Week 1: Day 3 - Exercises & Practice

(control-flow, good code lecture)

1. Script takes number and prints out sum of squares of all integers less than that number
    a. Try with a loop construct
    b. Try to do this in one line

2. Script that checks if there are lowercase characters in the string, if so, print only these characters

3. Mean calculator function
    a. Takes in a list of numbers, calculates the mean

4. Inverse case function
    a. Takes in a string, returns it in inverse case

5. Factorial function
    a. Takes in a number, calculates the factorial

6. Flavours of mean function
    a. First write 3 functions that calculate the arithmetic, geometric, and harmonic means
    b. write a function to unite them and allows you to pick which type of mean you want given an input parameter, set a default too: `def meanpicker(param1, param2 = 'default')`

7. Extension of the FizzBuzz exercise from day 2:
    a. write a fancier version of FizzBuzz that takes numbers as input and returns sounds based on the numbers that your input is divisible by - for example, an Input of 2: “Whack”, 3: “Zip” 4: “Yow” would print 24 as “WhackZipYow”. The number range can be picked freely.
    b. before you do this, discuss with your neighbor how you want to structure your code
    c. properly document this code
    d. write in a robust manner such that it can handle incorrect input

8. DNA transcription function:
    a. try to break your own code by giving it wrong input
    b. then account for this