Ex. No.	**:**	**01C**	**Date**	**:**	**21 Jan 2026**
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BMI Calculator

Aim

Create an app that calculates the Body Mass Index (BMI) based on user input for weight and height in EditText fields. The result is displayed in a TextView after pressing a Button.

Procedure:

1. **Create a new Android project** in Android Studio:
    - Open Android Studio → Select "New Project" → Choose "Empty Activity" → Set Project Name and Package Name → Finish.
2. **Design the layout**:
    - Open activity_main.xml.
    - Use a LinearLayout with vertical orientation and padding.
    - Add two EditText fields:
        - One for **Weight (kg)** with inputType="numberDecimal".
        - One for **Height (cm)** with inputType="numberDecimal".
    - Add a Button labeled **Calculate BMI**.
    - Add a TextView to display the BMI result.
3. **Configure AndroidManifest.xml**:
    - Ensure MainActivity is declared with MAIN action and LAUNCHER category.
    - Set the app theme and other attributes.
4. **Write the MainActivity code**:
    - Get references to the EditTexts, Button, and TextView using findViewById.
    - Set a click listener on the **Calculate BMI** button.
    - On click:
        - Check if both inputs are entered; display a message if not.
        - Convert weight and height inputs to numbers.
        - Calculate BMI using the formula:

- BMI = weight (kg) ÷ (height (m))²
- Determine BMI category: Underweight, Normal, Overweight, Obese.
- Display the BMI value and category in the TextView.

5. **Run the application**:
   - Enter weight and height values.
   - Click **Calculate BMI**.
   - Observe the BMI value and status displayed.
6. **Verify the result**:
   - Ensure the BMI is calculated correctly and the category matches the value.

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">

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

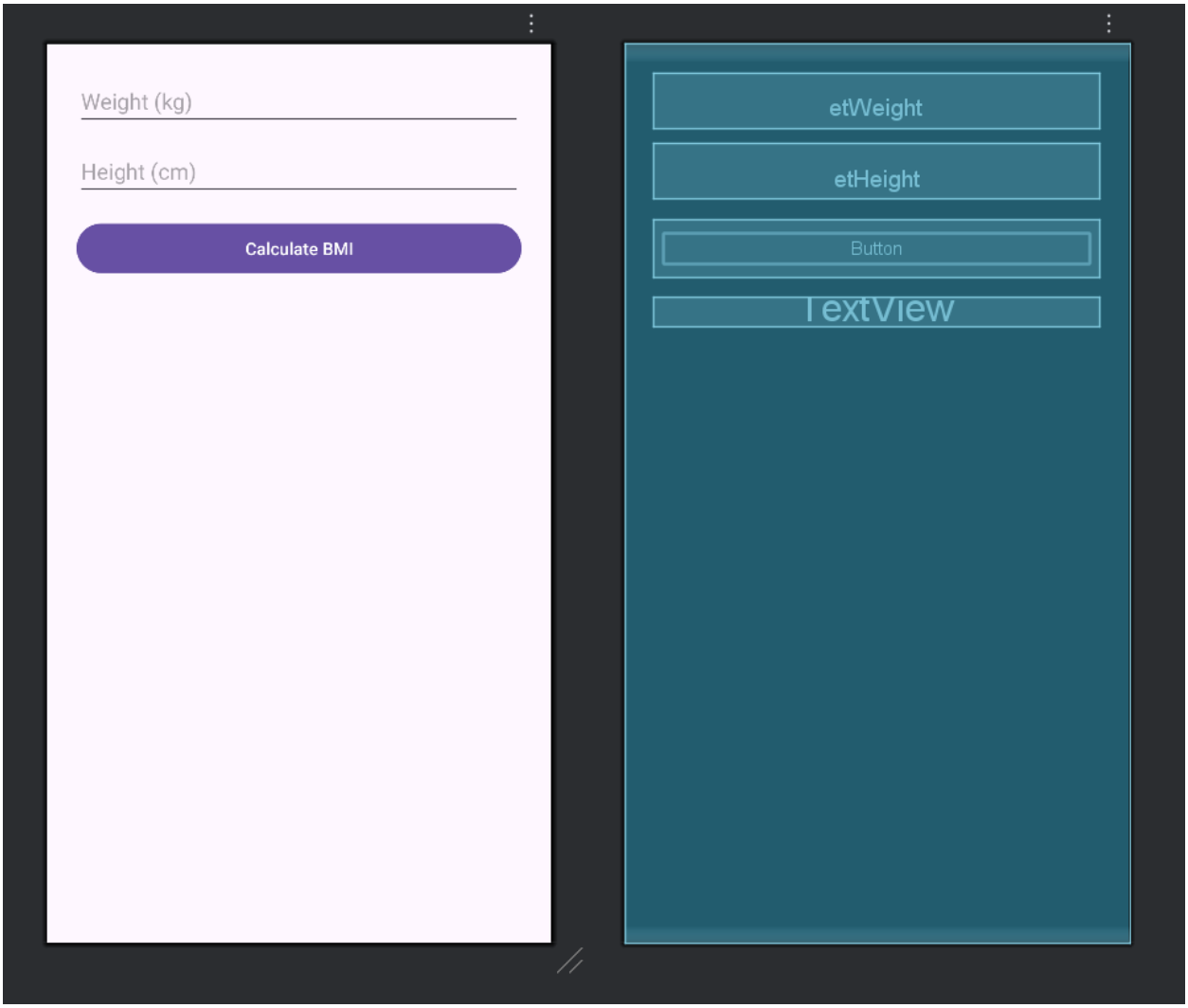
Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="24dp">

    <EditText
        android:id="@+id/etWeight"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Weight (kg)"
        android:inputType="numberDecimal"/>

    <EditText
        android:id="@+id/etHeight"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Height (cm)"
        android:inputType="numberDecimal"
        android:layout_marginTop="12dp"/>

    <Button
        android:id="@+id/btnCalc"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Calculate BMI"
        android:layout_marginTop="16dp"/>

    <TextView
        android:id="@+id/tvResult"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="18sp"
        android:layout_marginTop="16dp"/>
</LinearLayout>
```

MainActivity.kt

```
package com.example.bmicalculator

import android.os.Bundle
import android.widget.Button
import android.widget.EditText
import android.widget.TextView
import androidx.appcompat.app.AppCompatActivity

class MainActivity : AppCompatActivity() {

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)

        val etWeight = findViewById<EditText>(R.id.etWeight)
        val etHeight = findViewById<EditText>(R.id.etHeight)
        val tvResult = findViewById<TextView>(R.id.tvResult)
        val btnCalc = findViewById<Button>(R.id.btnCalc)

        btnCalc.setOnClickListener {

            if (etWeight.text.isEmpty() || etHeight.text.isEmpty()) {
                tvResult.text = "Please enter all values"
                return@setOnClickListener
            }

            val weight = etWeight.text.toString().toFloat()
            val heightCm = etHeight.text.toString().toFloat()
            val heightM = heightCm / 100

            val bmi = weight / (heightM * heightM)

            val status = when {
                bmi < 18.5 -> "Underweight"
                bmi < 25 -> "Normal"
                bmi < 30 -> "Overweight"
                else -> "Obese"
            }

            tvResult.text = "BMI: %.2f (%s)".format(bmi, status)
        }
    }
}
```

Output



Result:

The application successfully calculates and displays the BMI based on user input. The BMI category (Underweight, Normal, Overweight, Obese) is shown correctly according to the calculated value.