CS 415 Project 1

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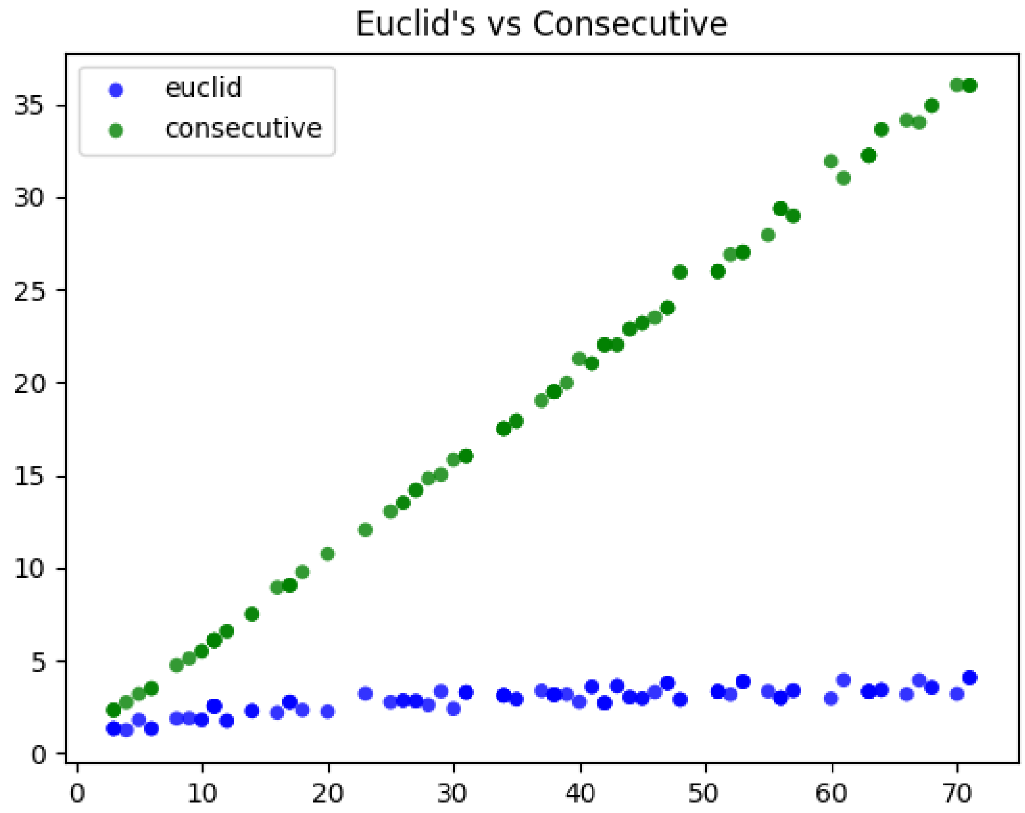
0.1 Task 1

Average-case efficiency of Euclid's algorithm and consecutive integer checking algorithm To test the average-case efficiency of these algorithms, we generate 100 values of n from 1 to 70, then count the number of operations needed to calulate the average GCD for n using Euclid's algorithm and consecutive integer checking.



Euclid θ(logn)

Consecutive Integer θ(n)

0.2 Task 2

Worst-case efficiency of Euclid's algorithm The worst case for Euclid's algorithm occurs when two consecutive integers from the Fibonacci sequence are used as m and n.

0.3 Task 3

The "middle-school procedure" Information