Week 1: Day 2 - Exercises & Practice

(data types & structures lecture)

1. Practice IF/ELSE statement with odd/even testing script:
      a. take integer as input (optional - verify this with `type()` function)
      b. test if it is odd or even
      c. print out message with the result

2. For-loop numeric sequence printing:
      a. take integer as input
      b. print out all the numbers from 0 to your number using for loop

3. Turtle exercise led by Ines

4. Choose the **FizzBuzz exercise and one** of the 'Slightly better exercises'
      a. Calculate GC content from `gc_content.py` in 2 ways:
            i. using for-loop and if-statement
            ii. using list.count(element)
      b. Hamming distance between two sequences (https://rosalind.info/problems/hamm/)
      c. FizzBuzz problem:
            i. Take in an integer N
            ii. Print integers 1 to N, but print 'Fizz' if integer is divisible by 3, 'Buzz' if the integer is divisible by 5, and FizzBuzz if an integer is divisible by both 3 and 5
      d. Count content of a sequence using a dictionary and one loop, use sequences in `dna_sequences.py`
      e. Transcribe DNA sequences in `complement_and_transcribe.py` into RNA

5. Guess the number game
      a. Take a guess as input, compare it with your own number
      b. Give some hints
      c. Finish if the number is correct, otherwise continue
      d. Or give the user an option to quit

6. List comprehension exercises
      a. Complement a strand of DNA using a list comprehension
      b. Transcribe that complemented strain