# BMI Calculator Program Documentation

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## Purpose

This project is designed for the Advanced Python Class by Muzaffar Ali. The BMI Calculator Program calculates the Body Mass Index (BMI) of a user based on their height and weight, and categorizes their weight status according to the BMI value.

## Requirements

- No additional libraries are required as the program uses Python's built-in functionality for input and calculations.

## Environment Setup

No special environment setup is needed for this program as it only uses Python's standard library.

## Code

The main code for the BMI Calculator Program is as follows:  
```python  
# Prompt the user to enter their height in centimeters and convert it to a float  
height = float(input("Enter the Height in CM: "))  
  
# Prompt the user to enter their weight in kilograms and convert it to a float  
weight = float(input("Enter the Weight in Kilograms: "))  
  
# Convert height from centimeters to meters  
Height = height / 100  
  
# Calculate BMI using the formula weight / (height in meters \* height in meters)  
BMI = weight / (Height \* Height)  
  
# Print the calculated BMI  
print("Your body mass:", BMI)  
  
# Check the BMI value and print the corresponding weight category  
if BMI <= 16:  
 print("Severely underweight")  
elif BMI <= 18.5:  
 print("Underweight")  
elif BMI <= 25:  
 print("Normal weight")  
elif BMI <= 30:  
 print("Overweight")  
else:  
 print("Severely overweight")  
```

## Execution

1. Ensure Python is installed on your system.  
2. Save the provided code in a file named `bmi\_calculator.py`.  
3. Open a terminal or command prompt.  
4. Navigate to the directory where `bmi\_calculator.py` is saved.  
5. Run the program using the command:  
```  
python bmi\_calculator.py  
```

## How It Works

1. Prompt User for Height and Weight:  
 - The user is prompted to enter their height in centimeters and their weight in kilograms. These values are converted to float type for calculation.  
  
2. Convert Height to Meters:  
 - The height entered in centimeters is converted to meters by dividing by 100.  
  
3. Calculate BMI:  
 - The BMI is calculated using the formula: weight / (height in meters \* height in meters).  
  
4. Print BMI:  
 - The calculated BMI value is printed.  
  
5. Categorize Weight Status:  
 - The BMI value is checked against standard BMI categories and the corresponding weight status is printed.

## Output

The program calculates and prints the BMI of the user and categorizes their weight status as one of the following:  
- Severely underweight  
- Underweight  
- Normal weight  
- Overweight  
- Severely overweight