

Activity_main.xml code:

```
<?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">

    <Button
        android:id="@+id/btn_five"
        android:layout_width="58dp"
        android:layout_height="43dp"
        android:layout_marginTop="32dp"
        android:layout_marginEnd="32dp"
        android:text="5"
        android:textAlignment="center"
        android:textSize="20sp"
        app:layout_constraintEnd_toStartOf="@+id/btn_six"
        app:layout_constraintTop_toBottomOf="@+id/btn_eight" />

    <Button
        android:id="@+id/btn_four"
        android:layout_width="58dp"
        android:layout_height="43dp"
        android:layout_marginTop="32dp"
        android:layout_marginEnd="24dp"
        android:text="4"
        android:textAlignment="center"
        android:textSize="20sp"
        app:layout_constraintEnd_toStartOf="@+id/btn_five"
        app:layout_constraintHorizontal_bias="0.796"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/btn_seven" />

    <Button
        android:id="@+id/btn_six"
        android:layout_width="58dp"
        android:layout_height="43dp"
        android:layout_marginTop="32dp"
        android:layout_marginEnd="20dp"
        android:text="6"
        android:textAlignment="center"
        android:textSize="20sp"
        app:layout_constraintEnd_toStartOf="@+id/btn_mul"
        app:layout_constraintTop_toBottomOf="@+id/btn_nine" />

    <Button
        android:id="@+id/btn_equal"
        android:layout_width="58dp"
        android:layout_height="43dp"
        android:layout_marginTop="32dp"
        android:layout_marginEnd="32dp"
        android:text=""
        android:textAlignment="center"
```

```
android:textSize="20sp"
app:layout_constraintEnd_toStartOf="@+id/btn_add"
app:layout_constraintTop_toBottomOf="@+id/btn_three" />
```

<Button

```
android:id="@+id/btn_dot"
android:layout_width="58dp"
android:layout_height="43dp"
android:layout_marginTop="32dp"
android:text="."
android:textAlignment="center"
android:textSize="20sp"
app:layout_constraintEnd_toStartOf="@+id/btn_zero"
app:layout_constraintHorizontal_bias="0.693"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/btn_one" />
```

<Button

```
android:id="@+id/btn_zero"
android:layout_width="58dp"
android:layout_height="43dp"
android:layout_marginTop="32dp"
android:layout_marginEnd="36dp"
android:text="0"
android:textAlignment="center"
android:textSize="20sp"
app:layout_constraintEnd_toStartOf="@+id/btn_equal"
app:layout_constraintTop_toBottomOf="@+id/btn_two" />
```

<Button

```
android:id="@+id/btn_add"
android:layout_width="58dp"
android:layout_height="43dp"
android:layout_marginTop="32dp"
android:layout_marginEnd="44dp"
android:text="+"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintTop_toBottomOf="@+id/btn_sub" />
```

<Button

```
android:id="@+id/btn_nine"
android:layout_width="58dp"
android:layout_height="43dp"
android:layout_marginTop="40dp"
android:layout_marginEnd="24dp"
android:text="9"
android:textAlignment="center"
android:textSize="20sp"
app:layout_constraintEnd_toStartOf="@+id/btn_div"
app:layout_constraintTop_toBottomOf="@+id/txt_result" />
```

<Button

```
android:id="@+id/btn_seven"
android:layout_width="58dp"
android:layout_height="43dp"
android:layout_marginTop="40dp"
android:text="7"
android:textAlignment="center"
android:textSize="20sp"
app:layout_constraintEnd_toStartOf="@+id/btn_eight"
```

```
app:layout_constraintHorizontal_bias="0.605"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/txt_result" />
```

<Button

```
android:id="@+id/btn_eight"
android:layout_width="58dp"
android:layout_height="43dp"
android:layout_marginTop="40dp"
android:layout_marginEnd="32dp"
android:text="8"
android:textAlignment="center"
android:textSize="20sp"
app:layout_constraintEnd_toStartOf="@+id/btn_nine"
app:layout_constraintTop_toBottomOf="@+id/txt_result" />
```

<Button

```
android:id="@+id/btn_mul"
android:layout_width="58dp"
android:layout_height="43dp"
android:layout_marginTop="28dp"
android:layout_marginEnd="44dp"
android:text="*"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintTop_toBottomOf="@+id/btn_div" />
```

<Button

```
android:id="@+id/btn_sub"
android:layout_width="58dp"
android:layout_height="43dp"
android:layout_marginTop="32dp"
android:layout_marginEnd="44dp"
android:text="-"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintTop_toBottomOf="@+id/btn_mul" />
```

<Button

```
android:id="@+id/btn_two"
android:layout_width="58dp"
android:layout_height="43dp"
android:layout_marginTop="32dp"
android:layout_marginEnd="36dp"
android:text="2"
android:textAlignment="center"
android:textSize="20sp"
app:layout_constraintEnd_toStartOf="@+id/btn_three"
app:layout_constraintTop_toBottomOf="@+id/btn_five" />
```

<Button

```
android:id="@+id/btn_three"
android:layout_width="58dp"
android:layout_height="43dp"
android:layout_marginTop="32dp"
android:layout_marginEnd="24dp"
android:text="3"
android:textAlignment="center"
android:textSize="20sp"
app:layout_constraintEnd_toStartOf="@+id/btn_sub"
app:layout_constraintTop_toBottomOf="@+id/btn_six" />
```

```
<Button
    android:id="@+id/btn_one"
    android:layout_width="58dp"
    android:layout_height="43dp"
    android:layout_marginTop="32dp"
    android:text="1"
    android:textAlignment="center"
    android:textSize="20sp"
    app:layout_constraintEnd_toStartOf="@+id/btn_two"
    app:layout_constraintHorizontal_bias="0.613"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/btn_four" />
```

```
<Button
    android:id="@+id/btn_div"
    android:layout_width="58dp"
    android:layout_height="43dp"
    android:layout_marginTop="40dp"
    android:layout_marginEnd="48dp"
    android:text="/"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/txt_result" />
```

```
<TextView
    android:id="@+id/textView"
    android:layout_width="336dp"
    android:layout_height="74dp"
    android:layout_marginTop="52dp"
    android:fontFamily="@font/alata"
    android:text="Simple Calculator"
    android:textAlignment="center"
    android:textAllCaps="true"
    android:textColorHint="#0C0C0C"
    android:textSize="24sp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.48"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<EditText
    android:id="@+id/txt_result"
    android:layout_width="288dp"
    android:layout_height="54dp"
    android:layout_marginTop="84dp"
    android:ems="10"
    android:inputType="textPersonName"
    android:text="Result"
    android:textAlignment="center"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.495"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView" />
```

```
<Button
    android:id="@+id/btn_clear"
    android:layout_width="58dp"
    android:layout_height="43dp"
    android:layout_marginTop="24dp"
    android:text="C"
    app:layout_constraintEnd_toEndOf="parent"
```

```
app:layout_constraintHorizontal_bias="0.866"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/btn_add" />
```

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

MainActivity.java code:

```
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;
import android.widget.Toast;
import java.util.regex.Pattern;

public class MainActivity extends AppCompatActivity implements View.OnClickListener
{
    Button btn1, btn2, btn3, btn4, btn5, btn6;
    Button btn7, btn8, btn9, btn0;
    Button btnAdd, btnSub, btnMul, btnDiv, btnClear, btnEqual, btnDot;
    EditText txtResult;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btn1= (Button) findViewById(R.id.btn_one);
        btn1.setOnClickListener(this);

        btn2= (Button) findViewById(R.id.btn_two);
        btn2.setOnClickListener(this);

        btn3= (Button) findViewById(R.id.btn_three);
        btn3.setOnClickListener(this);

        btn4= (Button) findViewById(R.id.btn_four);
        btn4.setOnClickListener(this);

        btn5= (Button) findViewById(R.id.btn_five);
        btn5.setOnClickListener(this);

        btn6= (Button) findViewById(R.id.btn_six);
        btn6.setOnClickListener(this);

        btn7= (Button) findViewById(R.id.btn_seven);
        btn7.setOnClickListener(this);

        btn8= (Button) findViewById(R.id.btn_eight);
        btn8.setOnClickListener(this);

        btn9= (Button) findViewById(R.id.btn_nine);
        btn9.setOnClickListener(this);
```

```

    btn0= (Button) findViewById(R.id.btn_zero);
    btn0.setOnClickListener(this);

    btnAdd= (Button) findViewById(R.id.btn_add);
    btnAdd.setOnClickListener(this);

    btnSub= (Button) findViewById(R.id.btn_sub);
    btnSub.setOnClickListener(this);

    btnMul= (Button) findViewById(R.id.btn_mul);
    btnMul.setOnClickListener(this);

    btnDiv= (Button) findViewById(R.id.btn_div);
    btnDiv.setOnClickListener(this);

    btnDot= (Button) findViewById(R.id.btn_dot);
    btnDot.setOnClickListener(this);

    btnEqual= (Button) findViewById(R.id.btn_equal);
    btnEqual.setOnClickListener(this);

    btnClear= (Button) findViewById(R.id.btn_clear);
    btnClear.setOnClickListener(this);

    txtResult= (EditText) findViewById(R.id.txt_result);
    txtResult.setText("");
}

public void onClick(View v){
    if (v.equals(btn1)){
        txtResult.append("1");
    }
    if (v.equals(btn2)){
        txtResult.append("2");
    }
    if (v.equals(btn3)){
        txtResult.append("3");
    }
    if (v.equals(btn4)){
        txtResult.append("4");
    }
    if (v.equals(btn5)){
        txtResult.append("5");
    }
    if (v.equals(btn6)){
        txtResult.append("6");
    }
    if (v.equals(btn7)){
        txtResult.append("7");
    }
    if (v.equals(btn8)){
        txtResult.append("8");
    }
    if (v.equals(btn9)){
        txtResult.append("9");
    }
    if (v.equals(btn0)){
        txtResult.append("0");
    }
}

```

```

}
if (v.equals(btnDot)) {
    txtResult.append(".");
}
if (v.equals(btnClear)) {
    txtResult.setText("");
}
if (v.equals(btnAdd)) {
    txtResult.append("+");
}
if (v.equals(btnMul)) {
    txtResult.append("*");
}
if (v.equals(btnDiv)) {
    txtResult.append("/");
}
if (v.equals(btnSub)) {
    txtResult.append("-");
}
if (v.equals(btnEqual)) {
    try {
        String data= txtResult.getText().toString();
        if (data.contains("/")) {
            String[] operands= data.split("/");
            if (operands.length == 2) {
                double operand1 = Double.parseDouble(operands[0]);
                double operand2 = Double.parseDouble(operands[1]);
                double result = operand1 / operand2;
                txtResult.setText(String.valueOf(result));
            }
            else
            {
                Toast.makeText(getBaseContext(),
                    "Invalid Input",
                    Toast.LENGTH_LONG).show();
            }
        }
        else if (data.contains("*")) {
            String[] operands = data.split(Pattern.quote("*"));
            if (operands.length==2) {
                double operand1 = Double.parseDouble(operands[0]);
                double operand2 = Double.parseDouble(operands[1]);
                double result = operand1 * operand2;
                txtResult.setText(String.valueOf(result));
            }
            else
            {
                Toast.makeText(getBaseContext(),
                    "Invalid Input",
                    Toast.LENGTH_LONG).show();
            }
        }
        else if (data.contains("+")) {
            String[] operands = data.split(Pattern.quote("+"));
            if (operands.length==2) {
                double operand1 = Double.parseDouble(operands[0]);
                double operand2 = Double.parseDouble(operands[1]);
                double result = operand1 + operand2;
                txtResult.setText(String.valueOf(result));
            }
        }
    }
}

```

```

        else
        {
            Toast.makeText(getBaseContext(),
                "Invalid Input",
                Toast.LENGTH_LONG).show();
        }
    }
    else if (data.contains("-")) {
        String[] operands = data.split("-");
        if(operands.length== 2) {
            double operand1 = Double.parseDouble(operands[0]);
            double operand2 = Double.parseDouble(operands[1]);
            double result = operand1 - operand2;
            txtResult.setText(String.valueOf(result));
        }
        else
        {
            Toast.makeText(getBaseContext(),
                "Invalid Input",
                Toast.LENGTH_LONG).show();
        }
    }
}

catch(Exception e) {
    Toast.makeText(getBaseContext(),
        "Invalid Input",
        Toast.LENGTH_LONG).show();
}

}

}

}

```