Tre Mansdoerfer, 260680162
ECSE 427 Mini Assignment #2

Assignment 2 Written Response

1. Does your implementation have a starvation problem? Briefly explain your answer. That is explain why you concluded that there is starvation or no starvation.

The implementation below does have a writer starvation problem. Looking at the average time for writer and reader, a discernible difference exists between the two. If no starvation existed, the average times for reader and writer would be much closer, not differ by a factor of over 1000. The writer starvation takes place because this iteration of reader-writer has a write preference.

Write Count	Write Avg (micro-sec)	Read Count	Read Avg (micro-sec)
30	88771	60	81
30	92807	60	85
30	84219	60	75
30	75170	60	65
30	70571	60	59

The new implementation does not appear to have a starvation problem. The difference between writer and reader differs by less than a factor of 10. The writer's average time is over 20,000 times smaller with this implementation. This occurs because of the additional semaphore that acts as a queue for the reader and writer threads.

Write Count	Write Avg (micro-sec)	Read Count	Read Avg (micro-sec)
30	318	60	40
30	322	60	65
30	352	60	61
30	379	60	62
30	319	60	56