

Cooper Riley

Cer508

Software Testing and QA

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Functions:

- I. BMI_Score
 - a. Test Case: When presented with Height and Weight BMI_Score is accurately determined by the algorithm.
- II. Category
 - a. Test Case: Take the BMI_Score value and associate it with a category based on the BMI that determines if the user is underweight, normal weight, underweight, or obese.

- The boundary testing method I used was checking online BMI measurements and inputting the data, at one point my program gave an incorrect input not matching the online values so I went in and corrected some syntax to fix the problem.

```
// Convert height to inches
double height_total_inches = (height_ft * 12) + height_in;

// Take user input for weight in pounds
cout << "How much do you weigh? ";
cin >> weight_lbs;

// Calculate BMI score
bmi_score = (weight_lbs * 703) / pow(height_total_inches, 2);

if (bmi_score < 18.5)
{
    category = "Underweight";
}

else if (bmi_score >= 18.4)
{
    if (bmi_score <= 24.9)
    {
        category = "Normal Weight";
    }
}
```

- In the screenshot above the lower bounds of the normal weight class are changed, this causes the program to run the same only because it is set in an else statement where anything under 18.5 on the BMI index would already be classified as underweight.

```
Hello, welcome to the BMI calculator!  
How Many feet tall are you? 6  
How Many inches? 3  
How much do you weigh? 145  
your BMI Score is: 18.1218  
meaning that you are Underweight
```

- Sample of an underweight BMI score

```
Hello, welcome to the BMI calculator!  
How Many feet tall are you? 6  
How Many inches? 3  
How much do you weigh? 160  
your BMI Score is: 19.9964  
meaning that you are Normal Weight
```

- Sample of a Normal weight BMI score

```
Hello, welcome to the BMI calculator!  
How Many feet tall are you? 6  
How Many inches? 3  
How much do you weigh? 220  
your BMI Score is: 27.4951  
meaning that you are Overweight
```

- Sample of an Overweight BMI score

```
Hello, welcome to the BMI calculator!  
How Many feet tall are you? 6  
How Many inches? 3  
How much do you weigh? 288  
your BMI Score is: 35.9936  
meaning that you are Obese
```

- Sample of an Obese BMI score

Link to GitHub: <https://github.com/cooper350/SWQA-Project2-3>

How to setup

- Download file BMI_cer508.cpp from the link above
- Open a terminal and change the directory to the directory where the file is downloaded
- Compile the program with a method such as typing 'g++ -o test BMI_cer508.cpp' with test being the name of the executable file
- An executable file is created, locate it in the directory you gave in the terminal then double click to open it
- The program will now run and will prompt for Height in feet, then height in inches, then weight, after submitting this data the program will give you your BMI score and category