

## Tarea UT2.2.- Conceptos básicos para la programación de aplicaciones Android.

### Sumar números con botón.

#### MainActivity.java

```
package com.example.calculadora;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {

    EditText operador1;
    EditText operador2;
    TextView resultado;

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

        operador1 = (EditText) findViewById(R.id.editTextNumber);
        operador2 = (EditText) findViewById(R.id.editTextNumber2);
        resultado = (TextView) findViewById(R.id.textView);
    }

    public void sumarNumeros(View view) {
        try {
            int num1 =
Integer.parseInt(operador1.getText().toString());
            int num2 =
Integer.parseInt(operador2.getText().toString());
            int suma = num1 + num2;
            resultado.setText(String.valueOf(suma));
        } catch (NumberFormatException e) {
```

```

        resultado.setText("Error introduzca un numero correcto");
    }
}
}

```

## activity\_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/sumar"
        android:textSize="20dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.126" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="60dp"
        android:layout_marginEnd="81dp"
        android:text="@string/sumarMayuscula"
        android:onClick="sumarNumeros"
        app:layout_constraintBaseline_toBaselineOf="@+id/textView"
        app:layout_constraintEnd_toStartOf="@+id/textView"
        app:layout_constraintStart_toStartOf="parent" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="144dp"
        android:layout_marginEnd="75dp"
        android:text="@string/resultado"
        android:textColor="@color/Red"
        android:textSize="30sp"

        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toEndOf="@+id/button"
        app:layout_constraintTop_toBottomOf="@+id/editTextNumber2" />

```

```

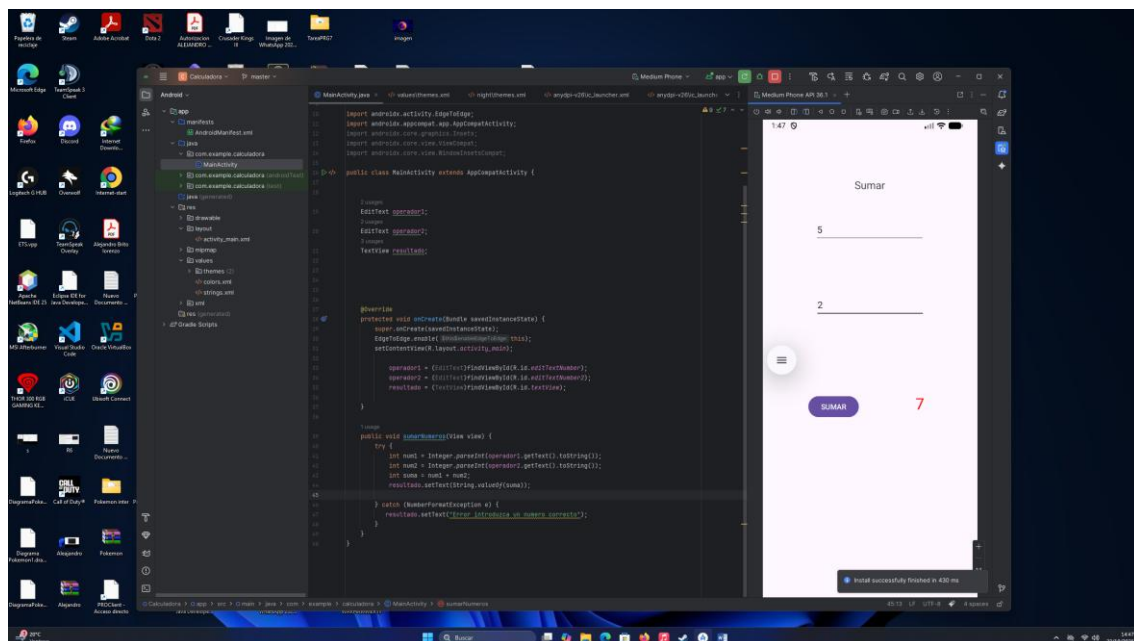
<EditText
    android:id="@+id/editTextNumber"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="48dp"
    android:ems="10"
    android:inputType="number"
    android:minHeight="48dp"
    android:hint="@string/operando_1"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView4" />

<EditText
    android:id="@+id/editTextNumber2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="96dp"
    android:ems="10"
    android:inputType="number"
    android:minHeight="48dp"
    android:hint="@string/operando_2"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/editTextNumber" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

Captura



**Sumar números con botón programático.**

```

package com.example.calculadora12;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {

    Button boton;
    EditText operador1;
    EditText operador2;
    TextView resultado;

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

        boton = (Button) findViewById(R.id.button);
        operador1 = (EditText) findViewById(R.id.editTextNumber);
        operador2 = (EditText) findViewById(R.id.editTextNumber2);
        resultado = (TextView) findViewById(R.id.textView);

        boton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                try {
                    int num1 =
Integer.parseInt(operador1.getText().toString());
                    int num2 =
Integer.parseInt(operador2.getText().toString());
                    int suma = num1 + num2;
                    resultado.setText(String.valueOf(suma));

                } catch (NumberFormatException e) {
                    resultado.setText("Error introduzca un numero correcto");
                }
            }
        });
    }
}

```

## activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/sumar"
        android:textSize="20dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.126" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="60dp"
        android:layout_marginEnd="81dp"
        android:text="@string/sumarMayuscula"
        app:layout_constraintBaseline_toBaselineOf="@+id/textView"
        app:layout_constraintEnd_toStartOf="@+id/textView"
        app:layout_constraintStart_toStartOf="parent" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="144dp"
        android:layout_marginEnd="75dp"
        android:text="@string/resultado"
        android:textColor="@color/Red"
        android:textSize="30sp"

        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toEndOf="@+id/button"
        app:layout_constraintTop_toBottomOf="@+id/editTextNumber2" />

    <EditText
```

```

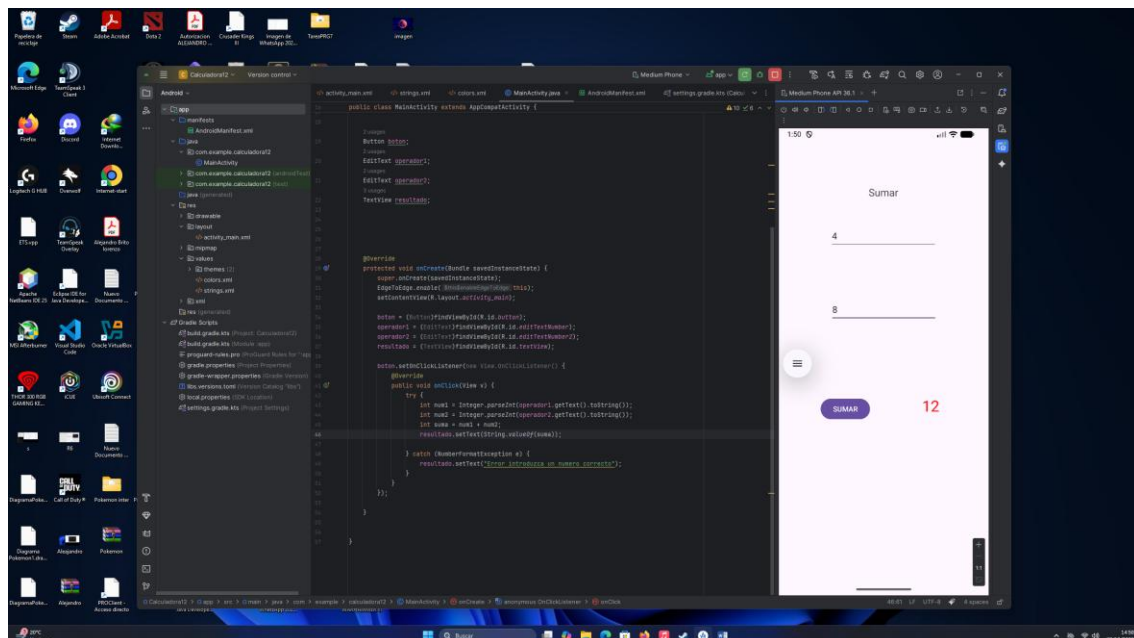
        android:id="@+id/editTextNumber"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="48dp"
        android:ems="10"
        android:inputType="number"
        android:minHeight="48dp"
        android:hint="@string/operando_1"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.497"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView4" />

<EditText
    android:id="@+id/editTextNumber2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="96dp"
    android:ems="10"
    android:inputType="number"
    android:minHeight="48dp"
    android:hint="@string/operando_2"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/editTextNumber" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

## Captura



## Calculadora sencilla con definición única de clase manejadora de eventos.

```
package com.example.calculadorasencilla;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity implements
View.OnClickListener {

    Button botonsuma;
    Button botonresta;
    Button botondivision;
    Button botonmultiplicaion;
    EditText operador1;
    EditText operador2;
    TextView resultado;

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

        botonsuma = (Button) findViewById(R.id.buttonsuma);
        botonresta = (Button) findViewById(R.id.buttonresta);
        botondivision = (Button) findViewById(R.id.bottondivision);
        botonmultiplicaion =
(Button) findViewById(R.id.buttonmultiplicacion);
        operador1 = (EditText) findViewById(R.id.editTextNumber);
        operador2 = (EditText) findViewById(R.id.editTextNumber2);
        resultado = (TextView) findViewById(R.id.textView);

        botonsuma.setOnClickListener(this);
        botonresta.setOnClickListener(this);
        botondivision.setOnClickListener(this);
        botonmultiplicaion.setOnClickListener(this);
    }
}
```

```

    }

    @Override
    public void onClick(View v) {
        try {

            int num1 =
Integer.parseInt(operador1.getText().toString());
            int num2 =
Integer.parseInt(operador2.getText().toString());
            int res = 0;

            if (v.getId() == R.id.buttonsuma) {

                res = num1 + num2;

            } else if (v.getId() == R.id.buttonresta) {
                res = num1 - num2;

            } else if (v.getId() == R.id.buttondivision) {
                if (num2 == 0) {
                    resultado.setText("Error: división por cero");
                    return;
                }
                res = num1 / num2;

            } else if (v.getId() == R.id.buttonmultiplicacion){
                res = num1 * num2;
            }

            resultado.setText(String.valueOf(res));

        } catch (NumberFormatException e) {
            resultado.setText("Error introduzca numeros correctos");
        }

    }

}

```

colors.xml.



```
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="black">#FF000000</color>
    <color name="white">#FFFFFFFF</color>
    <color name="Red">#FF0000</color>
</resources>
```

## activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/sumar"
        android:textSize="20dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.126" />

    <Button
        android:id="@+id/buttonsuma"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="104dp"
        android:text="@string/sumarMayuscula"
        app:layout_constraintBottom_toTopOf="@+id/textView"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.216"
        app:layout_constraintStart_toStartOf="parent" />

    <Button
        android:id="@+id/buttonresta"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="104dp"
        android:text="@string/restar"
        app:layout_constraintBottom_toTopOf="@+id/textView"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.752"
        app:layout_constraintStart_toStartOf="parent" />

    <Button
        android:id="@+id/buttondivision"
        android:layout_width="104dp"
        android:layout_height="49dp"
        android:layout_marginBottom="28dp"
```

```

        android:text="@string/dividir"
        app:layout_constraintBottom_toTopOf="@+id/textView"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.749"
        app:layout_constraintStart_toStartOf="parent" />

<Button
    android:id="@+id/buttonmultiplicacion"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginBottom="28dp"
    android:text="@string/multiplicar"
    app:layout_constraintBottom_toTopOf="@+id/textView"

    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.248"
    app:layout_constraintStart_toStartOf="parent" />

<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="220dp"
    android:layout_marginEnd="136dp"
    android:text="@string/resultado"
    android:textColor="@color/Red"
    android:textSize="30sp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/editTextNumber2" />

<EditText
    android:id="@+id/editTextNumber"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="48dp"
    android:ems="10"
    android:inputType="number"
    android:minHeight="48dp"
    android:hint="@string/operando_1"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView4" />

<EditText
    android:id="@+id/editTextNumber2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="96dp"
    android:ems="10"
    android:inputType="number"
    android:minHeight="48dp"
    android:hint="@string/operando_2"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/editTextNumber" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

