Program no:7

Aim: Program to design a simple Calculator using GridLayout and Cascaded LinearLayout

XML Code:

```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"

    tools:context=".MainActivity">


    <EditText

        android:id="@+id/t1"

        android:layout_width="146dp"

        android:layout_height="62dp"

        android:hint="number1"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintHorizontal_bias="0.498"

        app:layout_constraintLeft_toLeftOf="parent"

        app:layout_constraintRight_toRightOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.118" />


    <EditText

        android:id="@+id/t2"
```

```
            android:layout_width="146dp"

            android:layout_height="61dp"

            android:layout_marginBottom="488dp"

            android:hint="number2"

            app:layout_constraintBottom_toBottomOf="parent"

            app:layout_constraintHorizontal_bias="0.498"

            app:layout_constraintLeft_toLeftOf="parent"

            app:layout_constraintRight_toRightOf="parent"

            app:layout_constraintTop_toBottomOf="@+id/t1"

            app:layout_constraintVertical_bias="0.365" />

    <EditText

            android:id="@+id/t3"

            android:layout_width="198dp"

            android:layout_height="72dp"

            android:hint="result"

            app:layout_constraintBottom_toBottomOf="parent"

            app:layout_constraintHorizontal_bias="0.497"

            app:layout_constraintLeft_toLeftOf="parent"

            app:layout_constraintRight_toRightOf="parent"

            app:layout_constraintTop_toTopOf="parent"

            app:layout_constraintVertical_bias="0.356" />

    <Button

            android:id="@+id/b1"

            android:layout_width="131dp"

            android:layout_height="64dp"

            android:text="Add"

            app:layout_constraintBottom_toBottomOf="parent"
```

```xml
        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintHorizontal_bias="0.207"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.499" />

    <Button

        android:id="@+id/b2"

        android:layout_width="128dp"

        android:layout_height="54dp"

        android:layout_marginEnd="52dp"

        android:text="Subtract"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.506" />

    <Button

        android:id="@+id/b3"

        android:layout_width="127dp"

        android:layout_height="69dp"

        android:text="Multiple"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintHorizontal_bias="0.233"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.644" />

    <Button
```

```xml
        android:id="@+id/b4"

        android:layout_width="130dp"

        android:layout_height="56dp"

        android:text="Divide"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintHorizontal_bias="0.822"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.632" />



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

MainActivity.java

```java
package com.example.myapplication;

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 {

    EditText t1,t2,t3;

    Button b1,b2,b3,b4;

    @Override

    protected void onCreate(Bundle savedInstanceState) {
```

```java
        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        t1=findViewById(R.id.t1);

        t2=findViewById(R.id.t2);

        t3=findViewById(R.id.t3);

        b1=findViewById(R.id.b1);

        b2=findViewById(R.id.b2);

        b3=findViewById(R.id.b3);

        b4=findViewById(R.id.b4);

        b1.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

             Double s1=Double.parseDouble(t1.getText().toString());

             Double s2=Double.parseDouble(t2.getText().toString());

             Double s3=s1+s2;

             t3.setText(String.valueOf(s3));

             }

        });

        b2.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                Double s1=Double.parseDouble(t1.getText().toString());

                Double s2=Double.parseDouble(t2.getText().toString());

                Double s3=s1-s2;

                t3.setText(String.valueOf(s3));

            }

        });
```

```java
        b3.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                Double s1=Double.parseDouble(t1.getText().toString());

                Double s2=Double.parseDouble(t2.getText().toString());

                Double s3=s1*s2;

                t3.setText(String.valueOf(s3));

            }

        });

        b4.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                Double s1=Double.parseDouble(t1.getText().toString());

                Double s2=Double.parseDouble(t2.getText().toString());

                Double s3=s1/s2;

                t3.setText(String.valueOf(s3));

            }

        });

} }
```

Output: