BMI Calculator Android App

A sleek, modern Body Mass Index (BMI) Calculator built for Android. This application allows users to input their weight (kg) and height (m) to instantly determine their BMI category with a clean, card-based user interface.

1. App Design and Layout

The application follows modern **Material Design** principles to ensure a user-friendly and aesthetically pleasing experience.

UI Components:

- **ConstraintLayout & CardView:** The main container uses a ConstraintLayout to center a **CardView**. The card provides elevation and rounded corners, creating a distinct "floating" container for the input fields.
- **Gradient Header:** A custom drawable (bg_gradient_header) is used to provide a professional look to the title section.
- **Custom Inputs: EditText** fields utilize a custom background (bg_input) with soft rounded corners and internal padding for a modern feel.
- **Dynamic Results Section:** The result elements are grouped inside a vertical LinearLayout (resultLayout). This container is hidden (visibility="gone") until the calculation is triggered, maintaining a clean initial view.

2. Logic for BMI Calculation

The core functionality is handled in MainActivity.java and follows a strict validation and calculation pipeline.

Mathematical Formula:

The app calculates BMI using the standard metric formula:

$$\text{BMI} = \frac{Weight}{Height^2}$$

Category Logic:

Based on the resulting value, the app assigns one of four categories:

i). Underweight: BMI < 18.5

ii). Normal: $18.5 \leq$ BMI < 25

iii). Overweight: $25 \leq$ BMI < 30

iv). Obese: BMI $\geq$ 30

Validation Logic:

Before processing, the app performs the following checks:

1. **Empty Check:** Ensures both fields are filled.
2. **Zero/Negative Check:** Prevents calculation if inputs are less than zero.
3. **Sanity Check:** Warns the user if the height is entered in centimeters instead of meters (e.g., if height > 3.0).
4. **Format Check:** Catches NumberFormatException to ensure only valid decimals are processed.

4. Screenshots

BMI Calculator

Calculate your Body Mass Index

Weight:

Enter weight (kg)

Height:

Enter height (m)

Calculate BMI

BMI Calculator
Calculate your Body Mass Index

Weight:

55

Height:

2

Calculate BMI

BMI Calculator

Calculate your Body Mass Index

Weight:

55

Height:

2

Calculate BMI

Your BMI

13.75 (Underweight)

Exit