Ex. No. : 01C **Date: 02 / 02 / 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:

BMI Calculator (EXP01C)

1. ***Open Android Studio** and create a new project using **Empty Views Activity**.*
2. *Enter the project name and select **Kotlin** as the programming language.*
3. *Choose the minimum SDK and click **Finish** to create the project.*
4. *Open the activity_main.xml file and design the user interface using a **LinearLayout**.*
5. *Add **EditText** fields to accept **weight (in kilograms)** and **height** from the user.*
6. *Add a **RadioGroup** with **RadioButtons** to select the height unit as **Meters** or **Centimeters**.*
7. *Add a **Button** labeled **Calculate BMI**.*
8. *Add a **TextView** to display the calculated BMI result.*
9. *Open MainActivity.kt and enable edge-to-edge layout using enableEdgeToEdge().*
10. *Initialize all UI components using findViewById().*
11. *Validate user input to ensure weight and height values are entered.*
12. *Convert height from centimeters to meters when required.*
13. *Calculate BMI using the formula*
    ***BMI = Weight / (Height × Height)**.*
14. *Display the calculated BMI value in the TextView.*
15. *Save all files and select **Build → Rebuild Project** to check for errors.*
16. *Run the application on an emulator or physical Android device.*
17. *Observe the BMI value displayed on the screen after clicking the **Calculate BMI** button.*

AndroidManifest.xml

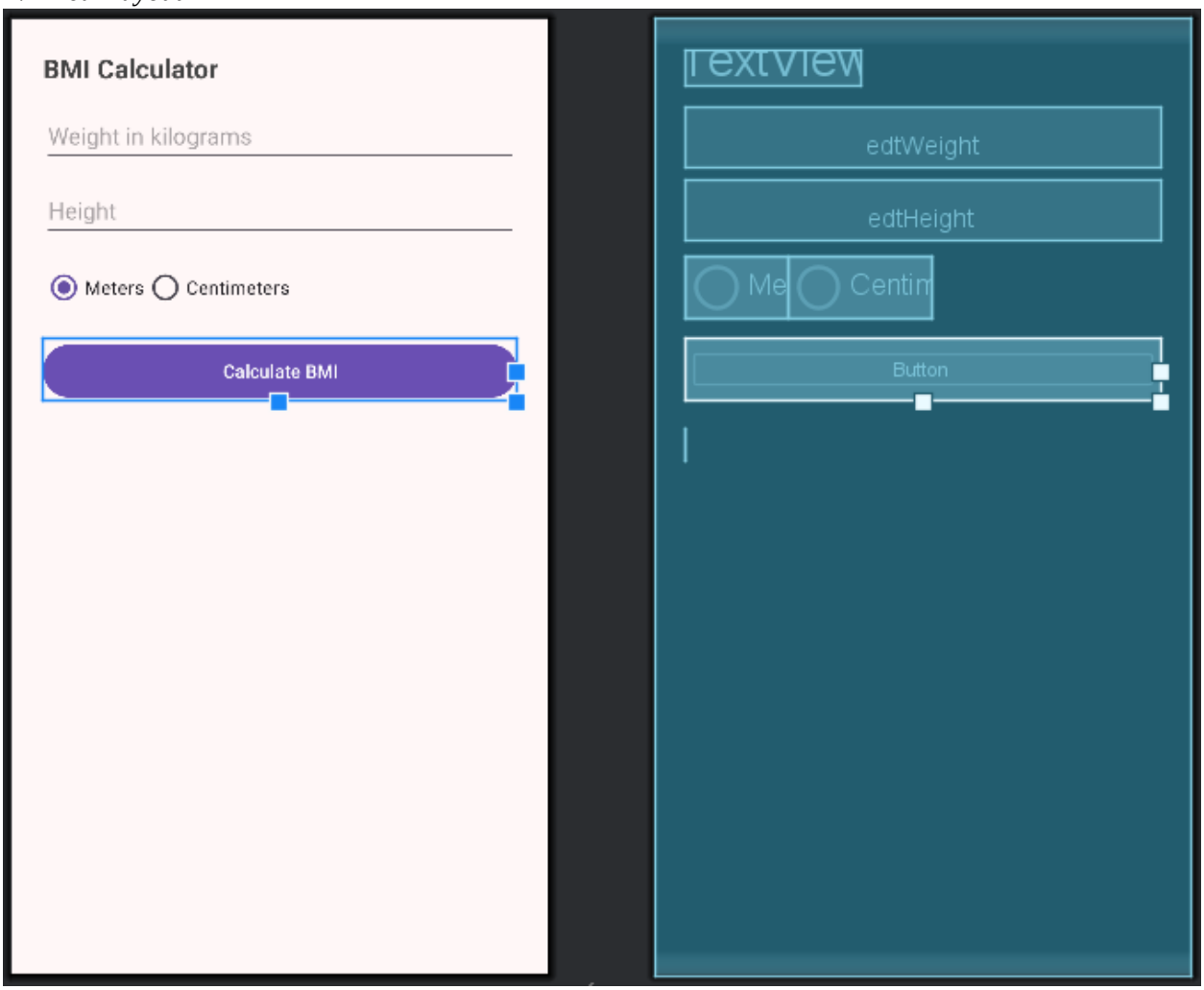
```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">

    <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.EXP01C">
        <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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="24dp"
    android:background="#FFF7F7">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="BMI Calculator"
        android:textSize="20sp"
        android:textStyle="bold"
        android:textColor="#444444"
        android:layout_marginBottom="16dp" />

    <EditText
        android:id="@+id/edtWeight"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Weight in kilograms"
        android:inputType="numberDecimal"
        android:layout_marginBottom="12dp" />

    <EditText
        android:id="@+id/edtHeight"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Height"
        android:inputType="numberDecimal"
        android:layout_marginBottom="12dp" />

    <RadioGroup
        android:id="@+id/radioGroup"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:layout_marginBottom="16dp">

        <RadioButton
            android:id="@+id/radioMeters"
            android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
        android:text="Meters"
        android:checked="true" />

    <RadioButton
        android:id="@+id/radioCentimeters"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Centimeters" />
</RadioGroup>

<Button
    android:id="@+id/btnCalculate"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Calculate BMI"
    android:backgroundTint="#6A4FB3"
    android:textColor="#FFFFFF"
    android:layout_marginBottom="20dp" />

<TextView
    android:id="@+id/txtResult"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text=""
    android:textSize="18sp"
    android:textColor="#333333" />
```

</LinearLayout>

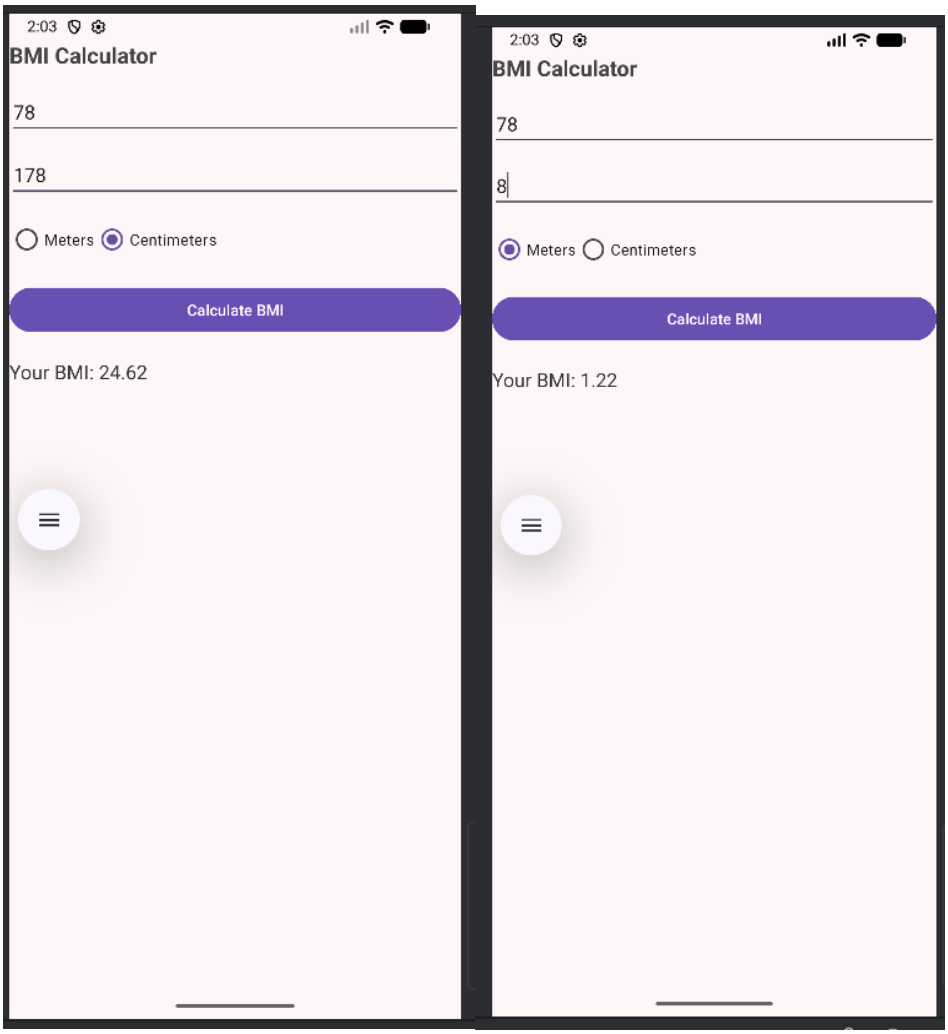


MainActivity.kt

```
package com.example.exp01c

import android.os.Bundle
import android.widget.*
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity
import androidx.core.view.ViewCompat
import androidx.core.view.WindowInsetsCompat
import kotlin.math.pow

class MainActivity : AppCompatActivity() {

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

        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main)) { v, insets ->
            val systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars())
            v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom)
            insets
        }

        val edtWeight = findViewById<EditText>(R.id.edtWeight)
        val edtHeight = findViewById<EditText>(R.id.edtHeight)
        val radioMeters = findViewById<RadioButton>(R.id.radioMeters)
        val btnCalculate = findViewById<Button>(R.id.btnCalculate)
        val txtResult = findViewById<TextView>(R.id.txtResult)

        btnCalculate.setOnClickListener {

            if (edtWeight.text.isEmpty() || edtHeight.text.isEmpty()) {
                Toast.makeText(this, "Please enter all values", Toast.LENGTH_SHORT).show()
                return@setOnClickListener
            }

            val weight = edtWeight.text.toString().toDouble()
            var height = edtHeight.text.toString().toDouble()

            // Convert cm to meters if selected
            if (!radioMeters.isChecked) {
                height /= 100
```

```
        }

        val bmi = weight / height.pow(2)
        txtResult.text = "Your BMI: %.2f".format(bmi)
    }
  }
}
```

Output



Result:

The BMI Calculator Android application was successfully designed, developed, and executed.
The application accepted the user's weight in kilograms and height in meters or centimeters. Based on the selected height unit, the application calculated the Body Mass Index (BMI) accurately.

After clicking the Calculate BMI button, the BMI value was displayed on the screen. Thus, the application performed the BMI calculation correctly according to the user input.