Test Cases

Test1.txt

- Test case 1 showcases the distributed system's response to 1 machine active. We can that machine 0 has started and on line 7 the machine data has been stored into the shared memory segment.
- We can see that the mutex lock works because the reader thread hasn't been able to start up.
- Now on line 15, the reader thread loop starts and the summary lock has been acquired and only after the reader thread has released the summary lock can the printer thread access the shared memory data for the summary info.
- On line 111 we see the accumulation of the machine stats from the reader thread.

Test2.txt

- Test case 2 showcases the distributed system's response to 2 machines active. We can see that machine 1 starts on line 6 and finishes storing its data in the in the shared memory section. Therefore, we can conclude that the access_stats semaphore works since machine 0 starts after machine 1 has finished writing to the critical section.
- Additionally, the access_stats semaphore works since the reader thread didn't start until all monitor threads were done in the critical section.
- When the reader thread starts it acquires the summary lock and then prints out the summary data from the shared memory segement.
- On line 23 we can see the accumulated machines stats.
- Finally, after the reader thread has released the summary lock the printer thread initiates and starts outputting the machines uptime data.