INF - 325
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Laboratorio 3
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1. Realizar una aplicación similar al de las MONEDAS, pero esta vez con MEDIDAS (mínimo 8).

MainActivity.java

```
package com.example.lengthconverter2;

import android.app.Activity;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.PopupMenu;

public class MainActivity extends Activity implements
PopupMenu.OnMenuItemClickListener {

	protected void onCreate(Bundle savedInstanceState) {
		super.onCreate(savedInstanceState);
		setContentView(R.layout.activity_main);
	}

	public boolean onCreateOptionsMenu(Menu menu) {
		getMenuInflater().inflate(R.menu.main, menu);
		return true;
	}

	public boolean onOptionsItemSelected(MenuItem item) {
		int id = item.getItemId();
		if (id == R.id.action_settings) {
			return true;
		}
		return super.onOptionsItemSelected(item);
	}

	public void changeValue(View v) {
		PopupMenu p = new PopupMenu(this, v);
		p.setOnMenuItemClickListener(this);
		p.inflate(R.menu.popup_one);
		p.show();
	}
```

```
public boolean onMenuItemClick(MenuItem item) {
	Button b1 = (Button) this.findViewById(R.id.button1);

	switch (item.getItemId()) {
	case R.id.item1:
		b1.setText("kilometro(km)");
		return true;
	case R.id.item2:
		b1.setText("metro(m)");
		return true;
	case R.id.item3:
		b1.setText("decimetro(dm)");
		return true;
	case R.id.item4:
		b1.setText("centimetro(cm)");
		return true;
	case R.id.item5:
		b1.setText("milimetro(mm)");
		return true;
	case R.id.item6:
		b1.setText("micrometro(um)");
		return true;
	case R.id.item7:
		b1.setText("nanometro(nm)");
		return true;
	case R.id.item8:
		b1.setText("angstrom(A)");
		break;
	}
	return false;
}

public void init(View v) {
	EditText t0 = (EditText) this.findViewById(R.id.editInput1);
	EditText t1 = (EditText) this.findViewById(R.id.editText1);
	EditText t2 = (EditText) this.findViewById(R.id.editText2);
	EditText t3 = (EditText) this.findViewById(R.id.editText3);
	EditText t4 = (EditText) this.findViewById(R.id.editText4);
	EditText t5 = (EditText) this.findViewById(R.id.editText5);
	EditText t6 = (EditText) this.findViewById(R.id.editText6);
	EditText t7 = (EditText) this.findViewById(R.id.editText7);
	EditText t8 = (EditText) this.findViewById(R.id.editText8);
	Button b1 = (Button) this.findViewById(R.id.button1);

	t0.setText("");
	t1.setText("");
	t2.setText("");
	t3.setText("");
	t4.setText("");
	t5.setText("");
```

```
            t6.setText("");
            t7.setText("");
            t1.setText("");
            t8.setText("");
            b1.setText("metro(m)");

      }

      public void convert(View v) {
            EditText t0 = (EditText) this.findViewById(R.id.editInput1);
            EditText t1 = (EditText) this.findViewById(R.id.editText1);
            EditText t2 = (EditText) this.findViewById(R.id.editText2);
            EditText t3 = (EditText) this.findViewById(R.id.editText3);
            EditText t4 = (EditText) this.findViewById(R.id.editText4);
            EditText t5 = (EditText) this.findViewById(R.id.editText5);
            EditText t6 = (EditText) this.findViewById(R.id.editText6);
            EditText t7 = (EditText) this.findViewById(R.id.editText7);
            EditText t8 = (EditText) this.findViewById(R.id.editText8);
            Button b1 = (Button) this.findViewById(R.id.button1);

            String labels[] = { "kilometro(km)", "metro(m)", "decimetro(dm)",
"centimetro(cm)", "milimetro(mm)",
                        "micrometro(um)", "nanometro(nm)", "angstrom(A)" };
            long arr[] = { 0, 3, 4, 5, 6, 9, 12, 13 };

            int x = 0;
            double value = Double.parseDouble(t0.getText().toString());
            for (int i = 0; i < labels.length; i++) {
                  if (labels[i].equals(b1.getText().toString())) {
                        x = i;
                        break;
                  }
            }
            double bd[] = new double[8];
            bd[x] = value;
            for (int i = x + 1; i < bd.length; i++) {
                  bd[i] = bd[x] * Math.pow(10, arr[i] - arr[x]);
            }
            for (int i = x - 1; i >= 0; i--) {
                  bd[i] = bd[x] * Math.pow(10, arr[i] - arr[x]);
            }

            t1.setText(String.format("%.2f", bd[0]));
            t2.setText(String.format("%.2f", bd[1]));
            t3.setText(String.format("%.2f", bd[2]));
            t4.setText(String.format("%.2f", bd[3]));
            t5.setText(String.format("%.2f", bd[4]));
            t6.setText(String.format("%.2f", bd[5]));
            t7.setText(String.format("%.2f", bd[6]));
            t8.setText(String.format("%.2f", bd[7]));
```

```
    }
}
```

activity_main.xml

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:tools="http://schemas.android.com/tools"
   android:id="@+id/LinearLayout1"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:orientation="vertical"
   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.lengthconverter2.MainActivity" >

   <LinearLayout
      android:layout_width="match_parent"
      android:layout_height="wrap_content" >

      <Button
         android:id="@+id/button1"
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:text="metro(m)"
         android:onClick="changeValue"
         android:textSize="12sp" />

      <EditText
         android:id="@+id/editInput1"
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:layout_weight="1"
         android:digits="0123456789."
         android:ems="10"
         android:inputType="numberDecimal"
         android:textSize="12sp" >

         <requestFocus />
      </EditText>

   </LinearLayout>

   <LinearLayout
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:gravity="center_horizontal" >
```

```
    <Button
        android:id="@+id/button2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:onClick="convert"
        android:text="Convertir" />

    <Button
        android:id="@+id/Inicializar"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:onClick="init"
        android:text="Inicializar" />

</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content" >

    <TextView
        android:id="@+id/textView1"
        android:layout_width="110dp"
        android:layout_height="wrap_content"
        android:text="kilometro(km)"
        android:textSize="12sp" />

    <EditText
        android:id="@+id/editText1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:ems="10"
        android:textSize="12sp" />

</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content" >

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="2.60"
        android:text="metro(m)"
        android:textSize="12sp" />

    <EditText
```

```
        android:id="@+id/editText2"
        android:layout_width="95dp"
        android:layout_height="wrap_content"
        android:layout_weight="4.02"
        android:ems="10"
        android:textSize="12sp" />

    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content" >

        <TextView
            android:id="@+id/textView3"
            android:layout_width="110dp"
            android:layout_height="wrap_content"
            android:text="decimetro(dm)"
            android:textSize="12sp" />

        <EditText
            android:id="@+id/editText3"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:ems="10"
            android:textSize="12sp" />

    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content" >

        <TextView
            android:id="@+id/textView4"
            android:layout_width="110dp"
            android:layout_height="wrap_content"
            android:text="centimetro(cm)"
            android:textSize="12sp" />

        <EditText
            android:id="@+id/editText4"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:ems="10"
            android:textSize="12sp" />

    </LinearLayout>
```

```
<LinearLayout
   android:layout_width="match_parent"
   android:layout_height="wrap_content" >

   <TextView
      android:id="@+id/textView5"
      android:layout_width="110dp"
      android:layout_height="wrap_content"
      android:text="milimetro(mm)"
      android:textSize="12sp" />

   <EditText
      android:id="@+id/editText5"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_weight="1"
      android:ems="10"
      android:textSize="12sp" />

</LinearLayout>

<LinearLayout
   android:layout_width="match_parent"
   android:layout_height="wrap_content" >

   <TextView
      android:id="@+id/textView6"
      android:layout_width="110dp"
      android:layout_height="wrap_content"
      android:text="micrometro(um)"
      android:textSize="12sp" />

   <EditText
      android:id="@+id/editText6"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:ems="10"
      android:textSize="12sp" />

</LinearLayout>

<LinearLayout
   android:layout_width="match_parent"
   android:layout_height="wrap_content" >

   <TextView
      android:id="@+id/textView7"
      android:layout_width="110dp"
      android:layout_height="wrap_content"
```

```
        android:text="nanometro(nm)" />

    <EditText
        android:id="@+id/editText7"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:ems="10"
        android:textSize="12sp" />

  </LinearLayout>

  <LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content" >

    <TextView
        android:id="@+id/textView8"
        android:layout_width="110dp"
        android:layout_height="wrap_content"
        android:text="angstrom(A)" />

    <EditText
        android:id="@+id/editText8"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:ems="10"
        android:textSize="12sp" />

  </LinearLayout>

</LinearLayout>
```

Se creo un archivo XML en la siguiente ruta del proyecto LengthConverter2/res/menu este archivo contiene nuestro popup. Un pequeño menú que ayudara a la selección medida a convertir.

popup_one.xml

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android" >

  <item
    android:id="@+id/item1"
    android:title="kilometro(km)"/>
  <item
```

```
        android:id="@+id/item2"
        android:title="metro(m)"/>
    <item
        android:id="@+id/item3"
        android:title="decimetro(dm)"/>
    <item
        android:id="@+id/item4"
        android:title="centimetro(cm)"/>
    <item
        android:id="@+id/item5"
        android:title="milimetro(mm)"/>
    <item
        android:id="@+id/item6"
        android:title="micrometro(um)"/>
    <item
        android:id="@+id/item7"
        android:title="nanometro(nm)"/>
    <item
        android:id="@+id/item8"
        android:title="angstrom(A)"/>

</menu>
```

Capturas de Pantalla