# OMIS 30 - Fall 2018 - Project 1

## Logistics:

Assigned: Thursday, September 27, 2018
Due: Thursday, October 11, 2018 by beginning of class

## Objective:

Write a heath calculator in Python, similar to the ones found here:
https://www.active.com/fitness/calculators/heartrate

## The requirements are:

- Code up at least 3 different health calculators in a Python script. One of those must be BMI.
- Ask the user which calculator they would like to use
- Ask for the relevant inputs based off the user's selection
- Use the appropriate formula to calculate the answer
- Return the answer to the user

## For the BMI Calculator:

https://www.diabetes.ca/diabetes-and-you/healthy-living-resources/weight-management/body-mass-index-bmi-calculator

- Your first prompt for user input should be for which calculator to use. One of the options must be 'BMI'.
- If the user selects 'BMI', the second input needs to be weight in pounds
- If the user selects 'BMI', the second input needs to be height in inches
- If the user selects 'BMI', the output needs to be an integer
- ** Note: In our opinion, BMI is an awful measurement for overall health. We're only using it because the calculation is easy.

## You must use:

- print()
- input()
- If, elif, else
- comments
- One input validation check

## Collaboration:

You will work individually on the assignment. You are allowed and encouraged to use Google extensively.

## Submission:

- Name your final file <your_username>_project1_fall2018.py (mine would look like mdavis2_project1_fall2018.py)
- Make sure it runs completely and correctly on your computer
- Submit it via Camino
- (We will run your program on our computer to test your answers)

## Grading Rubric:

| Section | Grade | Criteria |
|---|---|---|
| Each calculator | 30% (10% each) | Math formulas correct;<br>Returns correct answer |
| User prompt to choose calc | 10% | Uses input;<br>Does >= 1 data validation;<br>Specificity of prompts |
| User prompt to input data | 15% | Uses input;<br>Uses if,elif,else;<br>Does >= 1 data validation |
| Ease of use | 10% | Prompts well defined;<br>Error handling done |
| Use of comments | 10% | Documentation of author & dates;<br>Explanation of steps |
| Readability | 10% | Use of whitespace;<br>Use of new lines;<br>Naming convention of variables |
| General & Submission | 15% | Code runs completely through w/o errors;<br>Submission named properly |

## Bonuses:

- Small bonus (5% increase to project grade) - e.g. if you got a 80%, your new score would be 84% (.8*1.05). Have your program keep running until the user asks to stop it (Ctrl + C doesn't count).
- Big bonus - more than 5%, but open to instructor discretion. Read in a CSV or Excel file of data points and export the results of each calculator (e.g. Record height and weight of 30 students in an Excel file, use Python to calculate their BMIs, and then export the results back to Excel)
- HUGE BONUS - you get 100% on this project + more at our discretion. Everyone's projects will be submitted via Camino. We will download the projects into a folder on our computer, then do two things: 1) look at your code, and 2) run your code to see if you

get the correct results.  Can you write a Python script that automatically runs a folder full of scripts and automatically checks them to make sure they calculate BMI correctly?