PROGRAM 6 (CO2)

AIM : Design a simple calculator using GridLayout

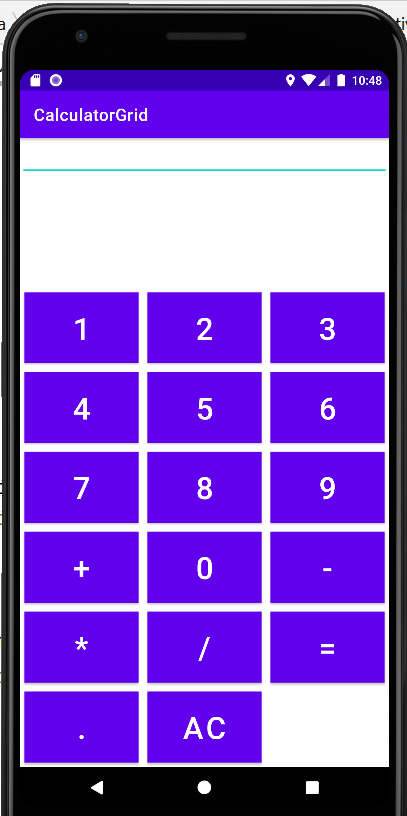
XML

*<?*xml version="1.0" encoding="utf-8"*?>*<LinearLayout 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="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical"  
 tools:context=".MainActivity">  
  
 <EditText  
 android:id="@+id/edittext"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="textPersonName"  
 android:text=" " />  
  
 <GridLayout  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="130dp"  
 android:columnCount="3"  
 android:rowCount="5">  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="1"  
 android:textSize="34sp"  
 app:iconPadding="5dp" />  
  
 <Button  
 android:id="@+id/button4"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="2"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button5"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="3"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button6"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="4"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button7"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="5"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button8"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="6"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button9"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="7"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button10"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="8"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button11"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="9"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button12"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="+"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button13"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="0"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button14"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="-"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button15"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="\*"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button16"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="/"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button17"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="="  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button18"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="AC"  
 android:textSize="36sp" />  
  
 </GridLayout>  
  
</LinearLayout>

JAVA

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;  
  
  
public class MainActivity extends AppCompatActivity {  
 EditText editText;  
 Button b1, b2, b3, b4, b5, b6, b7, b8, b9, b0, plus, sub, mul, div, equal, ac;  
 float value1, value2;  
 boolean Addition, Subtraction, Multiplication, Division;  
  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 editText = findViewById(R.id.*edittext*);  
 b1 = findViewById(R.id.*button*);  
 b2 = findViewById(R.id.*button4*);  
 b3 = findViewById(R.id.*button5*);  
 b4 = findViewById(R.id.*button6*);  
 b5 = findViewById(R.id.*button7*);  
 b6 = findViewById(R.id.*button8*);  
 b7 = findViewById(R.id.*button9*);  
 b8 = findViewById(R.id.*button10*);  
 b9 = findViewById(R.id.*button11*);  
 b0 = findViewById(R.id.*button13*);  
 plus = findViewById(R.id.*button12*);  
 sub = findViewById(R.id.*button14*);  
 mul = findViewById(R.id.*button15*);  
 div = findViewById(R.id.*button16*);  
 equal = findViewById(R.id.*button17*);  
 ac = findViewById(R.id.*button18*);  
  
  
 b1.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText(editText.getText() + "1");  
  
 }  
 });  
  
  
 b2.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText(editText.getText() + "2");  
  
 }  
 });  
  
 b3.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText(editText.getText() + "3");  
  
 }  
 });  
  
 b4.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText(editText.getText() + "4");  
  
 }  
 });  
  
 b5.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText(editText.getText() + "5");  
  
 }  
 });  
  
 b6.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText(editText.getText() + "6");  
  
 }  
 });  
  
 b7.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText(editText.getText() + "7");  
  
 }  
 });  
  
 b8.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText(editText.getText() + "8");  
  
 }  
 });  
  
 b9.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText(editText.getText() + "9");  
  
 }  
 });  
  
 b0.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText(editText.getText() + "0");  
  
 }  
 });  
  
 plus.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 if (editText == null) {  
 editText.setText("");  
 } else {  
 value1 = Float.*parseFloat*(editText.getText() + "");  
 Addition = true;  
 editText.setText(null);  
 }  
  
 }  
 });  
  
 sub.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 value1 = Float.*parseFloat*(editText.getText() + "");  
 Subtraction = true;  
 editText.setText(null);  
 }  
 });  
  
  
 mul.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 value1 = Float.*parseFloat*(editText.getText() + "");  
 Multiplication = true;  
 editText.setText(null);  
 }  
 });  
  
 div.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 value1 = Float.*parseFloat*(editText.getText() + "");  
 Division = true;  
 editText.setText(null);  
 }  
 });  
  
 equal.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 value2 = Float.*parseFloat*(editText.getText() + "");  
  
 if (Addition == true) {  
 editText.setText(value1 + value2 + "");  
 Addition = false;  
 }  
  
 if (Subtraction == true) {  
 editText.setText(value1 - value2 + "");  
 Subtraction = false;  
 }  
  
 if (Multiplication == true) {  
 editText.setText(value1 \* value2 + "");  
 Multiplication = false;  
 }  
  
 if (Division == true) {  
 editText.setText(value1 / value2 + "");  
 Division = false;  
 }  
  
 }  
 });  
 ac.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText("");  
 }  
 });  
  
  
 }  
}

OUTPUT



RESULT : Program to design simple calculator using GridLayout successfully executed and output verified