PROGRAM NO :1

AIM: Design a simple Calculator using GridLayout and Cascaded LinearLayout.

PROGRAM CODE:

Mainactivity.java

```
package com.example.gridcalc;


import android.os.Bundle;

import androidx.appcompat.app.AppCompatActivity;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;


public class MainActivity extends AppCompatActivity {


    Button button0, button1, button2, button3, button4, button5, button6,

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

            buttonMul, buttond, buttonC, buttonEqual,buttonperc;

    EditText cEditText;


    float mValueOne, mValueTwo;


    boolean cAddition, mSubtract, cMultiplication, cDivision,cperc;
```

```
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);


        button0 = (Button) findViewById(R.id.button15);
        button1 = (Button) findViewById(R.id.button8);
        button2 = (Button) findViewById(R.id.button14);
        button3 = (Button) findViewById(R.id.button18);
        button4 = (Button) findViewById(R.id.button7);
        button5 = (Button) findViewById(R.id.button13);
        button6 = (Button) findViewById(R.id.button16);
        button7 = (Button) findViewById(R.id.button6);
        button8 = (Button) findViewById(R.id.button10);
        button9 = (Button) findViewById(R.id.button11);
        buttond = (Button) findViewById(R.id.button19);
        buttonAdd = (Button) findViewById(R.id.button20);
        buttonSub = (Button) findViewById(R.id.button17);
        buttonMul = (Button) findViewById(R.id.button12);
        buttonDivision = (Button) findViewById(R.id.button5);
        buttonC = (Button) findViewById(R.id.button2);
        buttonperc = (Button) findViewById(R.id.button4);
        buttonEqual = (Button) findViewById(R.id.button21);
        cEditText = (EditText) findViewById(R.id.edt1);



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

```
        @Override
        public void onClick(View v) {
            cEditText.setText(cEditText.getText() + "1");
        }
    });

    button2.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            cEditText.setText(cEditText.getText() + "2");
        }
    });

    button3.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            cEditText.setText(cEditText.getText() + "3");
        }
    });

    button4.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            cEditText.setText(cEditText.getText() + "4");
        }
    });
```

```
        button5.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                cEditText.setText(cEditText.getText() + "5");
            }
        });

        button6.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                cEditText.setText(cEditText.getText() + "6");
            }
        });

        button7.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                cEditText.setText(cEditText.getText() + "7");
            }
        });

        button8.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                cEditText.setText(cEditText.getText() + "8");
            }
        });
```

```
        button9.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                cEditText.setText(cEditText.getText() + "9");
            }
        });

        button0.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                cEditText.setText(cEditText.getText() + "0");
            }
        });

        buttonAdd.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {

                if (cEditText == null) {
                    cEditText.setText("");
                } else {
                    mValueOne =
Float.parseFloat(cEditText.getText() + "");
                    cAddition = true;
                    cEditText.setText(null);
                }
```

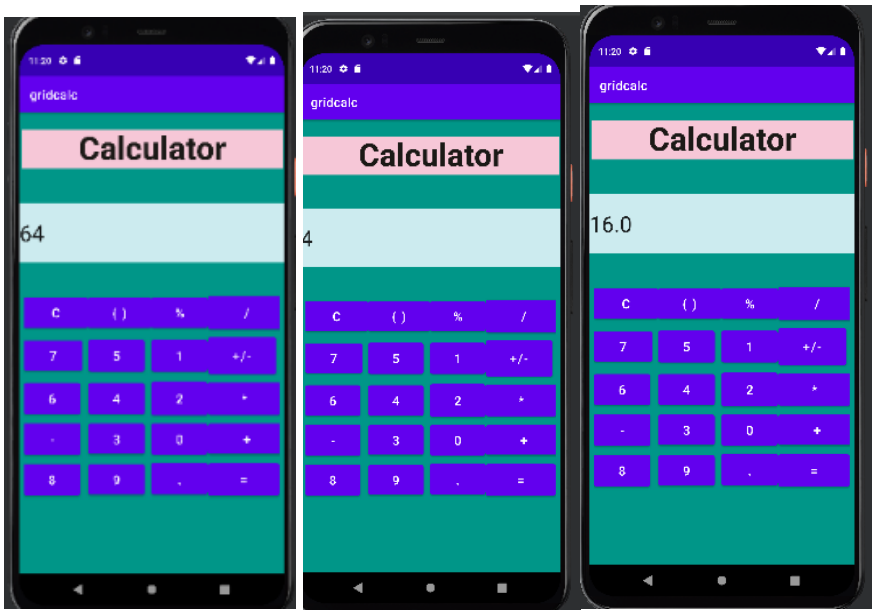
```
            }

        });


        buttonSub.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                mValueOne = Float.parseFloat(cEditText.getText() +
"");

                mSubtract = true;

                cEditText.setText(null);

            }

        });


        buttonMul.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                mValueOne = Float.parseFloat(cEditText.getText() +
"");

                cMultiplication = true;

                cEditText.setText(null);

            }

        });


        buttonDivision.setOnClickListener(new
View.OnClickListener() {

            @Override

            public void onClick(View v) {

                mValueOne = Float.parseFloat(cEditText.getText() +
"");
```

```
                cDivision = true;
                cEditText.setText(null);
            }
        });

        buttonperc.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                mValueOne = Float.parseFloat(cEditText.getText() +
"");
                cperc = true;
                cEditText.setText(null);
            }
        });
        buttonEqual.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                mValueTwo = Float.parseFloat(cEditText.getText() +
"");

                if (cAddition == true) {
                    cEditText.setText(mValueOne + mValueTwo + "");
                    cAddition = false;
                }

                if (mSubtract == true) {
                    cEditText.setText(mValueOne - mValueTwo + "");
                    mSubtract = false;
```

```
                }


                if (cMultiplication == true) {
                    cEditText.setText(mValueOne * mValueTwo + "");
                    cMultiplication = false;
                }


                if (cDivision == true) {
                    cEditText.setText(mValueOne / mValueTwo + "");
                    cDivision = false;
                }
                if (cperc == true) {
                    cEditText.setText((mValueOne / mValueTwo)*100 +
"");
                    cperc = false;
                }
            }
        });


        buttonC.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                cEditText.setText("");
            }
        });


        buttond.setOnClickListener(new View.OnClickListener() {
```

```
            @Override
            public void onClick(View v) {
                cEditText.setText(cEditText.getText() + ".");
            }
        });
    }
}
```

OUTPUT:



(The above performed operation is division of two numbers)

RESULT

Program Has Been Succesfully Executed And Output Is Obtained.