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Pros and Cons of a FIFO Queue

With a FIFO queue, we are simply inserting and removing processes based on a first come, first-served basis. This queue is much faster than a priority queue in that when a process needs to enter into the queue, we simply insert it at the tail or the end of the linked list and when we want to remove a process from that list, we would just remove the very first node or the head in the list. We would not have to search through the list to determine which process has higher priority than the other and remove them from the list based on that condition. Another case is that the processes in the queue will not interrupt one another during a critical section and wait for each other to be completed.

On the other hand, there are drawbacks of using a FIFO queue. Priority of the process may be a necessity, and if they are required to be first, that may not be permissible by a FIFO queue. So for instance, a lower priority process that entered the critical section first could take a generous amount of time, thus a higher priority process who may take a few seconds would have to wait until the first process completes its task. Another case is that if a process takes an infinite amount of time, nothing can stop it so other processes that are waiting to enter the critical section would not be able to run. As a result, this puts FIFO at a disadvantage because of the long waiting time.