CSSE 332 -- Operating Systems

The Readers/Writer Problem

Name: _____

Question 1. (5 points) For the readers/writers problem initially presented, describe the state of the world (or the concurrency state). Make sure to provide a description of each state variable as well as its type and **default value.**

Question 2. (5 points) Based on your answer to the first question, write down the *waiting conditions* for each of the readers and the writers threads. Feel free to write it in pseudo-code to avoid unnecessary clutter due to `pthreads` syntax.

Waiting conditions for the readers thread:

Waiting conditions for the writers thread:

Question 3. (5 points) Briefly describe the main problem with the first implementation of the readers/writers problem we discussed in class.

Question 4. (5 points) Briefly explain the changes that would need to be made to address the writers' starvation problem discussed in the previous question. Make sure to mention relevant changes to the concurrency state and/or the waiting conditions.

Solution to the starvation problem:

Updates to the state of the world:

Updates to the waiting conditions: