

ASSIGNMENT 01

Code the following problems in python:

- (1) Find out the sum of the even-valued terms and sum of the odd-valued terms in the Fibonacci sequence whose values do not exceed 4 million. The Fibonacci series is a sequence of integers starting with zero, where each number is the sum of the previous two(0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89 ...).

(Hints: Fibonacci Numbers: It starts with the first two Fibonacci numbers(0 and 1). As it generates each new Fibonacci number, it checks if it should add it to the even or odd sum. It stops adding numbers when adding another would go over the limit you set. Makes sure the sum should not exceed the limit you set for the sums of even and odd numbers.)

- (2) Find the prime factors of a big number (example: prime factors 600851475143 are [71, 839, 1471, 6857].).

(Hints: Prime factors are prime numbers that multiply together to make the original number. The code first checks if the number can be divided by 2. If it can, it keeps dividing by 2. Next, it checks other prime numbers (3, 5, 7, etc.) to see if they can divide the number. If there's anything left after checking all possible factors, that last part is a prime factor. For 60, it finds that the prime factors are 2, 2, 3, and 5.)

What to submit: Your code and your results.

Submit it to: me40229submityourcode@gmail.com