

Joshua Spisak  
Project 1  
CS 1550  
02/07/2020

“Explain the pros and cons of using a priority queue within a semaphore.”

There are several pros and cons to using a priority queue. By enforcing priority you enable greater program flow control (as seen with the trafficsim programs), letting you set execution order through process priority. This can also generally be a way to make sure that processes performing critical functions like rendering a gui can operate without being impeded by uncritical processes.

However, this also comes with the con of thread starvation. If a thread with a high priority is continually asking for the mutex it will continue to be called and lower priority threads/processes will not be awoken, and may get stagnant.