Version - February 21, 2023

February 21, 2023 (Week 5)
C++ part 3

Objectives:

- Further develop C++ knowledge base

Outline:

- C++
    - Pointers and smart pointers
    - Functions and return values
    - Passing by reference
    - std::pair
    - Recursion

Homework - due 8am February 23, 2023:

1. Write a C++ program that prints the first N terms in the Fibbonacci series (1 1 2 3 5 8 …) using recursion
    - Read in argument from user as N
    - Check argument is a positive integer
    - Use a loop to iterate over indices 0 to N
    - Define a function that uses recursion to calculate the term for each index
    - Print each term to the screen
2. Write a C++ program that prints the first N terms in the Fibbonacci series without recursion
    - Read in argument from user as N
    - Check argument is a positive integer
    - Use a loop to iterate over indices 0 to N
    - Define a function that doesn't use recursion to calculate the term for each index
    - Print each term to the screen
3. Write a C++ program that prints x^y and y^x
    - Read in arguments x and y from user
    - Use a function that returns a std::pair containing x^y and y^x
    - Print both values to the screen