**MP Assignment**

**Xml file**

**<?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"**

**tools:context=".MainActivity">**

**<ImageView**

**android:id="@+id/imageView3"**

**android:layout\_width="410dp"**

**android:layout\_height="733dp"**

**app:srcCompat="@drawable/bb"**

**tools:layout\_editor\_absoluteX="0dp"**

**tools:layout\_editor\_absoluteY="-1dp" />**

**<ImageButton**

**android:id="@+id/buttoneql"**

**android:layout\_width="284dp"**

**android:layout\_height="65dp"**

**app:layout\_constraintBottom\_toTopOf="@+id/button8"**

**app:layout\_constraintEnd\_toStartOf="@+id/buttonC"**

**app:layout\_constraintHorizontal\_bias="0.615"**

**app:layout\_constraintStart\_toStartOf="parent"**

**app:layout\_constraintTop\_toTopOf="parent"**

**app:layout\_constraintVertical\_bias="1.0"**

**app:srcCompat="@drawable/equal" />**

**<ImageView**

**android:id="@+id/imageView4"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintEnd\_toEndOf="parent"**

**app:layout\_constraintHorizontal\_bias="0.473"**

**app:layout\_constraintStart\_toStartOf="parent"**

**app:layout\_constraintTop\_toTopOf="@+id/imageView3"**

**app:layout\_constraintVertical\_bias="0.243"**

**app:srcCompat="@drawable/screen" />**

**<ImageButton**

**android:id="@+id/button5"**

**android:layout\_width="90dp"**

**android:layout\_height="64dp"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintEnd\_toEndOf="parent"**

**app:layout\_constraintHorizontal\_bias="0.355"**

**app:layout\_constraintStart\_toStartOf="parent"**

**app:layout\_constraintTop\_toTopOf="parent"**

**app:layout\_constraintVertical\_bias="0.752"**

**app:srcCompat="@drawable/five" />**

**<ImageButton**

**android:id="@+id/button7"**

**android:layout\_width="90dp"**

**android:layout\_height="64dp"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintEnd\_toEndOf="@+id/imageView3"**

**app:layout\_constraintHorizontal\_bias="0.05"**

**app:layout\_constraintStart\_toStartOf="@+id/imageView3"**

**app:layout\_constraintTop\_toTopOf="parent"**

**app:layout\_constraintVertical\_bias="0.656"**

**app:srcCompat="@drawable/seven" />**

**<ImageButton**

**android:id="@+id/button1"**

**android:layout\_width="90dp"**

**android:layout\_height="64dp"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintEnd\_toEndOf="@+id/imageView3"**

**app:layout\_constraintHorizontal\_bias="0.049"**

**app:layout\_constraintStart\_toStartOf="parent"**

**app:layout\_constraintTop\_toTopOf="parent"**

**app:layout\_constraintVertical\_bias="0.848"**

**app:srcCompat="@drawable/one" />**

**<ImageButton**

**android:id="@+id/buttonC"**

**android:layout\_width="90dp"**

**android:layout\_height="64dp"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintEnd\_toEndOf="parent"**

**app:layout\_constraintHorizontal\_bias="0.965"**

**app:layout\_constraintStart\_toStartOf="parent"**

**app:layout\_constraintTop\_toTopOf="parent"**

**app:layout\_constraintVertical\_bias="0.556"**

**app:srcCompat="@drawable/clear" />**

**<ImageButton**

**android:id="@+id/button0"**

**android:layout\_width="90dp"**

**android:layout\_height="64dp"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintEnd\_toEndOf="parent"**

**app:layout\_constraintHorizontal\_bias="0.355"**

**app:layout\_constraintStart\_toStartOf="parent"**

**app:layout\_constraintTop\_toTopOf="parent"**

**app:layout\_constraintVertical\_bias="0.944"**

**app:srcCompat="@drawable/zero" />**

**<ImageButton**

**android:id="@+id/button2"**

**android:layout\_width="90dp"**

**android:layout\_height="64dp"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintEnd\_toEndOf="parent"**

**app:layout\_constraintHorizontal\_bias="0.355"**

**app:layout\_constraintStart\_toStartOf="parent"**

**app:layout\_constraintTop\_toTopOf="parent"**

**app:layout\_constraintVertical\_bias="0.848"**

**app:srcCompat="@drawable/two" />**

**<ImageButton**

**android:id="@+id/button8"**

**android:layout\_width="90dp"**

**android:layout\_height="64dp"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintEnd\_toEndOf="parent"**

**app:layout\_constraintHorizontal\_bias="0.355"**

**app:layout\_constraintStart\_toStartOf="parent"**

**app:layout\_constraintTop\_toTopOf="parent"**

**app:layout\_constraintVertical\_bias="0.656"**

**app:srcCompat="@drawable/eight" />**

**<ImageButton**

**android:id="@+id/button9"**

**android:layout\_width="90dp"**

**android:layout\_height="64dp"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintEnd\_toEndOf="parent"**

**app:layout\_constraintHorizontal\_bias="0.657"**

**app:layout\_constraintStart\_toStartOf="parent"**

**app:layout\_constraintTop\_toTopOf="parent"**

**app:layout\_constraintVertical\_bias="0.656"**

**app:srcCompat="@drawable/nine" />**

**<ImageButton**

**android:id="@+id/button6"**

**android:layout\_width="90dp"**

**android:layout\_height="64dp"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintEnd\_toEndOf="parent"**

**app:layout\_constraintHorizontal\_bias="0.657"**

**app:layout\_constraintStart\_toStartOf="@+id/imageView3"**

**app:layout\_constraintTop\_toTopOf="parent"**

**app:layout\_constraintVertical\_bias="0.752"**

**app:srcCompat="@drawable/six" />**

**<ImageButton**

**android:id="@+id/button3"**

**android:layout\_width="90dp"**

**android:layout\_height="64dp"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintEnd\_toEndOf="parent"**

**app:layout\_constraintHorizontal\_bias="0.657"**

**app:layout\_constraintStart\_toStartOf="parent"**

**app:layout\_constraintTop\_toTopOf="@+id/imageView3"**

**app:layout\_constraintVertical\_bias="0.848"**

**app:srcCompat="@drawable/three" />**

**<ImageButton**

**android:id="@+id/button10"**

**android:layout\_width="90dp"**

**android:layout\_height="64dp"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintEnd\_toEndOf="parent"**

**app:layout\_constraintHorizontal\_bias="0.657"**

**app:layout\_constraintStart\_toStartOf="parent"**

**app:layout\_constraintTop\_toTopOf="@+id/imageView3"**

**app:layout\_constraintVertical\_bias="0.944"**

**app:srcCompat="@drawable/dot" />**

**<ImageButton**

**android:id="@+id/buttondiv"**

**android:layout\_width="90dp"**

**android:layout\_height="64dp"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintEnd\_toEndOf="parent"**

**app:layout\_constraintHorizontal\_bias="0.965"**

**app:layout\_constraintStart\_toStartOf="parent"**

**app:layout\_constraintTop\_toTopOf="parent"**

**app:layout\_constraintVertical\_bias="0.848"**

**app:srcCompat="@drawable/divide" />**

**<ImageButton**

**android:id="@+id/buttonadd"**

**android:layout\_width="90dp"**

**android:layout\_height="64dp"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintEnd\_toEndOf="parent"**

**app:layout\_constraintHorizontal\_bias="0.965"**

**app:layout\_constraintStart\_toStartOf="parent"**

**app:layout\_constraintTop\_toTopOf="parent"**

**app:layout\_constraintVertical\_bias="0.752"**

**app:srcCompat="@drawable/plus" />**

**<ImageButton**

**android:id="@+id/buttonsub"**

**android:layout\_width="90dp"**

**android:layout\_height="64dp"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintEnd\_toEndOf="parent"**

**app:layout\_constraintHorizontal\_bias="0.965"**

**app:layout\_constraintStart\_toStartOf="parent"**

**app:layout\_constraintTop\_toTopOf="parent"**

**app:layout\_constraintVertical\_bias="0.656"**

**app:srcCompat="@drawable/minus" />**

**<ImageButton**

**android:id="@+id/button4"**

**android:layout\_width="90dp"**

**android:layout\_height="64dp"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintEnd\_toEndOf="parent"**

**app:layout\_constraintHorizontal\_bias="0.049"**

**app:layout\_constraintStart\_toStartOf="parent"**

**app:layout\_constraintTop\_toTopOf="parent"**

**app:layout\_constraintVertical\_bias="0.752"**

**app:srcCompat="@drawable/four" />**

**<ImageButton**

**android:id="@+id/buttonmul"**

**android:layout\_width="90dp"**

**android:layout\_height="64dp"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintEnd\_toEndOf="parent"**

**app:layout\_constraintHorizontal\_bias="0.965"**

**app:layout\_constraintStart\_toStartOf="@+id/imageView3"**

**app:layout\_constraintTop\_toTopOf="parent"**

**app:layout\_constraintVertical\_bias="0.944"**

**app:srcCompat="@drawable/multi" />**

**<EditText**

**android:id="@+id/numbers"**

**android:layout\_width="374dp"**

**android:layout\_height="136dp"**

**android:layout\_marginTop="124dp"**

**android:ems="10"**

**android:inputType="number"**

**android:textSize="70sp"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintEnd\_toEndOf="parent"**

**app:layout\_constraintHorizontal\_bias="0.486"**

**app:layout\_constraintStart\_toStartOf="parent"**

**app:layout\_constraintTop\_toTopOf="@+id/imageView3"**

**app:layout\_constraintVertical\_bias="0.042" />**

**<ImageButton**

**android:id="@+id/buttonAC"**

**android:layout\_width="90dp"**

**android:layout\_height="64dp"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintEnd\_toEndOf="parent"**

**app:layout\_constraintHorizontal\_bias="0.049"**

**app:layout\_constraintStart\_toStartOf="parent"**

**app:layout\_constraintTop\_toTopOf="parent"**

**app:layout\_constraintVertical\_bias="0.944"**

**app:srcCompat="@drawable/clea" />**

**</androidx.constraintlayout.widget.ConstraintLayout>**

**---------------------------------------------------------------------------------------------------------------------------**

**Mainactivity.java**

**package com.example.calculator;**

**import android.os.Bundle;**

**import android.view.View;**

**import android.widget.EditText;**

**import android.widget.ImageButton;**

**import androidx.appcompat.app.AppCompatActivity;**

**public class MainActivity extends AppCompatActivity {**

**ImageButton button0, button1, button2, button3, button4, button5, button6,**

**button7, button8, button9, buttonAdd, buttonSub, buttonDivision,**

**buttonMul, button10, buttonC, buttonEqual, buttonAC;**

**EditText numbers;**

**float ValueOne, ValueTwo;**

**boolean Addition, Subtract, Multiplication, Division;**

**@Override**

**protected void onCreate(Bundle savedInstanceState) {**

**super.onCreate(savedInstanceState);**

**setContentView(R.layout.activity\_main);**

**button0 = findViewById(R.id.button0);**

**button1 = findViewById(R.id.button1);**

**button2 = findViewById(R.id.button2);**

**button3 = findViewById(R.id.button3);**

**button4 = findViewById(R.id.button4);**

**button5 = findViewById(R.id.button5);**

**button6 = findViewById(R.id.button6);**

**button7 = findViewById(R.id.button7);**

**button8 = findViewById(R.id.button8);**

**button9 = findViewById(R.id.button9);**

**button10 = findViewById(R.id.button10);**

**buttonAdd = findViewById(R.id.buttonadd);**

**buttonSub = findViewById(R.id.buttonsub);**

**buttonMul = findViewById(R.id.buttonmul);**

**buttonDivision = findViewById(R.id.buttondiv);**

**buttonC = findViewById(R.id.buttonC);**

**buttonEqual = findViewById(R.id.buttoneql);**

**numbers= findViewById(R.id.numbers);**

**buttonAC= findViewById(R.id.buttonAC);**

**button1.setOnClickListener(new View.OnClickListener() {**

**@Override**

**public void onClick(View v) {**

**numbers.setText(numbers.getText() + "1");**

**}**

**});**

**button2.setOnClickListener(new View.OnClickListener() {**

**@Override**

**public void onClick(View v) {**

**numbers.setText(numbers.getText() + "2");**

**}**

**});**

**button3.setOnClickListener(new View.OnClickListener() {**

**@Override**

**public void onClick(View v) {**

**numbers.setText(numbers.getText() + "3");**

**}**

**});**

**button4.setOnClickListener(new View.OnClickListener() {**

**@Override**

**public void onClick(View v) {**

**numbers.setText(numbers.getText() + "4");**

**}**

**});**

**button5.setOnClickListener(new View.OnClickListener() {**

**@Override**

**public void onClick(View v) {**

**numbers.setText(numbers.getText() + "5");**

**}**

**});**

**button6.setOnClickListener(new View.OnClickListener() {**

**@Override**

**public void onClick(View v) {**

**numbers.setText(numbers.getText() + "6");**

**}**

**});**

**button7.setOnClickListener(new View.OnClickListener() {**

**@Override**

**public void onClick(View v) {**

**numbers.setText(numbers.getText() + "7");**

**}**

**});**

**button8.setOnClickListener(new View.OnClickListener() {**

**@Override**

**public void onClick(View v) {**

**numbers.setText(numbers.getText() + "8");**

**}**

**});**

**button9.setOnClickListener(new View.OnClickListener() {**

**@Override**

**public void onClick(View v) {**

**numbers.setText(numbers.getText() + "9");**

**}**

**});**

**button0.setOnClickListener(new View.OnClickListener() {**

**@Override**

**public void onClick(View v) {**

**numbers.setText(numbers.getText() + "0");**

**}**

**});**

**buttonAdd.setOnClickListener(new View.OnClickListener() {**

**@Override**

**public void onClick(View v) {**

**if (numbers == null) {**

**numbers.setText("");**

**} else {**

**ValueOne = Float.parseFloat(numbers.getText() + "");**

**Addition = true;**

**numbers.setText(null);**

**}**

**}**

**});**

**buttonSub.setOnClickListener(new View.OnClickListener() {**

**@Override**

**public void onClick(View v) {**

**ValueOne = Float.parseFloat(numbers.getText() + "");**

**Subtract = true;**

**numbers.setText(null);**

**}**

**});**

**buttonMul.setOnClickListener(new View.OnClickListener() {**

**@Override**

**public void onClick(View v) {**

**ValueOne = Float.parseFloat(numbers.getText() + "");**

**Multiplication = true;**

**numbers.setText(null);**

**}**

**});**

**buttonDivision.setOnClickListener(new View.OnClickListener() {**

**@Override**

**public void onClick(View v) {**

**ValueOne = Float.parseFloat(numbers.getText() + "");**

**Division = true;**

**numbers.setText(null);**

**}**

**});**

**buttonEqual.setOnClickListener(new View.OnClickListener() {**

**@Override**

**public void onClick(View v) {**

**ValueTwo = Float.parseFloat(numbers.getText() + "");**

**if (Addition == true) {**

**numbers.setText(ValueOne + ValueTwo + "");**

**Addition = false;**

**}**

**if (Subtract == true) {**

**numbers.setText(ValueOne - ValueTwo + "");**

**Subtract = false;**

**}**

**if (Multiplication == true) {**

**numbers.setText(ValueOne \* ValueTwo + "");**

**Multiplication = false;**

**}**

**if (Division == true) {**

**numbers.setText(ValueOne / ValueTwo + "");**

**Division = false;**

**}**

**}**

**});**

**buttonAC.setOnClickListener(new View.OnClickListener() {**

**@Override**

**public void onClick(View v) {**

**numbers.setText("");**

**}**

**});**

**buttonC.setOnClickListener(new View.OnClickListener() {**

**@Override**

**public void onClick(View view) {**

**String str = numbers.getText().toString();**

**if(str.length() >= 1) {**

**str = str.substring(0, str.length() - 1);**

**numbers.setText(str);**

**} else if (str.length() <= 1) {**

**numbers.setText("0");**

**}**

**}**

**});**

**button10.setOnClickListener(new View.OnClickListener() {**

**@Override**

**public void onClick(View v) {**

**numbers.setText(numbers.getText() + ".");**

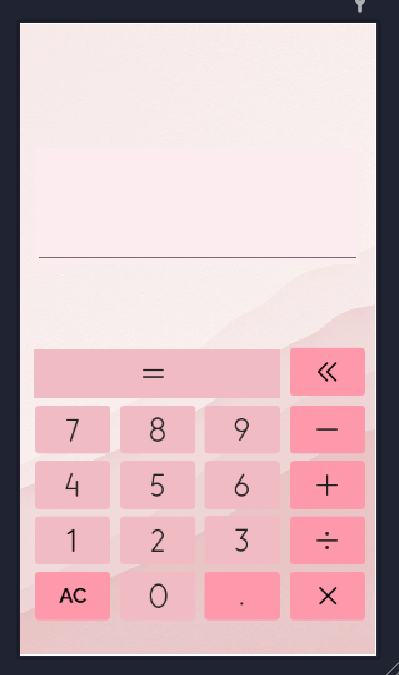
**}**

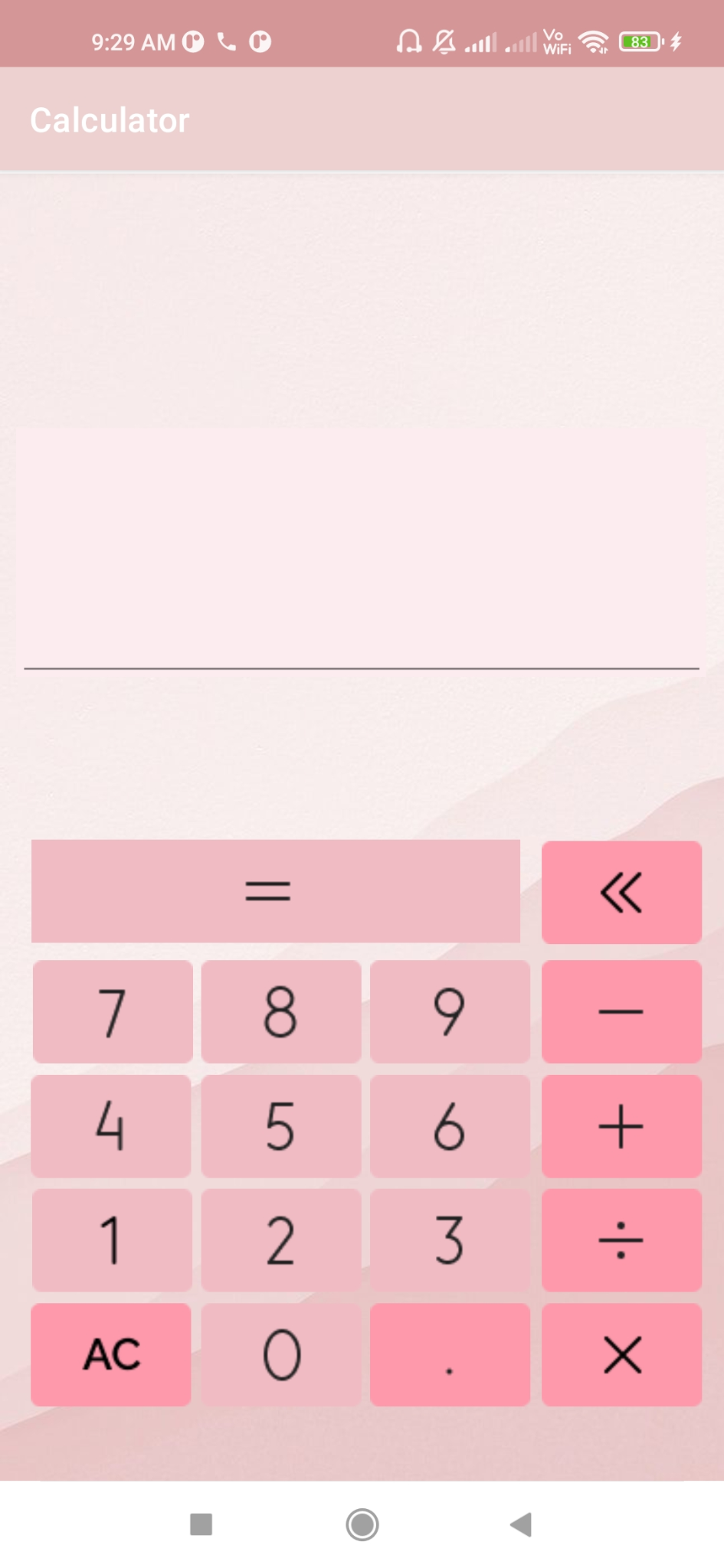
**});**

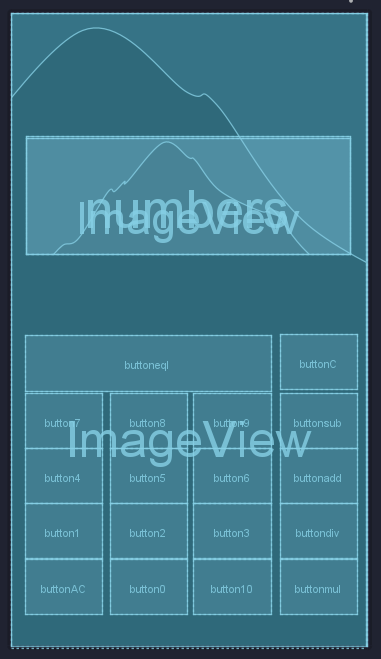
**}**

**}**

**Result:**

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