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CSCD 340

Lab 8

4) Run 1 Questions:

a) The CPU utilization is 2.74
b) myrun_2 has a greater throughput
c) SJF has a shorter average turnaround time
d) FCFS has a longer maximum turnaround time
e) Process 15 finished at approximately 205
f) Process 16 finished first
g) Process 15 finished last
h) Total waiting time = 176.41 * 30 = 5292.3
    a) Load Average = 5292.3 / 257.05 = 20.588601439
i) Total waiting time = 86.23 * 30 = 2586.9
    a) Load Average = 2586.9 / 256.9 = 10.069676917
j) 90 * S * 20.59 = .1 * 5292.3
    a) S = 529.23 / 90 / 20.59 = approx. 0.2856
k) 90 * S * 10.07 = .1 * 2586.9
    a) S = 258.69 / 90 / 10.07 = approx. 0.2854

5)

a) Processes 1 – 5 are all part of the convoy effect
b) Round Robin 1 has the most context switches at 1106
c) The processes are switched out the same number of times as the processor switches between I/O processes and cpu processes; the SJF looks different because the shortest jobs are completed first
d) The PSJF has a greater number of context switches because processes are switched out when preempted by shorter processes
e) The average wait time decreases with a larger time quantum; I hypothesize that this is due to less context switches.
f) Both RR 15 and RR 25 match the FCSC data.
g) Increases the quantum to 100 would have no effect in this case; it would still work exactly like FCFS