**Fibonacci Sequence Program – Requirements**

**Objective**

The purpose of this program is to execute the Fibonacci sequence a number of times given by the user. For example, if the user inputs “20” then the sequence will execute 20 times and output F20 (6765). The program will execute the same sequence twice: once recursively and once iteratively. During each sequence execution, the program will record the time it takes to complete the sequence in nanoseconds. After both sequences finish the program will output the results to the screen and display the time it recorded for each sequence.

**Software Requirements**

* Object to record time in nanoseconds.
* Object to execute the Fibonacci sequence recursively.
* Object to execute the Fibonacci sequence iteratively.
* Object to display user prompts and output to the console.
* Excel document to record and chart the runtimes.

**Testing Requirements**

* Correct values: both sequences should output the same result for a given input regardless of time.
* Consistent time: a given input should process over a similar timeframe. For example, if F20 first takes 500 ns to process recursively, each time F20 is processed should also take close to 500 ns.