:layout\_above="@id/result\_tv" android:layout\_marginStart="16dp" android:layout\_marginTop="16dp" android:layout\_marginEnd="16dp" android:layout\_marginBottom="16dp" android:textAlignment="textEnd" android:textColor="@color/black" android:textSize="32dp" />

<TextView

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:id="@+id/result\_tv" android:text="0" android:textSize="64dp" android:textAlignment="textEnd" android:textColor="@color/black" android:layout\_above="@id/buttons\_layout" android:layout\_margin="16dp" />

<LinearLayout android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:orientation="vertical" android:layout\_alignParentBottom="true" android:background="#F1F1F1" android:paddingVertical="16dp" android:id="@+id/buttons\_layout">

<LinearLayout

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:gravity="center" android:orientation="horizontal">

<com.google.android.material.button.MaterialButton android:layout\_width="72dp" android:layout\_height="72dp" app:cornerRadius="36dp"

style="@style/Widget.MaterialComponents.ExtendedFloatingActionButton" android:textSize="32dp" android:textColor="@color/white" android:layout\_margin="12dp" android:id="@+id/button\_c" android:backgroundTint="#F44336" android:text="C" />

<com.google.android.material.button.MaterialButton android:layout\_width="72dp" android:layout\_height="72dp" app:cornerRadius="36dp"

style="@style/Widget.MaterialComponents.ExtendedFloatingActionButton" android:textSize="32dp" android:textColor="@color/white" android:layout\_margin="12dp" android:id="@+id/button\_open\_bracket" android:backgroundTint="#A1A1A1" android:text="(" />

<com.google.android.material.button.MaterialButton android:layout\_width="72dp" android:layout\_height="72dp" app:cornerRadius="36dp"

style="@style/Widget.MaterialComponents.ExtendedFloatingActionButton" android:textSize="32dp" android:textColor="@color/white" android:layout\_margin="12dp" android:backgroundTint="#A1A1A1" android:id="@+id/button\_close\_bracket" android:text=")" />

<com.google.android.material.button.MaterialButton android:layout\_width="72dp" android:layout\_height="72dp" app:cornerRadius="36dp"

style="@style/Widget.MaterialComponents.ExtendedFloatingActionButton" android:textSize="32dp" android:textColor="@color/white" android:layout\_margin="12dp" android:id="@+id/button\_divide" android:backgroundTint="#FF9800" android:text="/" />

</LinearLayout> <LinearLayout

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:gravity="center" android:orientation="horizontal">

<com.google.android.material.button.MaterialButton

android:layout\_width="72dp"

android:layout\_height="72dp" app:cornerRadius="36dp"

style="@style/Widget.MaterialComponents.ExtendedFloatingActionButton"

android:textSize="32dp" android:textColor="@color/white" android:layout\_margin="12dp" android:id="@+id/button\_7" android:text="7" />

<com.google.android.material.button.MaterialButton android:layout\_width="72dp" android:layout\_height="72dp" app:cornerRadius="36dp"

style="@style/Widget.MaterialComponents.ExtendedFloatingActionButton" android:textSize="32dp" android:textColor="@color/white" android:layout\_margin="12dp" android:id="@+id/button\_8" android:text="8" />

<com.google.android.material.button.MaterialButton android:layout\_width="72dp" android:layout\_height="72dp" app:cornerRadius="36dp"

style="@style/Widget.MaterialComponents.ExtendedFloatingActionButton" android:textSize="32dp" android:textColor="@color/white" android:layout\_margin="12dp" android:id="@+id/button\_9" android:text="9" />

<com.google.android.material.button.MaterialButton android:layout\_width="72dp" android:layout\_height="72dp" app:cornerRadius="36dp"

style="@style/Widget.MaterialComponents.ExtendedFloatingActionButton" android:textSize="32dp"

android:textColor="@color/white" android:layout\_margin="12dp" android:id="@+id/button\_multiply" android:backgroundTint="#FF9800" android:text="\*" />

</LinearLayout> <LinearLayout

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:gravity="center" android:orientation="horizontal">

<com.google.android.material.button.MaterialButton android:layout\_width="72dp" android:layout\_height="72dp" app:cornerRadius="36dp"

style="@style/Widget.MaterialComponents.ExtendedFloatingActionButton" android:textSize="32dp" android:textColor="@color/white" android:layout\_margin="12dp" android:id="@+id/button\_4" android:text="4" />

<com.google.android.material.button.MaterialButton

android:layout\_width="72dp" android:layout\_height="72dp" app:cornerRadius="36dp"

style="@style/Widget.MaterialComponents.ExtendedFloatingActionButton" android:textSize="32dp" android:textColor="@color/white" android:layout\_margin="12dp"

android:id="@+id/button\_5" android:text="5" />

<com.google.android.material.button.MaterialButton android:layout\_width="72dp" android:layout\_height="72dp" app:cornerRadius="36dp"

style="@style/Widget.MaterialComponents.ExtendedFloatingActionButton" android:textSize="32dp" android:textColor="@color/white" android:layout\_margin="12dp" android:id="@+id/button\_6" android:text="6" />

<com.google.android.material.button.MaterialButton android:layout\_width="72dp" android:layout\_height="72dp" app:cornerRadius="36dp"

style="@style/Widget.MaterialComponents.ExtendedFloatingActionButton" android:textSize="32dp" android:textColor="@color/white" android:layout\_margin="12dp" android:id="@+id/button\_plus" android:backgroundTint="#FF9800" android:text="+" />

</LinearLayout> <LinearLayout

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:gravity="center" android:orientation="horizontal">

<com.google.android.material.button.MaterialButton android:layout\_width="72dp" android:layout\_height="72dp" app:cornerRadius="36dp"

style="@style/Widget.MaterialComponents.ExtendedFloatingActionButton" android:textSize="32dp" android:textColor="@color/white" android:layout\_margin="12dp" android:id="@+id/button\_1" android:text="1" />

<com.google.android.material.button.MaterialButton android:layout\_width="72dp" android:layout\_height="72dp" app:cornerRadius="36dp"

style="@style/Widget.MaterialComponents.ExtendedFloatingActionButton" android:textSize="32dp" android:textColor="@color/white" android:layout\_margin="12dp" android:id="@+id/button\_2" android:text="2" />

<com.google.android.material.button.MaterialButton android:layout\_width="72dp" android:layout\_height="72dp" app:cornerRadius="36dp"

style="@style/Widget.MaterialComponents.ExtendedFloatingActionButton" android:textSize="32dp" android:textColor="@color/white" android:layout\_margin="12dp"

android:id="@+id/button\_3"

android:text="3" />

<com.google.android.material.button.MaterialButton android:layout\_width="72dp" android:layout\_height="72dp" app:cornerRadius="36dp"

style="@style/Widget.MaterialComponents.ExtendedFloatingActionButton" android:textSize="32dp" android:textColor="@color/white" android:layout\_margin="12dp" android:id="@+id/button\_minus" android:backgroundTint="#FF9800" android:text="-" />

</LinearLayout> <LinearLayout

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:gravity="center" android:orientation="horizontal">

<com.google.android.material.button.MaterialButton android:layout\_width="72dp" android:layout\_height="72dp" app:cornerRadius="36dp"

style="@style/Widget.MaterialComponents.ExtendedFloatingActionButton" android:textSize="20dp"

android:textColor="@color/white" android:layout\_margin="12dp" android:id="@+id/button\_ac" android:backgroundTint="#F44336" android:text="AC" />

<com.google.android.material.button.MaterialButton android:layout\_width="72dp" android:layout\_height="72dp" app:cornerRadius="36dp"

style="@style/Widget.MaterialComponents.ExtendedFloatingActionButton" android:textSize="32dp" android:textColor="@color/white" android:layout\_margin="12dp" android:id="@+id/button\_0" android:text="0" />

<com.google.android.material.button.MaterialButton android:layout\_width="72dp" android:layout\_height="72dp" app:cornerRadius="36dp"

style="@style/Widget.MaterialComponents.ExtendedFloatingActionButton" android:textSize="32dp" android:textColor="@color/white" android:layout\_margin="12dp" android:id="@+id/button\_dot" android:text="." />

<com.google.android.material.button.MaterialButton android:layout\_width="72dp" android:layout\_height="72dp" app:cornerRadius="36dp"

style="@style/Widget.MaterialComponents.ExtendedFloatingActionButton" android:textSize="32dp"

android:textColor="@color/white" android:layout\_margin="12dp" android:id="@+id/button\_equals" android:backgroundTint="#FF9800" android:text="=" />

</LinearLayout>

</LinearLayout>

</RelativeLayout>

# OUTPUT-

