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# activity\_main.xml file:

<?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"

tools:context=".MainActivity" android:orientation="vertical" android:background="#dfc2f2">

<TextView android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_marginTop="60dp" android:id="@+id/label" android:text="CALCULATOR" android:textSize="30dp" android:textColor="@color/black" android:gravity="center"/>

<EditText android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_margin="30dp" android:hint="0" android:gravity="end" android:textSize="20dp" android:id="@+id/res"

/>

<LinearLayout android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:orientation="horizontal" android:layout\_marginLeft="20dp" android:layout\_marginRight="20dp" android:layout\_marginBottom="20dp">

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="9" android:textSize="20dp" android:id="@+id/nine" android:background="@color/white" android:layout\_weight="0.25"

/>

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="8" android:textSize="20dp" android:background="@color/white" android:id="@+id/eight"

android:layout\_weight="0.25"

/>

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="7" android:textSize="20dp" android:background="@color/white" android:id="@+id/seven" android:layout\_weight="0.25"

/>

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="C" android:textSize="20dp" android:background="@color/white" android:id="@+id/clear" android:layout\_weight="0.25"

/>

</LinearLayout>

<LinearLayout android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:orientation="horizontal" android:layout\_marginLeft="20dp" android:layout\_marginRight="20dp" android:layout\_marginBottom="20dp">

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="6" android:textSize="20dp" android:id="@+id/six" android:background="@color/white" android:layout\_weight="0.25"

/>

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="5" android:textSize="20dp" android:background="@color/white" android:id="@+id/five" android:layout\_weight="0.25"

/>

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="4" android:textSize="20dp" android:background="@color/white" android:id="@+id/four" android:layout\_weight="0.25"

/>

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="+" android:textSize="20dp" android:background="@color/white" android:id="@+id/plus"

android:layout\_weight="0.25"

/>

</LinearLayout>

<LinearLayout android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:orientation="horizontal" android:layout\_marginLeft="20dp" android:layout\_marginRight="20dp" android:layout\_marginBottom="20dp">

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="3" android:textSize="20dp" android:id="@+id/three" android:background="@color/white" android:layout\_weight="0.25"

/>

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="2" android:textSize="20dp" android:background="@color/white" android:id="@+id/two" android:layout\_weight="0.25"

/>

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="1" android:textSize="20dp" android:background="@color/white" android:id="@+id/one" android:layout\_weight="0.25"

/>

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="-" android:textSize="20dp" android:background="@color/white" android:id="@+id/minus" android:layout\_weight="0.25"

/>

</LinearLayout>

<LinearLayout android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:orientation="horizontal" android:layout\_marginLeft="20dp" android:layout\_marginRight="20dp" android:layout\_marginBottom="20dp">

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="/" android:textSize="20dp" android:id="@+id/divide" android:background="@color/white" android:layout\_weight="0.25"

/>

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="0" android:textSize="20dp" android:background="@color/white" android:id="@+id/zero" android:layout\_weight="0.25"

/>

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="\*" android:textSize="20dp" android:background="@color/white" android:id="@+id/multiply" android:layout\_weight="0.25"

/>

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="=" android:textSize="20dp" android:background="@color/white" android:id="@+id/equal" android:layout\_weight="0.25"

/>

</LinearLayout>

</LinearLayout>

# MainActivity.java file:

package com.example.calculator;

import androidx.appcompat.app.AppCompatActivity; import android.os.Bundle;

import android.view.View; import android.widget.Button; import android.widget.EditText;

public class MainActivity extends AppCompatActivity implements View.OnClickListener{ Button one, two, three, four, five, six, seven, eight,nine,zero;

Button plus, minus, div, mul, clear, equals; EditText result;

String operatorPressed = " "; @Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.*activity\_main*);

result = findViewById(R.id.*res*); //EditText one = findViewById(R.id.*one*) ;

two = findViewById(R.id.*two*) ; three = findViewById(R.id.*three*) ; four = findViewById(R.id.*four*) ; five = findViewById(R.id.*five*) ; six = findViewById(R.id.*six*) ;

seven = findViewById(R.id.*seven*) ; eight = findViewById(R.id.*eight*) ; nine = findViewById(R.id.*nine*) ; zero = findViewById(R.id.*zero*) ; plus = findViewById(R.id.*plus*) ; minus = findViewById(R.id.*minus*) ; mul = findViewById(R.id.*multiply*) ; div = findViewById(R.id.*divide*) ; equals = findViewById(R.id.*equal*) ; clear = findViewById(R.id.*clear*) ;

one.setOnClickListener(this); two.setOnClickListener(this); three.setOnClickListener(this); four.setOnClickListener(this); five.setOnClickListener(this); six.setOnClickListener(this); seven.setOnClickListener(this); eight.setOnClickListener(this); nine.setOnClickListener(this);

// operators

plus.setOnClickListener(this); minus.setOnClickListener(this); mul.setOnClickListener(this); div.setOnClickListener(this); equals.setOnClickListener(this); clear.setOnClickListener(this);

}

@Override

public void onClick(View view) { double finalResult = 0.0; switch(view.getId())

{

case R.id.*one*: result.append("1");

break;

case R.id.*two*: result.append("2"); break;

case R.id.*three*: result.append("3"); break;

case R.id.*four*: result.append("4"); break;

case R.id.*five*: result.append("5"); break;

case R.id.*six*: result.append("6"); break;

case R.id.*seven*: result.append("7"); break;

case R.id.*eight*: result.append("8"); break;

case R.id.*nine*: result.append("9"); break;

case R.id.*zero*: result.append("0"); break;

case R.id.*plus*: result.append("+"); operatorPressed="+";

break;

case R.id.*minus*: result.append("-"); operatorPressed="-";

break;

case R.id.*multiply*: result.append("\*"); operatorPressed="\*";

break;

case R.id.*divide*: result.append("/"); operatorPressed="/";

break;

case R.id.*clear*:result.setText(" "); break;

case R.id.*equal*: finalResult= evaluateExpression(result.getText().toString(),operatorPressed);

result.setText(String.*valueOf*(finalResult)); break;

default: return;

}

}

private double evaluateExpression(String res, String operatorPressed)

{

String[] tokens = res.split("\\+|-|\\\*|\\/"); // split for +, -, \*,/ operator

// After split tokens[0] = first half of the string, tokens[1] = second hal of the string double firstOperand = Double.*parseDouble*(tokens[0]); //convert string to double double secondOperand = Double.*parseDouble*(tokens[1]);

switch(operatorPressed) // Switch the operator, compute and returs the result back to onclick that sets the editeext object to the result

{

case "+": return firstOperand + secondOperand; case "-": return firstOperand - secondOperand; case "\*": return firstOperand \* secondOperand; case "/": return firstOperand / secondOperand; default: return 0;

}

}

}

# Screenshots:

