

## Chris Park Lab 8

**A. Examining the generated table, what is the CPU Utilization for myrun\_2?**

CPU utilization for myrun\_2 (SJF) is 0.96158.

**B. Examining the generated table, which run has greater Throughput value?**

The greater Throughput belongs to my\_run2 at 0.116777.

**C. Which scheduling algorithm has the shorter average turnaround time?**

Myrun\_2 (SJF) has the shortest Turnaround Time at 124.87.

**D. Which scheduling algorithm has the longer maximum turnaround time?**

Myrun\_1 (FCFS) has the longer maximum Turnaround time at 257.05.

**E. Examining the Gantt chart for FCFS at approximately what time did process 15 finish?**

Process 15 finished at approximately 205.

**F. Examining the Gantt chart for SJF, which process finished first?**

Process 16 finished first.

**G. Examining the Gantt chart for SJF, which process finished last?**

Process 15 finished last.

**H. What is the load average for FCFS?**

$$5292.3 / 257.05 = 20.59$$

**I. What is the load average for SJF?**

$$2586.9 / 256.90 = 10.07$$

**J. What is the context switch time for FCFS?**

$$S = 529.23 / 1853.1$$
$$S = 0.29$$

**K. What is the context switch time for SJF?**

$$S = 258.69 / 906.3$$

$S = 0.29$

**Part 2:**

**A. What process(es) are part of the convoy the second time process 6 gets the CPU?**

Processes 2 – 5 are part of the convoy. Process 1 moves to the ready state just as process 6 gets the CPU.

**B. Which scheduling algorithm has most context switches?**

Myrun\_3 “RR 1” has the most context switches at 1056.

**C. Draw the Gantt chart for both the FCFS and SJF algorithms. Notice they look quite different. Yet in the table, both FCFS and SJF have the same number of context switches (109) Explain why.**

Though the order of processes that get the CPU are different between the two algorithms, because the quantum's for both algorithms are the same, the same number of context switches occur.

**D. What can be said about the relationship between the number of context switches for the SJF and PSJF scheduling algorithms?**

Because there are opportunities for preemption in the PSFJ algorithm, there is an increase in context switches.

**E. For the 3 RR scheduling runs, what can be said about average waiting time with an increasing time quantum?**

The average wait time is inversely proportional to the time quantum. That is, as the time quantum increases, the average wait time decreases.

**F. Which Round Robin run, from above, was the closet to the FCFS policy?**

Both RR25 and RR15 are identical, and appear closest to the FCFS policy.

**G. How would run myrun algorithm RR 100 key "RR 100" affect the performance of the Round Robin Scheduler? Justify your answer.**

There should be no performance change from any increase in quantum above RR15 & RR25. Because these two exhibit the same behavior despite the increase in quantum, it is reasonable to assume that any further increase in quantum will also result in the same performance.

P.S. I checked. It is indeed the same.