Christopher Brant and Jennifer Starcher
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ECE 3220 – Carl Martin

ECE 3220 Intro to Operating Systems Project 3: Locks

Throughout the writing of this project there were a few difficulties that were encountered while working to create our Lock simulation which produced and consumed resources. Overall, this project did not take an exceptional amount of time, as the prompt was relatively straightforward, and the lectures about the project itself really elucidated any areas of confusion. However, we still faced a few issues. Those issues that arose were specific issues that had to do our checking of the measuring of the runtime of the program and to do with environment issues.

When running our program, for some reason we initially were getting relatively high values for the time to finish execution. Even by the time of turning in our program, the number still seems very high, I believe the issue may lie in the amount of time that the system is sleeping for. However, this is just a possibility/theory. It is entirely possible that this just has to do with the speed of the machine that we were running our code on, or to do with the ordering of how locks get grabbed and released on any given run. Another issue we ran into is that when compiling and running our program on Christopher's MacBook Pro, the program gets caught in an infinite loop as only Carbon and Oxygen will be produced.

This issue that occurred on the MacBook may have to do with the way that the mutex variables are initialized, as is the theory that most users of StackOverflow were suggesting, or it is entirely possible that it is an issue with the pthread library on Mac OS X or even that on Mac OS X when the gcc command is used, the clang compiler is used, regardless of the command given. We are unaware of what the actual issue is, however the program works perfectly fine on both of our Linux machines, as well as on the School of Computing Linux machines in the lab. As that is the case, we just assumed it was a Mac issue and did not further worry about it.

On the whole, this project was interesting and mostly easy to conceptualize, and as stated before, the lectures directly about how this project should work were extremely helpful in understanding what was being asked and what was necessary of us for this project. The total process took only about a day or two, total. Hopefully the final exam will be good to us as well.