

Comp 790 Operating Systems HW3 Report

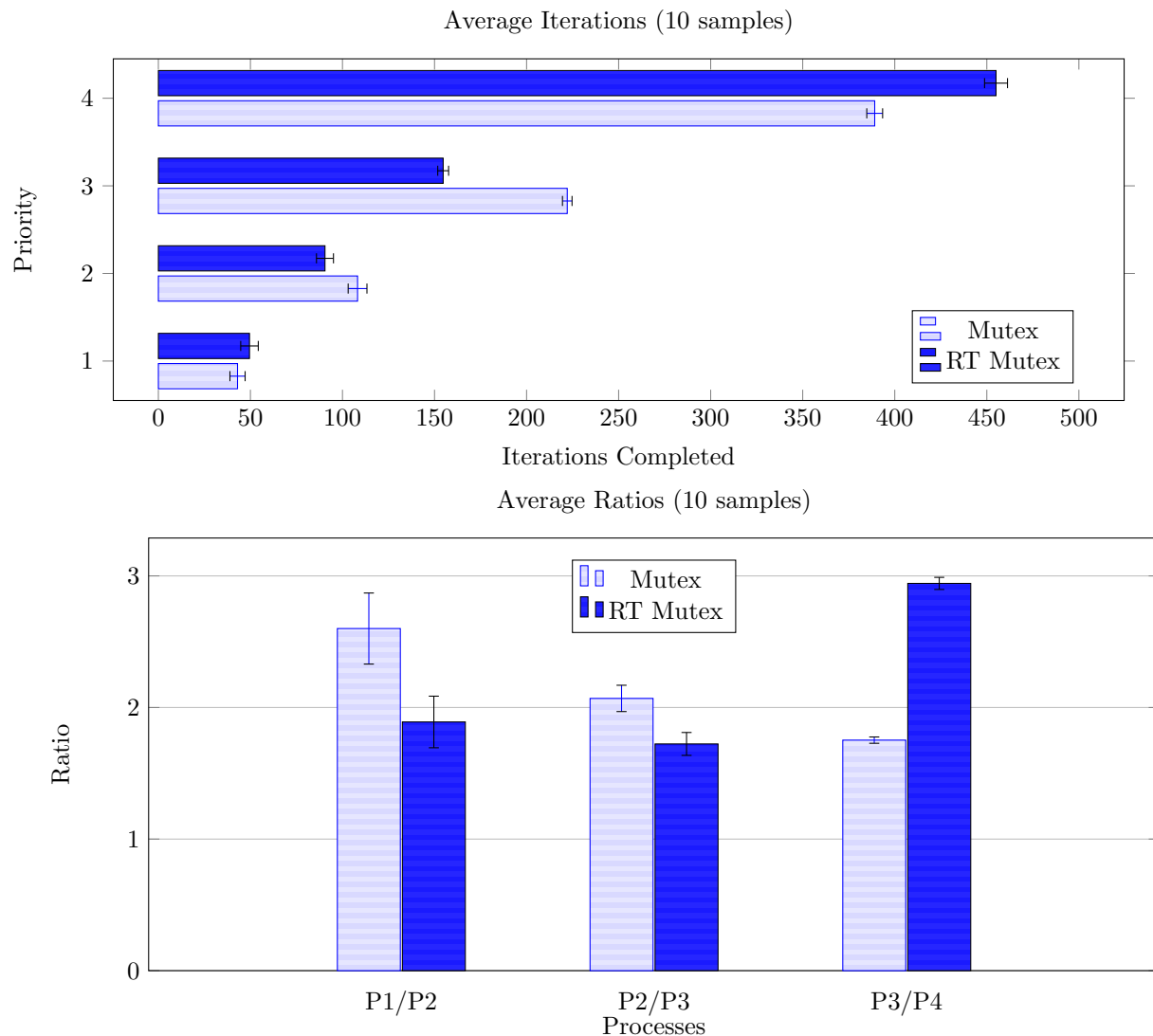
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1 Process

After making sure my module was working correctly, I ran the inserted the mutex module, then ran the shell script 10 times, recording the results and clearing the log file after each run. I then removed the mutex module and inserted the `rt_mutex` and repeated the procedure. As I was doing so the consistency of the numbers showed that the output was not always printed in order as I had assumed, so I went back through the output and recorded it properly. Since the data from mutex was gone, I reinserted that module and did those 10 iterations again.

2 Results



3 Discussion

When comparing the regular mutex to the real-time version, the number of iterations for the level 4 priority process is significantly higher for real-time, which is as expected. What is surprising is that those iterations

came mostly at the expense of the priority 3 process instead of one further down the priority chain. The much decreased iterations of priority 3 is quite stark. This can be seen in the ratio figure, where the largest ratio is between P4 and P3 on the real-time mutex. It is easy to see how it changed from the standard mutex, where the P3/P4 ratio was the smallest for that mutex type. Interestingly the regular mutex had a smoothly decreasing ratio as the priority increased, which the real-time mutex did not exhibit.