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CSC 332 – Assignment 3 summary
Submission date: 12/16/2018

Scheduling Policy	Round Robin Scheduler	Time quantum	Average turnaround time	Average wait time	Longest wait time	Total run time	Total number of context switches
FCFS	-	-	2767.93	2378.43	4762	5481	14
SJN	-	-	2408.93	2019.43	4712	5481	14
Priority	-	-	2619.36	2229.86	5114	5481	14
RR	FCFS	10	5334.14	4944.64	5784	6549	548
RR	FCFS	100	4559.07	4169.57	4839	5581	64
RR	FCFS	1000	2767.93	2378.43	4762	5481	14
RR	SRTN	50	2504.5	2115	4918	5687	117
RR	Priority	50	3010.36	2620.86	5320	5687	117

Answers

Longest total run time: RR – FCFS with 10-unit time quantum
Shortest total run time: FCFS, SJN, Priority, RR – FCFS with 1000-unit time quantum

Most responsive: FCFS, SJN, Priority, RR – FCFS with 1000-unit time quantum
Least responsive: RR – FCFS with 10-unit time quantum

Longest average wait time: RR – FCFS with 10-unit time quantum
Shortest average wait time: SJN

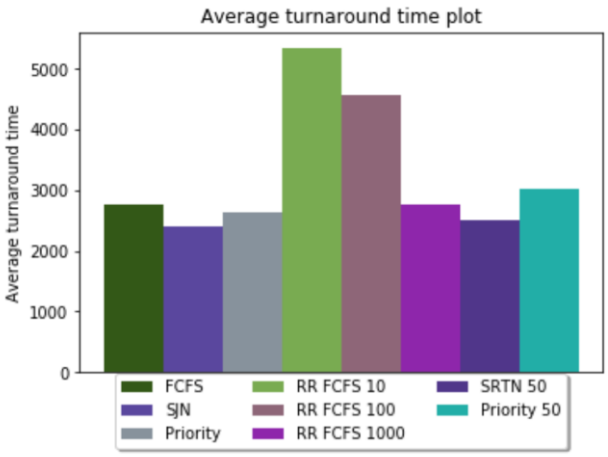
Longest total wait time for any single process: RR – FCFS with 10-unit time quantum. Processes with higher run time will take more time to finish due to many context switches. For lower unit-time quantum we have more contect switches.
Shortest total wait time for any single process: SJN. In this case processes that have lower run time won't wait much in the process queue. As a result the total wait time will be lower.

Best CPU utilization: FCFS, SJN, Priority, RR – FCFS with 1000-unit time quantum because less time is wasted for context switching.
Worst CPU utilization: RR – FCFS with 10-unit time quantum because more time is wasted for context switching.

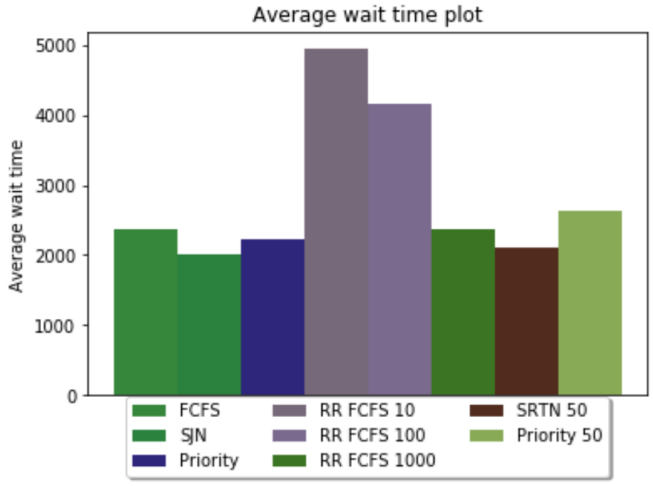
Extra Credit-1 Plots

Following plots are the outputs of the “plot.py” file.

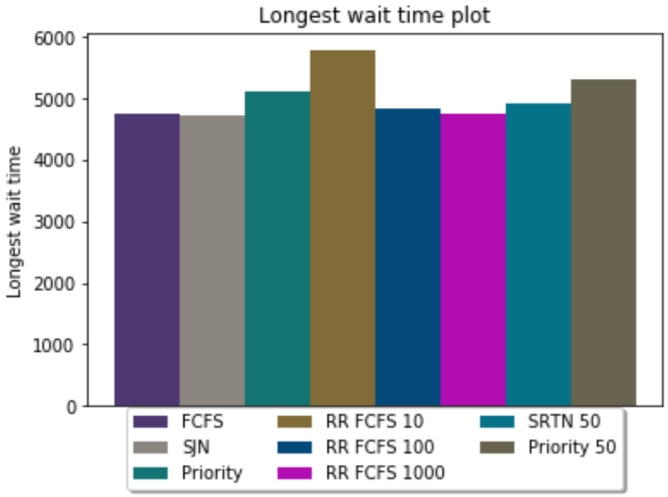
1.



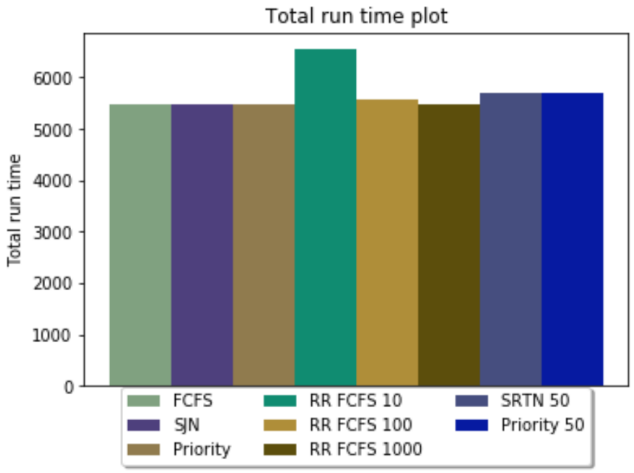
2.



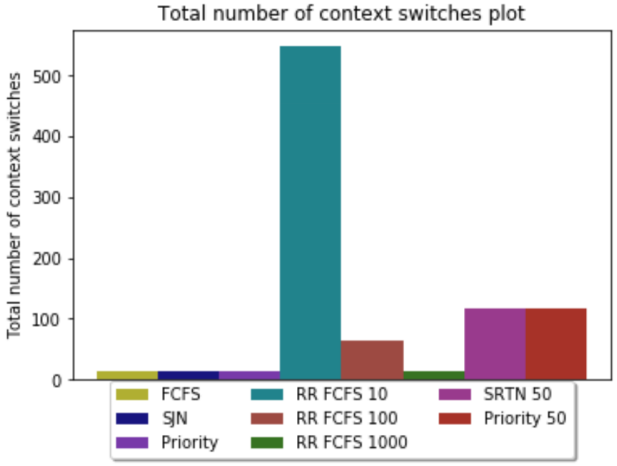
3.



4.


Total run time plot
Total run time
6000
5000
4000
3000
2000
1000
0
FCFS
SJN
Priority
RR FCFS 10
RR FCFS 100
RR FCFS 1000
SRTN 50
Priority 50

5.


Total number of context switches plot
Total number of context switches
500
400
300
200
100
0
FCFS
SJN
Priority
RR FCFS 10
RR FCFS 100
RR FCFS 1000
SRTN 50
Priority 50