**1.5.2. Proyecto de programación: Calculadora básica**

* Desarrolle una Aplicación de calculadora básica considerando lo siguiente:

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| XML |
| <?xml version="1.0" encoding="utf-8"?>  <RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"  xmlns:tools="http://schemas.android.com/tools"  android:id="@+id/activity\_main"  android:layout\_width="match\_parent"  android:layout\_height="match\_parent"  android:paddingBottom="@dimen/activity\_vertical\_margin"  android:paddingLeft="@dimen/activity\_horizontal\_margin"  android:paddingRight="@dimen/activity\_horizontal\_margin"  android:paddingTop="@dimen/activity\_vertical\_margin"  tools:context="com.example.edgar.calculadora2.MainActivity">  <android.support.constraint.ConstraintLayout  android:layout\_width="match\_parent"  android:layout\_height="match\_parent">  </android.support.constraint.ConstraintLayout>  <TextView  android:text="0.00"  android:layout\_width="wrap\_content"  android:layout\_height="wrap\_content"  android:id="@+id/textView5"  android:inputType="textPersonName"  android:ems="10"  android:hint="@string/signo"  android:layout\_centerHorizontal="true"  android:textSize="18sp" />  <TextView  android:text="= "  android:layout\_width="wrap\_content"  android:layout\_height="wrap\_content"  android:layout\_alignBottom="@+id/editText2"  android:id="@+id/textView3"  android:textSize="36sp"  android:layout\_alignParentLeft="true"  android:layout\_alignParentStart="true" />  <EditText  android:layout\_width="wrap\_content"  android:layout\_height="wrap\_content"  android:inputType="textPersonName"  android:ems="10"  android:id="@+id/editText2"  android:hint="@string/signo"  android:layout\_marginTop="72dp"  android:layout\_alignParentTop="true"  android:layout\_alignLeft="@+id/textView3"  android:layout\_alignStart="@+id/textView5" />  <GridLayout  android:layout\_width="match\_parent"  android:layout\_height="match\_parent"  android:layout\_alignParentLeft="true"  android:layout\_alignParentStart="true"  android:layout\_marginLeft="11dp"  android:layout\_marginStart="11dp"  android:layout\_marginTop="200dp"  android:rowCount="4"  android:columnCount="5">  <Button  android:text="7"  android:layout\_width="60dp"  android:layout\_height="60dp"  android:id="@+id/button5"  android:layout\_row="0"  android:layout\_column="0"  />  <Button  android:text="8"  android:layout\_width="60dp"  android:layout\_height="60dp"  android:id="@+id/button4"  android:layout\_row="0"  android:layout\_column="1"/>  <Button  android:text="9"  android:layout\_width="60dp"  android:layout\_height="60dp"  android:id="@+id/button3"  android:layout\_row="0"  android:layout\_column="2"  />  <Button  android:text="/"  android:layout\_width="60dp"  android:layout\_height="60dp"  android:id="@+id/button2"  android:layout\_row="0"  android:layout\_column="3"  />  <Button  android:text="Neg"  android:layout\_width="60dp"  android:layout\_height="60dp"  android:id="@+id/button"  android:layout\_row="0"  android:layout\_column="4"  android:textSize="12sp" />  <Button  android:text="4"  android:layout\_width="60dp"  android:layout\_height="60dp"  android:id="@+id/button6"  android:layout\_row="1"  android:layout\_column="0" />  <Button  android:text="5"  android:layout\_width="60dp"  android:layout\_height="60dp"  android:id="@+id/button7"  android:layout\_row="1"  android:layout\_column="1" />  <Button  android:text="6"  android:layout\_width="60dp"  android:layout\_height="60dp"  android:id="@+id/button8"  android:layout\_row="1"  android:layout\_column="2" />  <Button  android:text="\*"  android:layout\_width="60dp"  android:layout\_height="60dp"  android:id="@+id/button9"  android:layout\_row="1"  android:layout\_column="3" />  <Button  android:text="1"  android:layout\_width="60dp"  android:layout\_height="60dp"  android:id="@+id/button10"  android:layout\_row="2"  android:layout\_column="0" />  <Button  android:text="2"  android:layout\_width="60dp"  android:layout\_height="60dp"  android:id="@+id/button11"  android:layout\_row="2"  android:layout\_column="1" />  <Button  android:text="3"  android:layout\_width="60dp"  android:layout\_height="60dp"  android:id="@+id/button12"  android:layout\_row="2"  android:layout\_column="2" />  <Button  android:text="-"  android:layout\_width="60dp"  android:layout\_height="60dp"  android:id="@+id/button13"  android:layout\_row="2"  android:layout\_column="3" />  <Button  android:text="0"  android:layout\_width="60dp"  android:layout\_height="60dp"  android:id="@+id/button14"  android:layout\_row="3"  android:layout\_column="0" />  <Button  android:text="."  android:layout\_width="60dp"  android:layout\_height="60dp"  android:id="@+id/button15"  android:layout\_row="3"  android:layout\_column="1" />  <Button  android:text="="  android:layout\_width="60dp"  android:layout\_height="60dp"  android:id="@+id/button16"  android:layout\_row="3"  android:layout\_column="2" />  <Button  android:text="+"  android:layout\_width="60dp"  android:layout\_height="60dp"  android:id="@+id/button17"  android:layout\_row="3"  android:layout\_column="3"  android:elevation="0dp" />  <Button  android:text="C"  android:layout\_width="60dp"  android:layout\_height="60dp"  android:id="@+id/button18"  android:layout\_row="1"  android:layout\_column="4"  android:textSize="12sp" />  </GridLayout>  </RelativeLayout> |
| JAVA |
| public class MainActivity extends AppCompatActivity implements View.OnClickListener {  Button btn0,btn1,btn2,btn3,btn4,btn5,btn6,btn7,btn8,btn9,neg,diag,por,igual,c,mas,menos,punto;  EditText caja;  TextView eti;  Toast Toast;  float ope=0;  float ope2=0;  float aux=0;  boolean t=true;  String l="";  @Override  protected void onCreate(Bundle savedInstanceState) {  super.onCreate(savedInstanceState);  setContentView(R.layout.activity\_main);  btn0=(Button) findViewById(R.id.button14);  btn1=(Button) findViewById(R.id.button10);  btn2=(Button) findViewById(R.id.button11);  btn3=(Button) findViewById(R.id.button12);  btn4=(Button) findViewById(R.id.button6);  btn5=(Button) findViewById(R.id.button7);  btn6=(Button) findViewById(R.id.button8);  btn7=(Button) findViewById(R.id.button5);  btn8=(Button) findViewById(R.id.button4);  btn9=(Button) findViewById(R.id.button3);  neg=(Button) findViewById(R.id.button);  diag=(Button) findViewById(R.id.button2);  por=(Button) findViewById(R.id.button9);  menos=(Button) findViewById(R.id.button13);  punto=(Button) findViewById(R.id.button15);  mas=(Button) findViewById(R.id.button17);  c=(Button) findViewById(R.id.button18);  igual=(Button) findViewById(R.id.button16);  caja=(EditText) findViewById(R.id.editText2);  eti=(TextView) findViewById(R.id.textView5);  btn0.setOnClickListener(this);  btn1.setOnClickListener(this);  btn2.setOnClickListener(this);  btn3.setOnClickListener(this);  btn4.setOnClickListener(this);  btn5.setOnClickListener(this);  btn6.setOnClickListener(this);  btn7.setOnClickListener(this);  btn8.setOnClickListener(this);  btn9.setOnClickListener(this);  neg.setOnClickListener(this);  diag.setOnClickListener(this);  por.setOnClickListener(this);  menos.setOnClickListener(this);  punto.setOnClickListener(this);  igual.setOnClickListener(this);  c.setOnClickListener(this);  mas.setOnClickListener(this);  }  @Override  public void onClick(View view) {  //Toast.makeText(MainActivity.this,"en", Toast.LENGTH\_SHORT).show();  switch (view.getId()){  case R.id.button14:  caja.setText(caja.getText()+"0");  // Toast.makeText(MainActivity.this,"entro", Toast.LENGTH\_SHORT).show();  // eti.setText(caja.getText());  break;  case R.id.button10:  caja.setText(caja.getText()+"1");  break;  case R.id.button11:  caja.setText(caja.getText()+"2");  break;  case R.id.button12:  caja.setText(caja.getText()+"3");  break;  case R.id.button6:  caja.setText(caja.getText()+"4");  break;  case R.id.button7:  caja.setText(caja.getText()+"5");  break;  case R.id.button8:  caja.setText(caja.getText()+"6");  break;  case R.id.button5:  caja.setText(caja.getText()+"7");  break;  case R.id.button4:  caja.setText(caja.getText()+"8");  break;  case R.id.button3:  caja.setText(caja.getText()+"9");  break;  case R.id.button18:  caja.setText("");  t=true;  eti.setText("0.00");  break;  case R.id.button17:  aux=eti.getText().length();  l= eti.getText().toString();  l=l.substring(0,(int) aux-1);  ope=Float.parseFloat(l.toString());  ope2=Float.parseFloat( caja.getText().toString());  ope=ope+ope2;  eti.setText(ope+"+");  caja.setText("");  break;  case R.id.button9:  if(t==false)  {aux=eti.getText().length();  l= eti.getText().toString();  l=l.substring(0,(int) aux-1);  ope=Float.parseFloat(l.toString());  ope2=Float.parseFloat( caja.getText().toString());  ope=ope\*ope2;  eti.setText(ope+"\*");  caja.setText("");}  else{  eti.setText(caja.getText()+"\*");  caja.setText("");  t=false;  }  break;  case R.id.button2:  if(t==false)  {aux=eti.getText().length();  l= eti.getText().toString();  l=l.substring(0,(int) aux-1);  ope=Float.parseFloat(l.toString());  ope2=Float.parseFloat( caja.getText().toString());  ope=ope/ope2;  eti.setText(ope+"/");  caja.setText("");}  else{  eti.setText(caja.getText()+"/");  caja.setText("");  t=false;  }  break;  case R.id.button13:  if(t==false)  {aux=eti.getText().length();  l= eti.getText().toString();  l=l.substring(0,(int) aux-1);  ope=Float.parseFloat(l.toString());  ope2=Float.parseFloat( caja.getText().toString());  ope=ope-ope2;  eti.setText(ope+"-");  caja.setText("");}  else{  eti.setText(caja.getText()+"-");  caja.setText("");  t=false;  }  break;  case R.id.button15:  if(t=true){  caja.setText(caja.getText()+".");  t=false;  }  break;  case R.id.button16:  aux=eti.getText().length();  l= eti.getText().toString();  l=l.substring(0,(int) aux-1);  caja.setText(l+"");  break;  case R.id.button:  if(t=true){  caja.setText("-"+caja.getText());  t=false;  }  break;  }  }  } |