2.calculator

File name:SimpleCalculator

Build.gradle

Android{

dataBinding.enabled=*true*

}

Activitymain.xml

<?*xml version*="1.0" *encoding*="utf-8"?>  
<layout *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">  
  
  
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 *tools:context*=".MainActivity">  
  
  
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 *tools:layout\_editor\_absoluteX*="0dp"  
 *tools:layout\_editor\_absoluteY*="-16dp">  
  
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 *android:ems*="10"  
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 *android:textColor*="#E8F80B"  
 *android:textSize*="30sp" />  
  
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 *android:layout\_marginEnd*="10dp"  
 *android:layout\_marginRight*="10dp"  
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 *android:layout\_marginEnd*="10dp"  
 *android:layout\_marginRight*="10dp"  
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 *android:textSize*="24sp"  
 *app:backgroundTint*="#5C13DF" />  
  
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 *android:layout\_marginEnd*="10dp"  
 *android:layout\_marginRight*="10dp"  
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 *android:layout\_height*="match\_parent"  
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 *android:layout\_marginEnd*="10dp"  
 *android:layout\_marginRight*="10dp"  
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 *app:backgroundTint*="#FF5722" />  
  
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 *android:layout\_height*="match\_parent"  
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 *android:layout\_marginLeft*="10dp"  
 *android:layout\_marginEnd*="10dp"  
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 *android:textSize*="24sp"  
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 *android:layout\_height*="match\_parent"  
 *android:layout\_marginStart*="10dp"  
 *android:layout\_marginLeft*="10dp"  
 *android:layout\_marginEnd*="10dp"  
 *android:layout\_marginRight*="10dp"  
 *android:layout\_weight*="1"  
 *android:background*="#78BC19"  
 *android:text*="3"  
 *android:textSize*="24sp"  
 *app:backgroundTint*="#21C8B9" />  
  
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 *android:layout\_width*="wrap\_content"  
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 *android:layout\_marginRight*="10dp"  
 *android:layout\_weight*="1"  
 *android:text*="."  
 *android:textColor*="#E6DEDE"  
 *android:textSize*="24sp"  
 *app:backgroundTint*="#1B1C1A" />  
  
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 *android:layout\_height*="match\_parent"  
 *android:layout\_marginStart*="10dp"  
 *android:layout\_marginLeft*="10dp"  
 *android:layout\_marginEnd*="10dp"  
 *android:layout\_marginRight*="10dp"  
 *android:layout\_weight*="1"  
 *android:text*="0"  
 *android:textSize*="24sp"  
 *app:backgroundTint*="#46D120" />  
  
 <Button  
 *android:id*="@+id/buttonEqual"  
 *android:layout\_width*="wrap\_content"  
 *android:layout\_height*="match\_parent"  
 *android:layout\_marginStart*="10dp"  
 *android:layout\_marginLeft*="10dp"  
 *android:layout\_marginEnd*="10dp"  
 *android:layout\_marginRight*="10dp"  
 *android:layout\_weight*="1"  
 *android:text*="="  
 *android:textSize*="24sp"  
 *app:backgroundTint*="#C38B79" />  
  
 <Button  
 *android:id*="@+id/buttonAdd"  
 *android:layout\_width*="wrap\_content"  
 *android:layout\_height*="match\_parent"  
 *android:layout\_marginStart*="10dp"  
 *android:layout\_marginLeft*="10dp"  
 *android:layout\_marginEnd*="10dp"  
 *android:layout\_marginRight*="10dp"  
 *android:layout\_weight*="1"  
 *android:text*="+"  
 *android:textSize*="24sp"  
 *app:backgroundTint*="#DAC404" />  
 </LinearLayout>  
  
 <Button  
 *android:id*="@+id/buttonClear"  
 *android:layout\_width*="74dp"  
 *android:layout\_height*="60dp"  
 *android:layout\_gravity*="right"  
 *android:layout\_marginTop*="20dp"  
 *android:layout\_marginEnd*="10dp"  
 *android:layout\_marginRight*="10dp"  
 *android:text*="C"  
 *android:textColor*="#E1D7D7"  
 *android:textSize*="24sp"  
 *app:backgroundTint*="#251F1F" />  
  
 </LinearLayout>  
  
</androidx.constraintlayout.widget.ConstraintLayout>  
  
</layout>

Mainactivity.java

*package* com.example.simplecalculator;  
*import* androidx.databinding.DataBindingUtil;  
*import* android.os.Bundle;  
*import* androidx.appcompat.app.AppCompatActivity;  
*//import androidx.support.v7.app.AppCompatActivity;  
import* android.view.View;  
  
  
*import* java.text.DecimalFormat;  
  
*//import com.sample.calc.dataBinding.ActivityMainBinding;  
  
public class* MainActivity *extends* AppCompatActivity {  
  
 *private* com.example.simplecalculator.databinding.ActivityMainBinding binding;  
  
 *private static final char ADDITION* = '+';  
 *private static final char SUBTRACTION* = '-';  
 *private static final char MULTIPLICATION* = '\*';  
 *private static final char DIVISION* = '/';  
  
 *private char* CURRENT\_ACTION;  
  
 *private double* valueOne = Double.*NaN*;  
 *private double* valueTwo;  
  
 *private* DecimalFormat decimalFormat;  
  
 @Override  
 *protected void* onCreate(Bundle savedInstanceState) {  
 *super*.onCreate(savedInstanceState);  
  
 decimalFormat = *new* DecimalFormat("#.##########");  
  
 binding = DataBindingUtil.*setContentView*(*this*, R.layout.*activity\_main*);  
  
 binding.buttonDot.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View view) {  
 binding.editText.setText(binding.editText.getText() + ".");  
 }  
 });  
  
 binding.buttonZero.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View view) {  
 binding.editText.setText(binding.editText.getText() + "0");  
 }  
 });  
  
 binding.buttonOne.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View view) {  
 binding.editText.setText(binding.editText.getText() + "1");  
 }  
 });  
  
 binding.buttonTwo.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View view) {  
 binding.editText.setText(binding.editText.getText() + "2");  
 }  
 });  
  
 binding.buttonThree.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View view) {  
 binding.editText.setText(binding.editText.getText() + "3");  
 }  
 });  
  
 binding.buttonFour.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View view) {  
 binding.editText.setText(binding.editText.getText() + "4");  
 }  
 });  
  
 binding.buttonFive.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View view) {  
 binding.editText.setText(binding.editText.getText() + "5");  
 }  
 });  
  
 binding.buttonSix.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View view) {  
 binding.editText.setText(binding.editText.getText() + "6");  
 }  
 });  
  
 binding.buttonSeven.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View view) {  
 binding.editText.setText(binding.editText.getText() + "7");  
 }  
 });  
  
 binding.buttonEight.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View view) {  
 binding.editText.setText(binding.editText.getText() + "8");  
 }  
 });  
  
 binding.buttonNine.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View view) {  
 binding.editText.setText(binding.editText.getText() + "9");  
 }  
 });  
  
 binding.buttonAdd.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View view) {  
 computeCalculation();  
 CURRENT\_ACTION = *ADDITION*;  
 binding.result.setText(decimalFormat.format(valueOne) + "+");  
 binding.editText.setText(*null*);  
 }  
 });  
  
  
  
 binding.buttonSub.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View view) {  
 computeCalculation();  
 CURRENT\_ACTION = *SUBTRACTION*;  
 binding.result.setText(decimalFormat.format(valueOne) + "-");  
 binding.editText.setText(*null*);  
 }  
 });  
  
 binding.buttonMul.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View view) {  
 computeCalculation();  
 CURRENT\_ACTION = *MULTIPLICATION*;  
 binding.result.setText(decimalFormat.format(valueOne) + "\*");  
 binding.editText.setText(*null*);  
 }  
 });  
  
 binding.buttonDiv.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View view) {  
 computeCalculation();  
 CURRENT\_ACTION = *DIVISION*;  
 binding.result.setText(decimalFormat.format(valueOne) + "/");  
 binding.editText.setText(*null*);  
 }  
 });  
  
 binding.buttonEqual.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View view) {  
 computeCalculation();  
 binding.result.setText(binding.result.getText().toString() +  
 decimalFormat.format(valueTwo) + " = " + decimalFormat.format(valueOne));  
 valueOne = Double.*NaN*;  
 CURRENT\_ACTION = '0';  
 }  
 });  
  
 binding.buttonClear.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View view) {  
 *if*(binding.editText.getText().length() > 0) {  
 *CharSequence* currentText = binding.editText.getText();  
 binding.editText.setText(currentText.subSequence(0, currentText.length()-1));  
 }  
 *else* {  
 valueOne = Double.*NaN*;  
 valueTwo = Double.*NaN*;  
 binding.editText.setText("");  
 binding.result.setText("");  
 }  
 }  
 });  
 }  
  
 *private void* computeCalculation() {  
 *if*(!Double.*isNaN*(valueOne)) {  
 valueTwo = Double.*parseDouble*(binding.editText.getText().toString());  
 binding.editText.setText(*null*);  
  
 *if*(CURRENT\_ACTION == *ADDITION*)  
 valueOne = *this*.valueOne + valueTwo;  
 *else if*(CURRENT\_ACTION == *SUBTRACTION*)  
 valueOne = *this*.valueOne - valueTwo;  
 *else if*(CURRENT\_ACTION == *MULTIPLICATION*)  
 valueOne = *this*.valueOne \* valueTwo;  
 *else if*(CURRENT\_ACTION == *DIVISION*)  
 valueOne = *this*.valueOne / valueTwo;  
 }  
 *else* {  
 *try* {  
 valueOne = Double.*parseDouble*(binding.editText.getText().toString());  
 }  
 *catch* (Exception e){}  
 }  
 }  
}