

Lianming Wu

CSC332 OS Assignment3

Professor: Donald Douglas Gordon

Data Table:

Method	Avg_Turnaround	Avg_Wait	Longest_Wait	Total_Time	Switches
FCFS	2759.429	2369.929	4747	5491	14
SJN	2400.429	2010.929	4697	5491	14
Priority	2610.857	2221.357	5099	5491	14
FCFS-10	4967.714	4578.214	5700	6967	506
FCFS-100	4551.5	4162	4827	5641	64
FCFS-1000	2759.429	2369.929	4747	5491	14
SRTN-50	2480.286	2090.786	4865	5743	98
Priority-50	2699	2309.5	5279	5761	104

- Longest Total run time: FCFS-10
- Shortest Total run time: FCFS, SJN, Priority, FCFS-1000
- Longest average wait time: FCFS-10
- Shortest average wait time: SJN
- Longest wait time: FCFS-10, because the time quanta are very low, every process only have a very little time to actually get executed, as the number of context switches got high, all of the processes in the ready queue are forced to wait the time wasted for context switch. Thus, the very last process finished would spent much more time than any other algorithms waiting because of the high amount of context switches time wasted.
- Shortest wait time: SJN, as the next process being executed is always the process that finish the fastest, other processes don't need to wait as much time in the queue for the previous process to finish. SJN also beats SRTN-50 by saving time on context switches as no preemption algorithms has lowest number of context switches.
- Best CPU utilization: FCFS, SJN, Priority, FCFS-1000 have the best CPU utilizations, because the minimum amount of time is invested on context switches. FCFS-1000 have it as time quanta are very high, every process came in is finished with in the quanta.
- Worst CPU utilization: FCFS-10, as the computing power of the CPU are greatly being invested on doing context switches, not much things are being done by the CPU, thus FCFS-10 has the worst CPU utilization (although the best responsiveness).