ASSIGNMENT 1 DESIGN DOCUMENT

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About:

This program will contain a bash script/ shell script that prints the Collatz sequence starting from a positive integer called n.

Design Process:

Collatz Sequence Lengths:

In this code segment, I attempt to get the sequence length through the use of shell script/ bash script. By iterating through the values listed I run the command that gets the length from the current iteration and prints them out onto the file.

    For i in range (2, 10000)
            Get the length of value from the current iteration

Maximum Collatz Sequence Value:

Similar to my former description, in this code segment, I iterate through the values once again in the collatz sequence and run the command to get the values for each iteration. This generate sthe maxim value graph and prints it onto the file.

    For i in range (2, 10000)
            Get value

Collatz Sequence Length Histogram:

Following a similar pattern to the rest, this code segment creates a histogram rather than a normal graph. By running code that iterates through the given range again, the file will receive the number of occurrences for a value and print it onto the given file.

For i in range (2, 10000)

        Get the number of occurrences from the current iteration