Tai-Lan Hirabayashi
Madeline Shortt
Pragya Bajoria

Comparison of Average Waiting Time of different Scheduling Algorithms

The average waiting time for SJF is 178.55 seconds which is the most optimal as compared to the average waiting time for FCFS (362.87 seconds) and RR (329 seconds).

SJF is optimal because it minimizes the average amount of waiting time, each job has to wait until its execution is complete. This is because the scheduling algorithm moves the shorter processes before the longer ones so it decreasing the waiting time of the shorter process more than it increases the waiting time of the longer processes. If CPU bursts of 2 processes are the same, it uses FCFS scheduling.

The average waiting time for Round Robin scheduling with one time quantum is 329 seconds. As we saw in the graphs for average waiting time, this is the highest average waiting time for all the varied time quantums. It is so high because the time quantum is too small for jobs to complete in a timely manner.

FCFS is the worst case where no heuristic is taken to improve waiting time. Thus this makes sense that this is the worst case.

Scheduler	**Average Turnaround Time (in seconds)**	**Overall Throughput (jobs / min)**	**Average Waiting Time (s)**
FCFS	369.95	8.47	362.87
Round Robin (time quantum = 1s)	336	8.47	329
Shortest Job First	185.63	8.474	178.55

Graphs for Round Robin: Varying Time Quantum from 1s to 10s