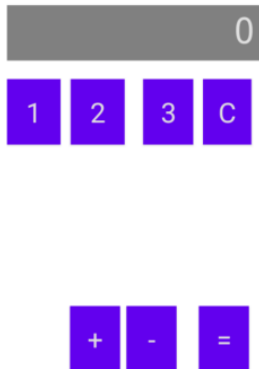


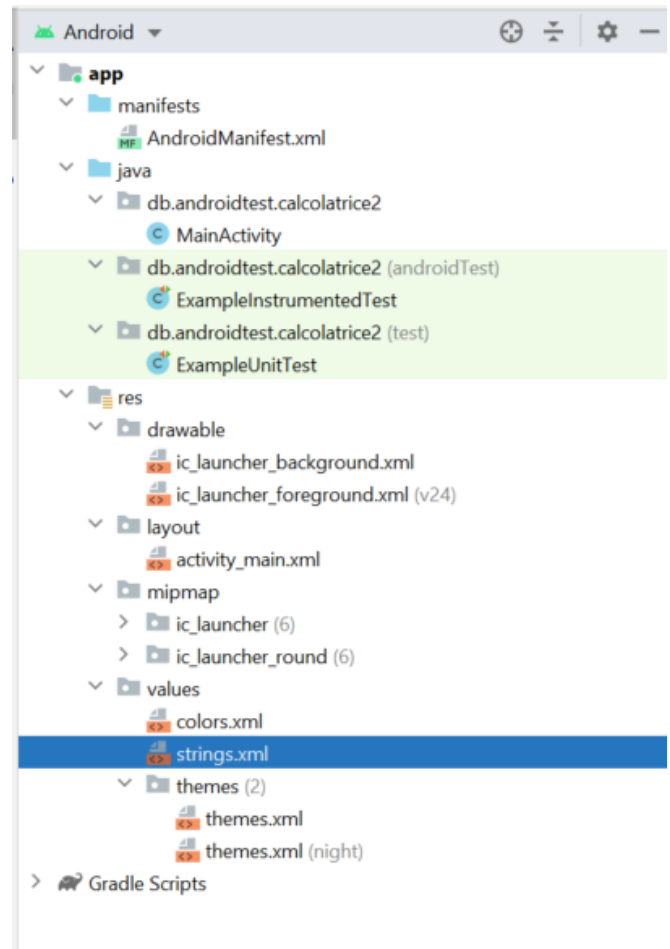
Esempio Pilota: Calcolatrice



Definizione dei nomi degli oggetti

`TextView` tvDisplay
`Button` btn1
`Button` btn2
`Button` btn3
`Button` btnC
`Button` btnPiu
`Button` btnMeno
`Button` btnUguale

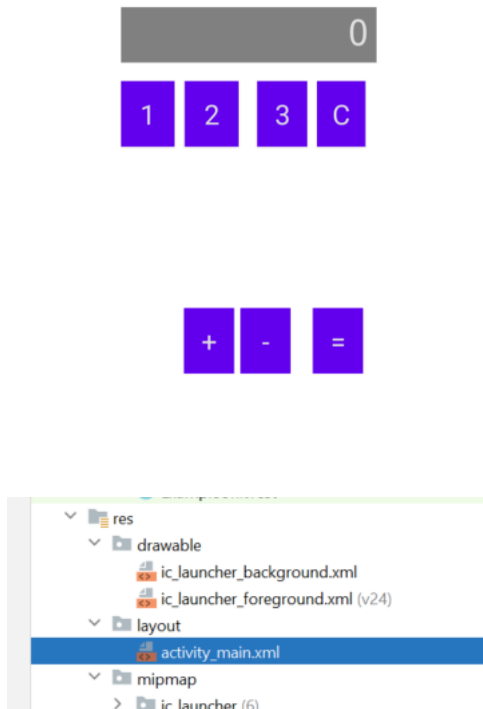
Progetto



Risorse string.xml - codice XML

```
<resources>
  <string name="app_name">Calcolatrice2</string>
  <string name="_1">1</string>
  <string name="_2">2</string>
  <string name="_3">3</string>
  <string name="_C">C</string>
  <string name="_piu">+</string>
  <string name="_meno">-</string>
  <string name="_0">0</string>
  <string name="_uguale">=</string>
</resources>
```

Activity activity_main.xml - interfaccia grafica



main.xml - codice 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:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <androidx.constraintlayout.widget.ConstraintLayout
        android:id="@+id/constraintLayout"
        android:layout_width="320dp"
        android:layout_height="wrap_content"
        android:layout_marginTop="144dp"
        android:padding="20dp"
        app:layout_constraintTop_toTopOf="parent"
        tools:layout_editor_absoluteX="42dp"
        tools:ignore="MissingConstraints"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent">

        <Button
            android:id="@+id/btn1"
            style="@style/StilePulsanti"
            android:layout_width="59dp"
            android:onClick="Numero_Click"
            android:text="@string/_1"
            tools:layout_editor_absoluteX="-1dp"
            tools:layout_editor_absoluteY="81dp" />
```

<Button

```
    android:id="@+id/btnC"
    style="@style/StilePulsanti"
    android:layout_width="53dp"
    android:layout_height="wrap_content"
    android:layout_marginStart="12dp"
    android:layout_marginEnd="217dp"
    android:onClick="plsC_Click"
    android:text="@string/_C"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="1.0"
    app:layout_constraintStart_toStartOf="parent"
    tools:layout_editor_absoluteY="81dp"/>
```

<Button

```
    android:id="@+id/btn2"
    style="@style/StilePulsanti"
    android:layout_width="59dp"
    android:onClick="Numero_Click"
    android:text="@string/_2"
    tools:layout_editor_absoluteX="70dp"
    tools:layout_editor_absoluteY="81dp"/>
```

<Button

```
    android:id="@+id/btn3"
    style="@style/StilePulsanti"
    android:onClick="Numero_Click"
    android:text="@string/_3"
    tools:layout_editor_absoluteX="149dp"
    tools:layout_editor_absoluteY="81dp"/>
```

<TextView

```
    android:id="@+id/tvDisplay"
    style="@style/Display"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="@string/_0"
    tools:layout_editor_absoluteX="20dp"
    tools:layout_editor_absoluteY="-9dp" />
```

<Button

```
    android:id="@+id/btnUguale"
    style="@style/StilePulsanti"
    android:onClick="plsUguale_Click"
    android:text="@string/_uguale"
    tools:layout_editor_absoluteX="210dp"
    tools:layout_editor_absoluteY="329dp" />
```

<Button

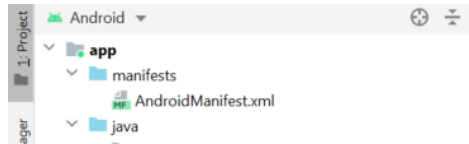
```
    android:id="@+id/btnMeno"
    style="@style/StilePulsanti"
    android:onClick="plsMeno_Click"
    android:text="@string/_meno"
    tools:layout_editor_absoluteX="131dp"
    tools:layout_editor_absoluteY="329dp"/>
```

<Button

```
    android:id="@+id/btnPiu"
    style="@style/StilePulsanti"
    android:onClick="plsPiu_Click"
    android:text="@string/_piu"
    tools:layout_editor_absoluteX="69dp"
    tools:layout_editor_absoluteY="329dp"/>
```

```
</androidx.constraintlayout.widget.ConstraintLayout>
</androidx.constraintlayout.widget.ConstraintLayout>
```

Codice XML di AndroidManifest.xml

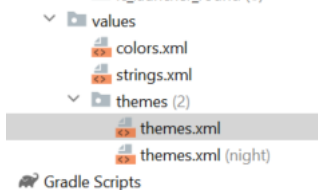


```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    package="db.androidtest.calcolatrice2">

    <application
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:theme="@style/AppTheme"
        android:fullBackupContent="@xml/backup_descriptor"
        android:allowBackup="true"
        tools:ignore="AllowBackup">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```

Risorse e codice XML di styles.xml

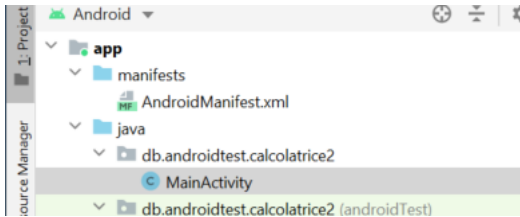


```
<style name="AppTheme"
    parent="Theme.AppCompat.Light.DarkActionBar">
</style>

<style name="Display">
    <item name="android:background">#808080</item>
    <item name="android:fontFamily">monospace</item>
    <item name="android:gravity">right</item>
    <item name="android:padding">8dp</item>
    <item name="android:textColor">#E0E0E0</item>
    <item name="android:textSize">40sp</item>
</style>

<style name="StilePulsanti">
    <item name="android:layout_width">55dp</item>
    <item name="android:layout_height">wrap_content</item>
    <item name="android:textColor">#E0E0E0</item>
    <item name="android:textSize">30sp</item>
    <item name="android:fontFamily">tahoma</item>
    <item name="android:gravity">center</item>
    <item name="android:background">#404040</item>
    <item name="android:layout_margin">12dp</item>
    <item name="android:padding">10dp</item>
</style>
```

MainActivity.java - Codice JAVA



```
package db.androidtest.calcolatrice2;
```

```
//importa le classi necessarie anche suggerite da Android
```

```
import android.os.Bundle;
import android.view.View;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;
```

```
import static db.androidtest.calcolatrice2.R.*;
```

```
//Metodo principale Main
```

```
public class MainActivity extends AppCompatActivity {
```

```
//dichiarazione delle variabili di lavoro
```

```
int ValorePrecedente;
String OperatoreAttivo;
boolean NuovoNumero = true;
```

```
//dichiarazione delle variabili collegate agli oggetti del layout
```

```
final TextView tvDisplay = findViewById(id.tvDisplay);
```

```
//Metodo per determinare quale numero della tastiera è stato premuto
```

```
public void Numero_Click (View V )
```

```
{
    String Tasto;
    switch ( V.getId() )
    {
        case id.btn1: Tasto = "1"; break;
        case id.btn2: Tasto = "2"; break;
        case id.btn3: Tasto = "3"; break;
        default:
            throw new IllegalStateException("Unexpected value: " +
V.getId());
    }
    String DisplayAttuale = tvDisplay.getText().toString();

    if ( NuovoNumero ) tvDisplay.setText(Tasto);
    else {
        tvDisplay.setText(DisplayAttuale + Tasto);
    }
    NuovoNumero = false;
}
```

```
//Metodo per evento Clear
```

```
public void plsC_Click ( View V )
{
    ValorePrecedente = 0;
    OperatoreAttivo = "";
    NuovoNumero = true;
    tvDisplay.setText("0");
}
```

```
//Metodi per eventi di calcolo
```

```
public void plsPiu_Click ( View V )
```

```
{
    Calcola();
    ValorePrecedente =
        Integer.parseInt(tvDisplay.getText().toString());
    OperatoreAttivo = "+";
}
```

```
public void plsMeno_Click ( View V )
```

```
{
    Calcola();
    ValorePrecedente =
        Integer.parseInt(tvDisplay.getText().toString());
    OperatoreAttivo = "-";
}
```

```
public void plsUguale_Click ( View V )
```

```
{
    Calcola();
    ValorePrecedente = 0;
    OperatoreAttivo = "";
}
```

```
private void Calcola()
```

```
{
    if (!OperatoreAttivo.equals(""))
    {
        int ValoreAttuale =
            Integer.parseInt(tvDisplay.getText().toString());
        int Risultato = 0;
        switch (OperatoreAttivo) {
            case "+":
                Risultato = ValorePrecedente + ValoreAttuale;
                break;
            case "-":
                Risultato = ValorePrecedente - ValoreAttuale;
                break;
        }
        tvDisplay.setText(String.valueOf(Risultato));
    }
    NuovoNumero = true;
}
```

```
//FINE public class MainActivity
```