AE1PGA Lab 5

1. Textbook 5.15

Similar to the calculations we did at the start involving triangles, this time you have to write a function to do the calculation. You will also need a `main` function that reads in the user input, calls your new function with the appropriate values as parameters, and prints out the result.

2. Textbook 5.18

Note you need to write the `isEven` function mentioned in the question.

3. Maximum of an array

Write a function `max_array` which takes an integer array as a parameter and returns the maximum value in the array. Remember that an array cannot tell you how long it is, so the function will need a second parameter, the length of the array!

4. Textbook 5.34

Note you need to keep the numbers relatively small when testing this function as large numbers to large exponents will quickly get too big for the computer to represent. Consider using a bigger integral type than `int` for the code.

5. Fibonacci number implementations

In mathematics, the Fibonacci numbers, also called the Fibonacci sequence, form a sequence such that each number is the sum of the two preceding ones, starting from 0 and 1. The beginning of the sequence is thus: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, … Write two functions to implement `fibonacci sequence`. When the user enters a positive number X, the function should compute the Fibonacci number at X position in the sequence. One function should calculate it iteratively, the other should calculate it recursively (See textbook and lecture slides for examples of recursion).

End