

# CSCI 121 Project 02

## Simple BMR calculator

### Description of the Problem

Write a C++ program to solve `project 13` on textbook **page 109**. Here is the project description.

The Harris-Benedict equation estimates the number of calories your body needs to maintain your weight if you do no exercise. This is called your basal metabolic rate, or BMR.

The formula for the calories needed for a woman to maintain her weight is

$$\text{BMR} = 655 + (4.3 \times \text{weight in pounds}) + (4.7 \times \text{height in inches}) - (4.7 \times \text{age in years})$$

The formula for the calories needed for a man to maintain his weight is

$$\text{BMR} = 66 + (6.3 \times \text{weight in pounds}) + (12.9 \times \text{height in inches}) - (6.8 \times \text{age in years})$$

A typical chocolate bar will contain around 230 calories. Write a program that allows the user to input his or her weight in pounds, height in inches, age in years, and the character `M` for male and `F` for female. The program should then output the number of chocolate bars that should be consumed to maintain one's weight for the appropriate sex of the specified weight, height, and age.

### Additional requirement

You must allow the user to **repeat** the calculation if the user chooses to do so. Please notice that the program will handle the following cases:

1. If the sex input is NOT `m`, `M`, `f`, or `F`, the program will prompt error message and asks user to reenter.
2. The program will use correct words for male or female output. For example, use `he`, `his` and `male` for input `M`; use `she`, `her`, and `female` for input `F`.

### Sample Run

This is a sample run of this project:

Welcome to my BMR calculator.

Gender (M or F): `g`

Wrong gender input. Please enter again. Gender (M or F): `f`

Weight (in pounds): 140

Height (in inches): 66

Age (in years): 40

She needs 1379.2 calories to maintain her weight.

That is about 5.99652 chocolate bar's calories.

Do you want to do another calculation? (Y/N): y

Gender (M or F): N

Wrong gender input. Please enter again. Gender (M or F): M

Weight (in pounds): 140

Height (in inches): 66

Age (in years): 40

He needs 1527.4 calories to maintain his weight.

That is about 6.64087 chocolate bar's calories.

Do you want to do another calculation? (Y/N): n

Thanks for using my BMR calculator. Good bye!

Program ended with exit code: 0

## Submit

Before you submit your file to Blackboard, please make sure:

- Your file name is correct, as YourNameProj2.cpp.
- Your file can be successfully compiled and run without any errors.
- Your program will be working as Sample Run shows.

Upload **only** YourNameProj2.cpp file to Project02 link under Projects folder.