CS492
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I pledge my honor that I have abided by the Stevens Honor System.

Assignment 1 Experimental Analysis

This assignment compared the First Come First Serve and Round Robin scheduling algorithms. Round Robin is preferred when each product has a widely varying lifespan. Round Robin has best performance when the quantum is set fairly high (i.e. 200). A very small quantum results in most of the time being spent context-switching as opposed to actual processing. If too large a quantum is used, it becomes equivalent to First Come First Serve. In all cases, adjusting the number of producer or consumer threads will alter the throughput but both producer and consumer throughput remain within a few thousand of each other. Average times are significantly increased when number of products is significant (i.e. 5000 when compared to 100 products). First Come First Serve is least effective when producer threads is significantly more than the consumer threads.

Overall, as the attached data shows, First Come First Serve tends to be most effective in all cases for average turnaround and wait times as well as producer and consumer throughput. The algorithms are most effective when number of consumer threads is equivalent to number of consumer threads. They are slightly less effective when consumer threads outnumber producer threads, and least effective when producer threads greatly outnumber consumer threads.