Conner Herriges
CS4238 - Operating Systems
Project 1

Part 2b:

1. Using multithreading creates overhead, although the overhead of creating a thread when compared to that of creating a process, is less. On the other hand, multithreading can be much faster than sequential code.

2. My code for the matrix multiplication is not extensible to a 100x100 matrix. The sizes of the three variables *M, N,* and *K*, which serve as the number of rows and columns are all defined as constants and would need to be changed, as would *NUM_THREADS*. Additionally, the number of threads created would need to change.

3. I don't believe my code to be efficient for multiplying ridiculously large matrices like 1 million by one million. I think the overhead of trying to create that many threads would bog down the system. It may be more feasible on a GPU, which, with its vastly larger number of cores, is built for exactly this type of processing.

ArraySize = 10,000,000 run on greencode

OpenMP

numThreads	Number of 99s	Time to execute
2	200956	0.126539
4	400596	0.136529
8	799416	0.037875
16	1587584	0.040966

Pthreads

Number of threads	Number of 99s	Time to execute
2	6	0.000107
4	12	0.000089
8	24	0.000196
16	48	0.000414