Kotlin

package com.example.myapplication

import androidx.appcompat.app.AppCompatActivity

import android.os.Bundle

import android.widget.Button

import android.widget.TextView

import net.objecthunter.exp4j.ExpressionBuilder

import java.lang.Exception

class SimpleCalc : AppCompatActivity() {

// Declaring TextView variables with scope as global.

lateinit var expression: TextView

lateinit var result: TextView

// Declaring Button variables with scope as global.

lateinit var btn\_c: Button

lateinit var btn\_B: Button

lateinit var btn\_percent: Button

lateinit var btn\_divide: Button

lateinit var btn\_mul: Button

lateinit var btn\_sub: Button

lateinit var btn\_add: Button

lateinit var btn\_00: Button

lateinit var btn\_dot: Button

lateinit var btn\_equals: Button

lateinit var btn\_9: Button

lateinit var btn\_8: Button

lateinit var btn\_7: Button

lateinit var btn\_6: Button

lateinit var btn\_5: Button

lateinit var btn\_4: Button

lateinit var btn\_3: Button

lateinit var btn\_2: Button

lateinit var btn\_1: Button

lateinit var btn\_0: Button

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

setContentView(R.layout.activity\_simple\_calc)

// Initializing TextView variables

expression = findViewById(R.id.expression)

result = findViewById(R.id.result)

// Initializing Button variables

btn\_c = findViewById(R.id.btn\_C)

btn\_B = findViewById(R.id.btn\_B)

btn\_percent = findViewById(R.id.btn\_percent)

btn\_divide = findViewById(R.id.btn\_divide)

btn\_mul = findViewById(R.id.btn\_mul)

btn\_sub = findViewById(R.id.btn\_sub)

btn\_add = findViewById(R.id.btn\_add)

btn\_00 = findViewById(R.id.btn\_00)

btn\_dot = findViewById(R.id.btn\_dot)

btn\_equals = findViewById(R.id.btn\_equal)

btn\_9 = findViewById(R.id.btn\_9)

btn\_8 = findViewById(R.id.btn\_8)

btn\_7 = findViewById(R.id.btn\_7)

btn\_6 = findViewById(R.id.btn\_6)

btn\_5 = findViewById(R.id.btn\_5)

btn\_4 = findViewById(R.id.btn\_4)

btn\_3 = findViewById(R.id.btn\_3)

btn\_2 = findViewById(R.id.btn\_2)

btn\_1 = findViewById(R.id.btn\_1)

btn\_0 = findViewById(R.id.btn\_0)

btn\_0.setOnClickListener() {

appendText("0", true)

}

btn\_1.setOnClickListener() {

appendText("1", true)

}

btn\_2.setOnClickListener() {

appendText("2", true)

}

btn\_3.setOnClickListener() {

appendText("3", true)

}

btn\_4.setOnClickListener() {

appendText("4", true)

}

btn\_5.setOnClickListener() {

appendText("5", true)

}

btn\_6.setOnClickListener() {

appendText("6", true)

}

btn\_7.setOnClickListener() {

appendText("7", true)

}

btn\_8.setOnClickListener() {

appendText("8", true)

}

btn\_9.setOnClickListener() {

appendText("9", true)

}

btn\_dot.setOnClickListener() {

appendText(".", true)

}

btn\_00.setOnClickListener() {

appendText("00", true)

}

btn\_add.setOnClickListener() {

appendText("+", false)

}

btn\_sub.setOnClickListener() {

appendText("-", false)

}

btn\_mul.setOnClickListener() {

appendText("\*", false)

}

btn\_divide.setOnClickListener() {

appendText("/", false)

}

btn\_percent.setOnClickListener() {

appendText("%", false)

}

btn\_equals.setOnClickListener() {

try {

val exp = ExpressionBuilder(expression.text.toString()).build()

val res = exp.evaluate()

result.text = res.toString()

} catch (e: Exception) {

result.text = e.message

}

}

btn\_B.setOnClickListener() {

result.text = ""

val value = expression.text

if (value.isNotEmpty()) {

expression.text = value.substring(0, value.length - 1)

result.hint = value.substring(0, value.length - 1)

}

}

btn\_c.setOnClickListener() {

expression.text = ""

result.text = ""

result.hint = ""

}

}

private fun appendText(value: String, toBeCleared: Boolean) {

if (result.text != "") {

expression.text = ""

}

if (toBeCleared) {

result.text = ""

expression.append(value)

} else {

expression.append(result.text)

expression.append(value)

result.text = ""

}

result.hint = expression.text

}

}

Xml

<?xml version="1.0" encoding="utf-8"?>

<androidx.constraintlayout.widget.ConstraintLayout 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="#F5F5F5"

tools:context=".SimpleCalc">

<TextView

android:id="@+id/title"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="8dp"

android:text="Calculator"

android:textAllCaps="true"

android:textColor="@color/black"

android:textSize="24sp"

android:textStyle="bold"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

<View

android:id="@+id/line"

android:layout\_width="320dp"

android:layout\_height="2dp"

android:background="#E4E4E4"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@id/title" />

<TextView

android:id="@+id/expression"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginStart="8dp"

android:layout\_marginTop="16dp"

android:layout\_marginEnd="8dp"

android:gravity="right"

android:padding="30dp"

android:scrollHorizontally="true"

android:singleLine="true"

android:textColor="@color/black"

android:textSize="24sp"

android:textStyle="bold"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/line" />

<TextView

android:id="@+id/result"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginStart="8dp"

android:layout\_marginEnd="32dp"

android:gravity="right"

android:maxLines="1"

android:textColor="#D503E1"

android:textColorHint="#E4E4E4"

android:textSize="30sp"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@id/expression" />

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

android:id="@+id/btn\_C"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="8dp"

android:layout\_marginTop="8dp"

android:backgroundTint="#E4E4E4"

android:padding="24dp"

android:text="AC"

android:textColor="#F40101"

android:textSize="24sp"

android:textStyle="bold"

app:cornerRadius="90dp"

app:layout\_constraintBottom\_toTopOf="@+id/btn\_7"

app:layout\_constraintEnd\_toStartOf="@id/btn\_B"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@id/result" />

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

android:id="@+id/btn\_B"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="2dp"

android:layout\_marginTop="8dp"

android:backgroundTint="#E4E4E4"

android:gravity="center"

android:padding="24dp"

android:textColor="#F40101"

android:textSize="24sp"

android:textStyle="bold"

app:cornerRadius="90dp"

app:icon="@drawable/ic\_round\_backspace\_24"

app:iconSize="24sp"

app:iconTint="#D503E1"

app:layout\_constraintBottom\_toTopOf="@+id/btn\_8"

app:layout\_constraintEnd\_toStartOf="@id/btn\_percent"

app:layout\_constraintStart\_toEndOf="@id/btn\_C"

app:layout\_constraintTop\_toBottomOf="@id/result" />

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

android:id="@+id/btn\_percent"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="2dp"

android:layout\_marginTop="8dp"

android:backgroundTint="#E4E4E4"

android:padding="24dp"

android:text="%"

android:textColor="#D503E1"

android:textSize="24sp"

android:textStyle="bold"

app:cornerRadius="90dp"

app:layout\_constraintBottom\_toTopOf="@+id/btn\_9"

app:layout\_constraintEnd\_toStartOf="@id/btn\_divide"

app:layout\_constraintStart\_toEndOf="@id/btn\_B"

app:layout\_constraintTop\_toBottomOf="@id/result" />

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

android:id="@+id/btn\_divide"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="2dp"

android:layout\_marginTop="8dp"

android:layout\_marginEnd="8dp"

android:backgroundTint="#E4E4E4"

android:padding="24dp"

android:text="÷"

android:textColor="#D503E1"

android:textSize="24sp"

android:textStyle="bold"

app:cornerRadius="90dp"

app:layout\_constraintBottom\_toTopOf="@+id/btn\_mul"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toEndOf="@id/btn\_percent"

app:layout\_constraintTop\_toBottomOf="@id/result" />

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

android:id="@+id/btn\_7"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="8dp"

android:backgroundTint="#E4E4E4"

android:padding="24dp"

android:text="7"

android:textColor="@color/black"

android:textSize="24sp"

android:textStyle="bold"

app:cornerRadius="90dp"

app:layout\_constraintBottom\_toTopOf="@+id/btn\_4"

app:layout\_constraintEnd\_toStartOf="@id/btn\_8"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@id/btn\_C" />

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

android:id="@+id/btn\_8"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="2dp"

android:backgroundTint="#E4E4E4"

android:padding="24dp"

android:text="8"

android:textColor="@color/black"

android:textSize="24sp"

android:textStyle="bold"

app:cornerRadius="90dp"

app:layout\_constraintBottom\_toTopOf="@+id/btn\_5"

app:layout\_constraintEnd\_toStartOf="@id/btn\_9"

app:layout\_constraintStart\_toEndOf="@id/btn\_7"

app:layout\_constraintTop\_toBottomOf="@id/btn\_B" />

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

android:id="@+id/btn\_9"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="2dp"

android:backgroundTint="#E4E4E4"

android:padding="24dp"

android:text="9"

android:textColor="@color/black"

android:textSize="24sp"

android:textStyle="bold"

app:cornerRadius="90dp"

app:layout\_constraintBottom\_toTopOf="@+id/btn\_6"

app:layout\_constraintEnd\_toStartOf="@id/btn\_mul"

app:layout\_constraintStart\_toEndOf="@id/btn\_8"

app:layout\_constraintTop\_toBottomOf="@id/btn\_percent" />

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

android:id="@+id/btn\_mul"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="2dp"

android:layout\_marginEnd="8dp"

android:backgroundTint="#E4E4E4"

android:padding="24dp"

android:text="×"

android:textColor="#D503E1"

android:textSize="24sp"

android:textStyle="bold"

app:cornerRadius="90dp"

app:layout\_constraintBottom\_toTopOf="@+id/btn\_sub"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toEndOf="@id/btn\_9"

app:layout\_constraintTop\_toBottomOf="@id/btn\_divide" />

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

android:id="@+id/btn\_4"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="8dp"

android:backgroundTint="#E4E4E4"

android:padding="24dp"

android:text="4"

android:textColor="@color/black"

android:textSize="24sp"

android:textStyle="bold"

app:cornerRadius="90dp"

app:layout\_constraintBottom\_toTopOf="@id/btn\_1"

app:layout\_constraintEnd\_toStartOf="@id/btn\_5"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@id/btn\_7" />

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

android:id="@+id/btn\_5"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="2dp"

android:backgroundTint="#E4E4E4"

android:padding="24dp"

android:text="5"

android:textColor="@color/black"

android:textSize="24sp"

android:textStyle="bold"

app:cornerRadius="90dp"

app:layout\_constraintBottom\_toTopOf="@id/btn\_2"

app:layout\_constraintEnd\_toStartOf="@id/btn\_6"

app:layout\_constraintStart\_toEndOf="@id/btn\_4"

app:layout\_constraintTop\_toBottomOf="@id/btn\_8" />

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

android:id="@+id/btn\_6"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="2dp"

android:backgroundTint="#E4E4E4"

android:padding="24dp"

android:text="6"

android:textColor="@color/black"

android:textSize="24sp"

android:textStyle="bold"

app:cornerRadius="90dp"

app:layout\_constraintBottom\_toTopOf="@id/btn\_3"

app:layout\_constraintEnd\_toStartOf="@id/btn\_sub"

app:layout\_constraintStart\_toEndOf="@id/btn\_5"

app:layout\_constraintTop\_toBottomOf="@id/btn\_9" />

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

android:id="@+id/btn\_sub"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="2dp"

android:layout\_marginEnd="8dp"

android:backgroundTint="#E4E4E4"

android:padding="24dp"

android:text="-"

android:textColor="#D503E1"

android:textSize="24sp"

android:textStyle="bold"

app:cornerRadius="90dp"

app:layout\_constraintBottom\_toTopOf="@id/btn\_add"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toEndOf="@id/btn\_6"

app:layout\_constraintTop\_toBottomOf="@id/btn\_mul" />

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

android:id="@+id/btn\_1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="8dp"

android:backgroundTint="#E4E4E4"

android:padding="24dp"

android:text="1"

android:textColor="@color/black"

android:textSize="24sp"

android:textStyle="bold"

app:cornerRadius="90dp"

app:layout\_constraintBottom\_toTopOf="@id/btn\_00"

app:layout\_constraintEnd\_toStartOf="@id/btn\_2"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@id/btn\_4" />

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

android:id="@+id/btn\_2"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="2dp"

android:backgroundTint="#E4E4E4"

android:padding="24dp"

android:text="2"

android:textColor="@color/black"

android:textSize="24sp"

android:textStyle="bold"

app:cornerRadius="90dp"

app:layout\_constraintBottom\_toTopOf="@id/btn\_0"

app:layout\_constraintEnd\_toStartOf="@id/btn\_3"

app:layout\_constraintStart\_toEndOf="@id/btn\_1"

app:layout\_constraintTop\_toBottomOf="@id/btn\_5" />

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

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

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="2dp"

android:backgroundTint="#E4E4E4"

android:padding="24dp"

android:text="3"

android:textColor="@color/black"

android:textSize="24sp"

android:textStyle="bold"

app:cornerRadius="90dp"

app:layout\_constraintBottom\_toTopOf="@id/btn\_dot"

app:layout\_constraintEnd\_toStartOf="@id/btn\_add"

app:layout\_constraintStart\_toEndOf="@id/btn\_2"

app:layout\_constraintTop\_toBottomOf="@id/btn\_6" />

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

android:id="@+id/btn\_add"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="2dp"

android:layout\_marginEnd="8dp"

android:backgroundTint="#E4E4E4"

android:padding="24dp"

android:text="+"

android:textColor="#D503E1"

android:textSize="24sp"

android:textStyle="bold"

app:cornerRadius="90dp"

app:layout\_constraintBottom\_toTopOf="@id/btn\_equal"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toEndOf="@id/btn\_3"

app:layout\_constraintTop\_toBottomOf="@id/btn\_sub" />

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

android:id="@+id/btn\_00"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="8dp"

android:layout\_marginBottom="8dp"

android:backgroundTint="#E4E4E4"

android:padding="24dp"

android:text="00"

android:textColor="@color/black"

android:textSize="24sp"

android:textStyle="bold"

app:cornerRadius="90dp"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toStartOf="@id/btn\_0"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@id/btn\_1" />

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

android:id="@+id/btn\_0"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="2dp"

android:layout\_marginBottom="8dp"

android:backgroundTint="#E4E4E4"

android:padding="24dp"

android:text="0"

android:textColor="@color/black"

android:textSize="24sp"

android:textStyle="bold"

app:cornerRadius="90dp"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toStartOf="@id/btn\_dot"

app:layout\_constraintStart\_toEndOf="@id/btn\_00"

app:layout\_constraintTop\_toBottomOf="@id/btn\_2" />

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

android:id="@+id/btn\_dot"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="2dp"

android:layout\_marginBottom="8dp"

android:backgroundTint="#E4E4E4"

android:padding="24dp"

android:text="."

android:textColor="@color/black"

android:textSize="24sp"

android:textStyle="bold"

app:cornerRadius="90dp"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toStartOf="@id/btn\_equal"

app:layout\_constraintStart\_toEndOf="@id/btn\_0"

app:layout\_constraintTop\_toBottomOf="@id/btn\_3" />

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

android:id="@+id/btn\_equal"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="2dp"

android:layout\_marginEnd="8dp"

android:layout\_marginBottom="8dp"

android:backgroundTint="#D503E1"

android:padding="24dp"

android:text="="

android:textColor="#E4E4E4"

android:textSize="24sp"

android:textStyle="bold"

app:cornerRadius="90dp"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toEndOf="@id/btn\_dot"

app:layout\_constraintTop\_toBottomOf="@id/btn\_add" />

</androidx.constraintlayout.widget.ConstraintLayout>