CS3100 - Memory Scheduling
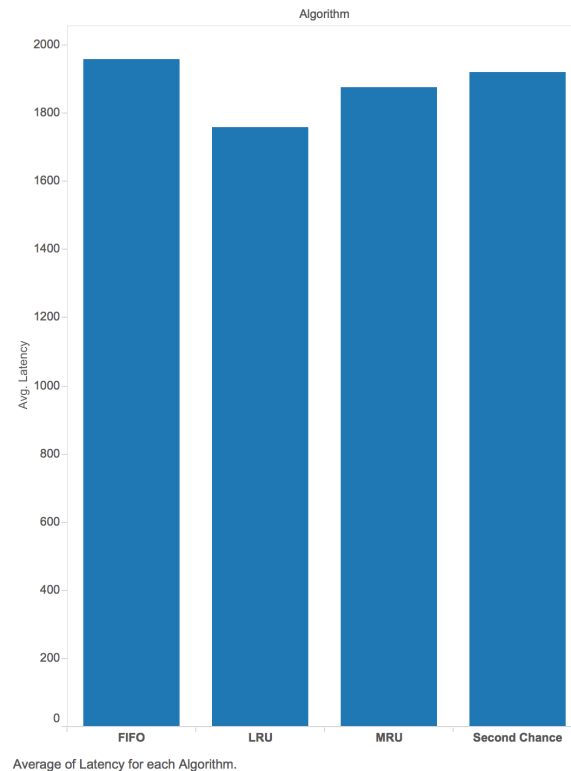
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April 9, 2016

Hypothesis

I hypothesize that the LRU algorithm will have better latency than the other three algorithms do to the fact that the random generator for the page number will favor numbers close together. My experiment will use SJF as the CPU scheduling algorithm, a cache size of 1024, and a max page number of 2048. I will conduct 100 trials and take the averages of their latencies.

Data

Average of Latency for each Algorithm.

Conclusion

As seen in the bar graph above, the LRU algorithm has a slight performance advantage over the other three algorithms. An additional observation is that the FIFO algorithm's performance was the worst as expected, even with randomly generated page number assignment. As the page number assignment becomes less random and resembles an actual process running the differences between FIFO and the other algorithms will increase.