

Temperature Convertor

Aim

Create an app that converts temperatures between Celsius and Fahrenheit. Users can enter a temperature in an **EditText**, press a **Button** to perform the conversion, and see the result in a **TextView**.

Procedure:

- Open **Android Studio** and create a new **Empty Activity** project.
- Design the UI with **EditText**, **Button**, and **TextView** in **activity_main.xml**.
- Take temperature input using **EditText**.
- Add a button to convert temperature.
- Write conversion logic in **MainActivity.java**.
- Display the converted value in **TextView**.
- Run the app and verify the output.

AndroidManifest.xml

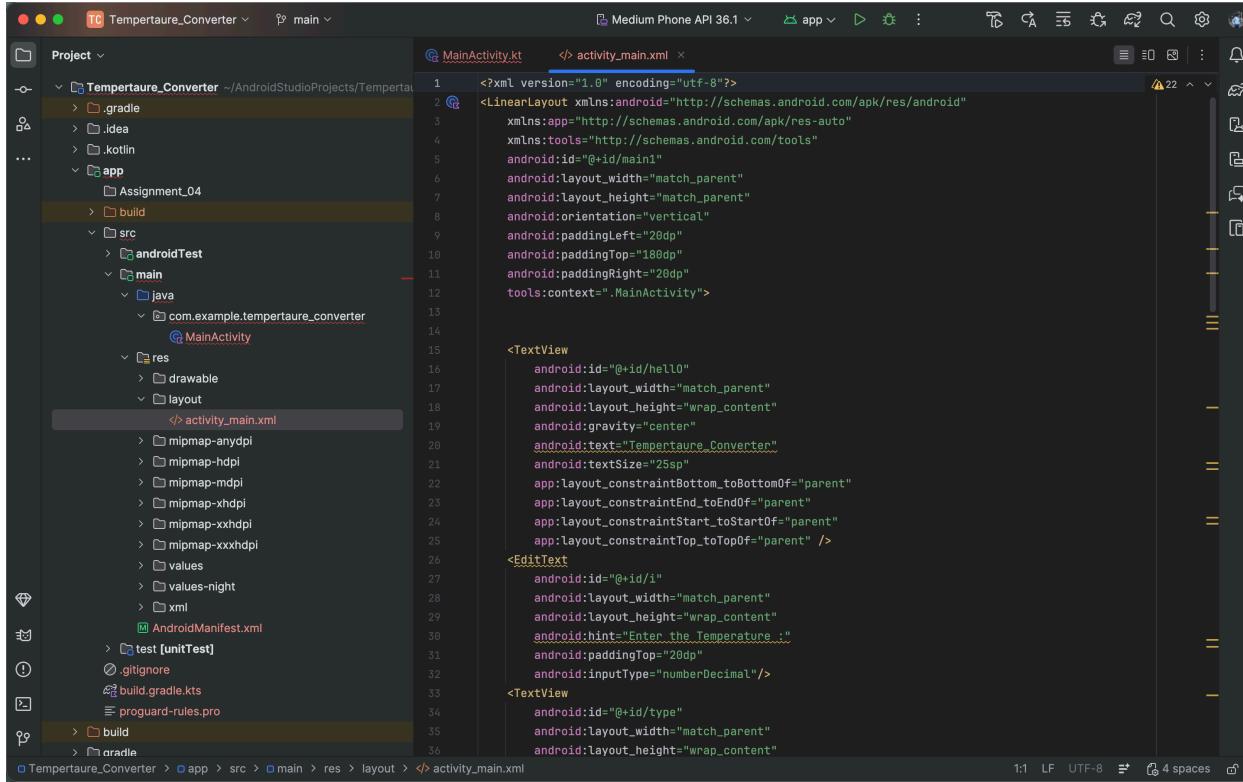
The screenshot shows the Android Studio interface with the project 'Temperatuare_Converter' open. The left sidebar displays the project structure, including the app module with its src, build, and gradle directories. The main editor window shows the 'AndroidManifest.xml' file, which defines the application's manifest. The code is as follows:

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

    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="Temperatuare_Converter"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Temperatuare_Converter">

        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```

Activity_main.xml

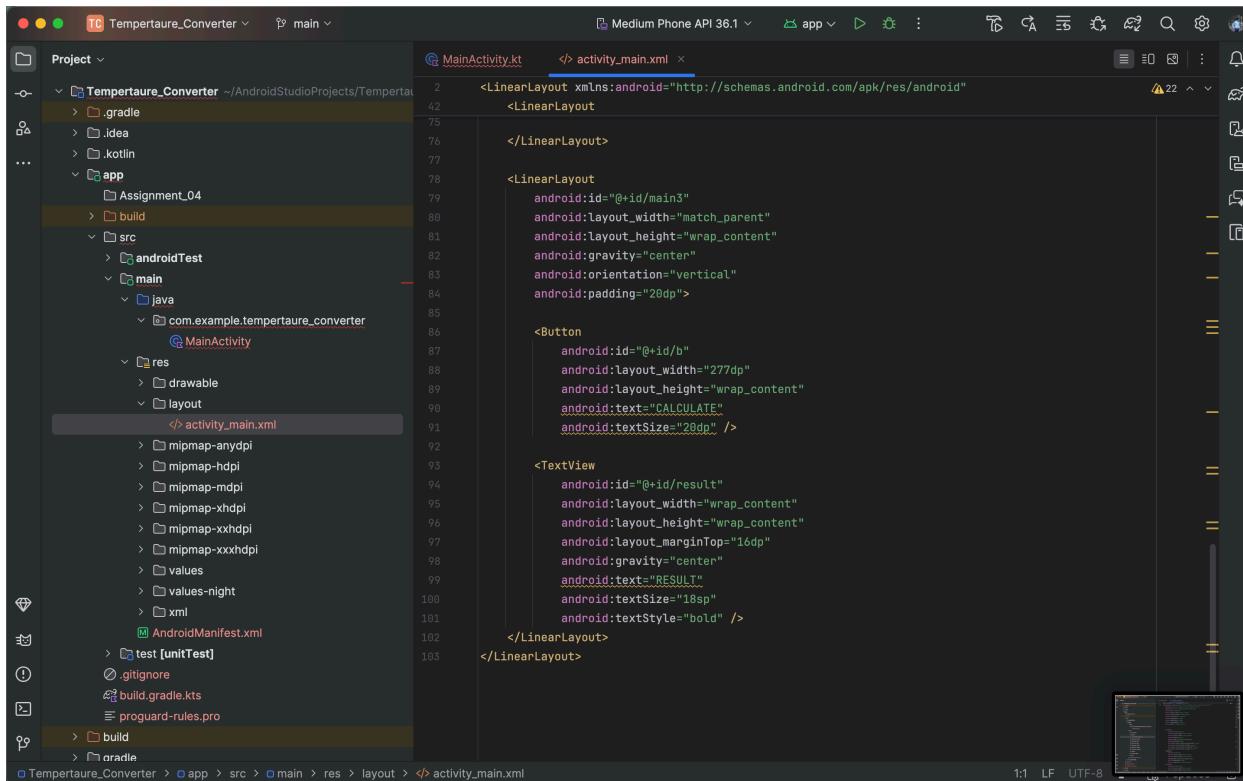


The screenshot shows the Android Studio interface with the project structure on the left and the XML code editor on the right. The XML code defines a linear layout with a text view and an edit text field.

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:id="@+id/main1"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:paddingLeft="20dp"
    android:paddingTop="180dp"
    android:paddingRight="20dp"
    tools:context=".MainActivity"

<TextView
    android:id="@+id/hello0"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:gravity="center"
    android:text="Temperatuare Converter"
    android:textSize="25sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<EditText
    android:id="@+id/i"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Enter the Temperature :"
    android:paddingTop="20dp"
    android:inputType="numberDecimal"/>
<EditText
    android:id="@+id/type"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"/>
```



The screenshot shows the Android Studio interface with the project structure on the left and the XML code editor on the right. The XML code defines a linear layout with nested linear layouts, a button, and a text view.

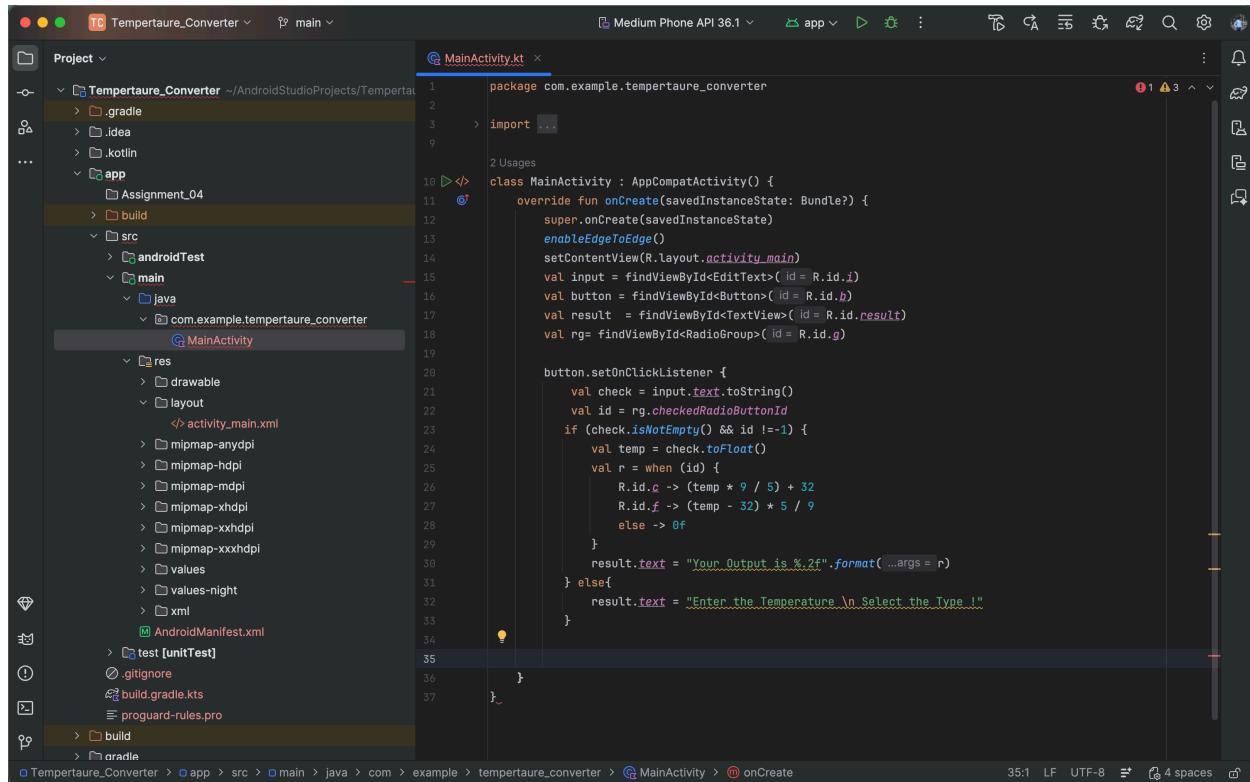
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    <LinearLayout
        </LinearLayout>

        <LinearLayout
            android:id="@+id/main3"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:gravity="center"
            android:orientation="vertical"
            android:padding="20dp">

                <Button
                    android:id="@+id/b"
                    android:layout_width="277dp"
                    android:layout_height="wrap_content"
                    android:text="CALCULATE"
                    android:textSize="20dp" />

                <TextView
                    android:id="@+id/result"
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:layout_marginTop="16dp"
                    android:gravity="center"
                    android:text="RESULT"
                    android:textSize="18sp"
                    android:textStyle="bold" />
            </LinearLayout>
        </LinearLayout>
    </LinearLayout>
```

MainActivity.kt



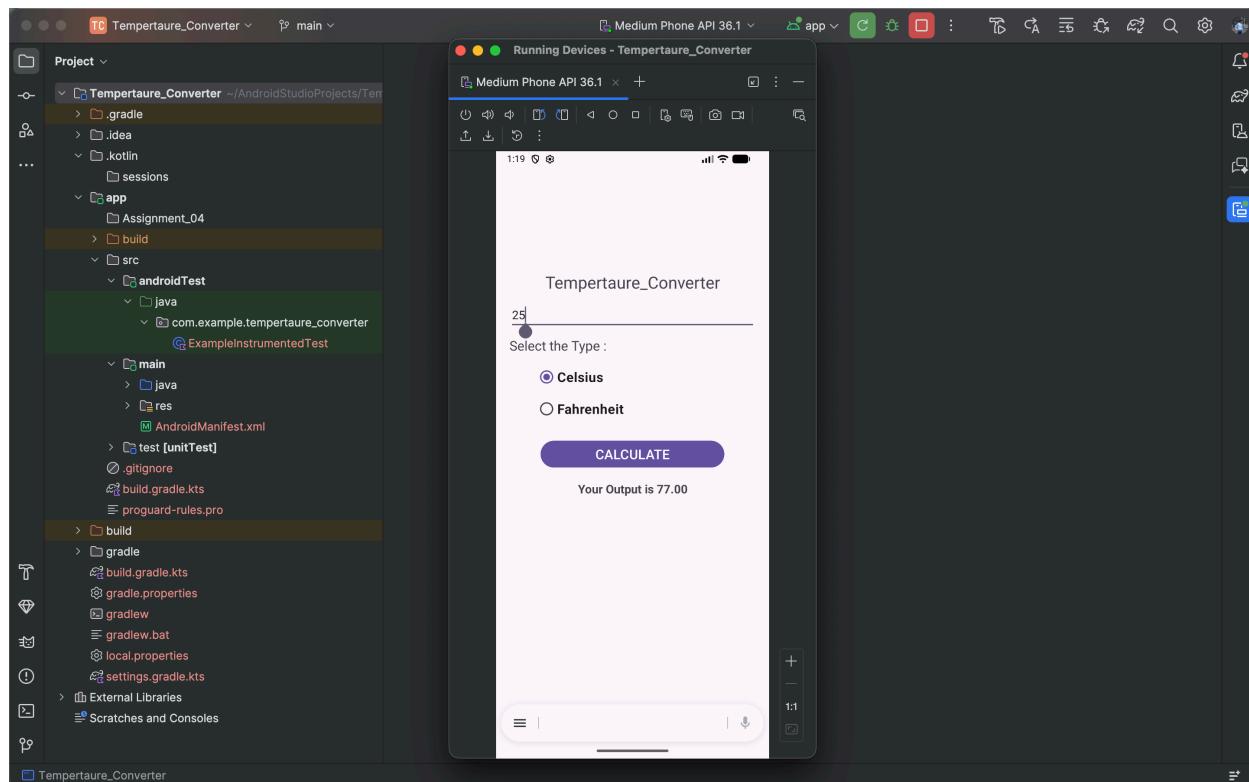
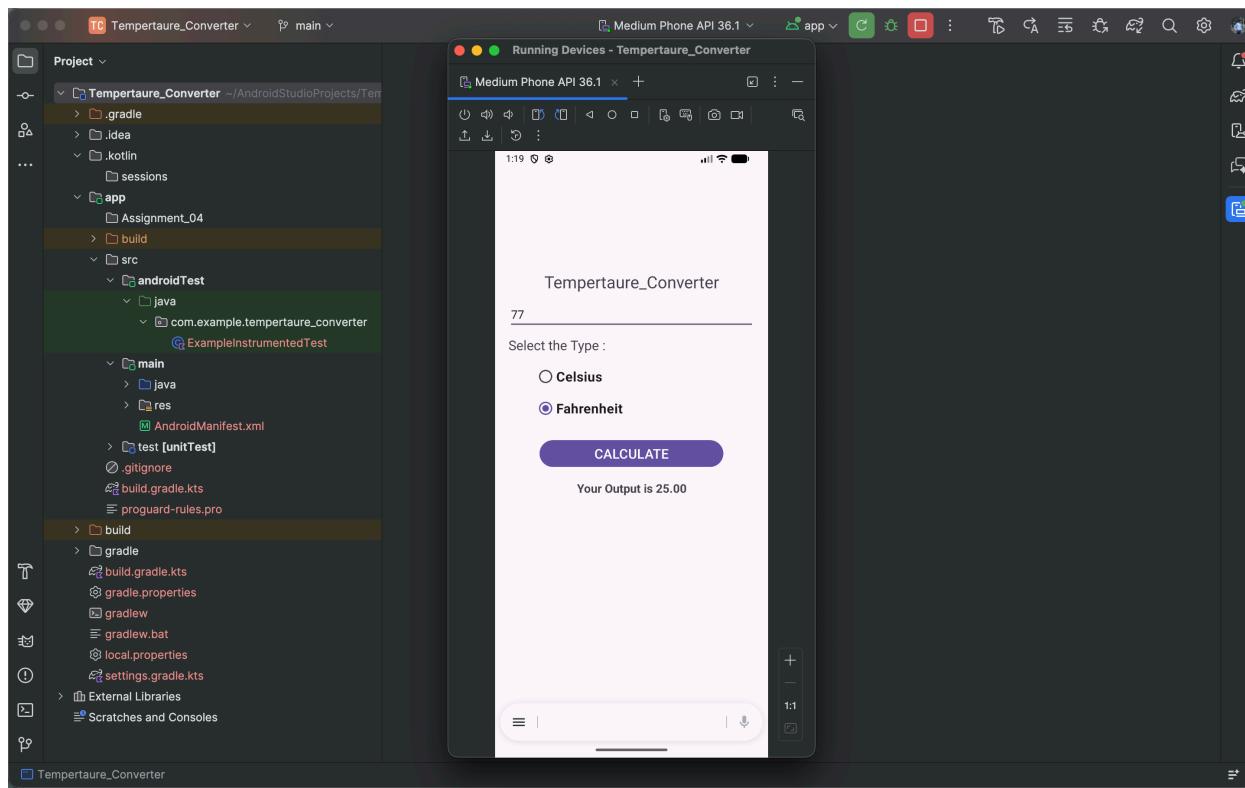
The screenshot shows the Android Studio interface with the project 'Temperatuare_Converter' open. The code editor displays the file 'MainActivity.kt' under the package 'com.example.temperatuare_converter'. The code implements a logic to convert temperature between Celsius and Fahrenheit based on user input and selected radio button.

```
package com.example.temperatuare_converter
import ...

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge()
        setContentView(R.layout.activity_main)
        val input = findViewById<EditText>( id = R.id.i)
        val button = findViewById<Button>( id = R.id.b)
        val result = findViewById<TextView>( id = R.id.result)
        val rg= findViewById<RadioGroup>( id = R.id.g)

        button.setOnClickListener {
            val check = input.text.toString()
            val id = rg.checkedRadioButtonId
            if (check.isNotEmpty() && id != -1) {
                val temp = check.toFloat()
                val r = when (id) {
                    R.id.c -> (temp * 9 / 5) + 32
                    R.id.f -> (temp - 32) * 5 / 9
                    else -> 0f
                }
                result.text = "Your Output is %.2f".format( ...args = r)
            } else{
                result.text = "Enter the Temperature \n Select the Type !"
            }
        }
    }
}
```

Output



Result: Successfully done

