

# Lab Five

---

Dan Mopsick

Daniel.Mopsick1@Marist.edu

November 4, 2019

## 1 PROBLEM ONE

Consider the following set of processes, with the length of the CPU burst given in milliseconds:

<u>Process</u>	<u>Burst Time</u>	<u>Priority</u>
$P_1$	10	3
$P_2$	1	1
$P_3$	2	3
$P_4$	1	4
$P_5$	5	2

The processes are assumed to have arrived in the order  $P_1, P_2, P_3, P_4, P_5$ , all at time 0.

- Draw four Gantt charts that illustrate the execution of these processes using the following scheduling algorithms: FCFS, SJF, nonpreemptive priority (a smaller priority number implies a higher priority), and RR (quantum = 1).
- What is the turnaround time of each process for each of the scheduling algorithms in part a?
- What is the waiting time of each process for each of these scheduling algorithms?
- Which of the algorithms results in the minimum average waiting time (over all processes)?

A problem exactly like this will be on the exam.

## 2 SOLUTION

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1
FCFS	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1
SJF	P3	P4	P3	P5	P5	P5	P5	P5	P5	P5	P5	P5	P5	P5	P5	P5	P5	P5
MPP	P2	P5	P5	P5	P5	P5	P5	P5	P5	P5	P5	P5	P5	P5	P5	P5	P5	P5
RR	P1	P3	P4	P5	P1	P3	P5	P1	P5	P1	P5	P1	P5	P1	P5	P1	P5	P1

b. turn around time

	FCFS	SJF	MPP	RR
P1	10	18	16	19
P2	11	1	1	2
P3	13	4	18	7
P4	14	2	19	4
P5	18	9	6	14

c. Weighted time

	FCFS	SJF	MPP	RR
P1	0	9	6	24
P2	10	0	0	1
P3	11	2	16	5
P4	13	1	18	3
P5	14	4	1	8
Wt	14	41	41	26

SJF best average weight time

Solution:

My Solution... I am sorry that it is sideways I am a fool and cannot figure out how to fix it.