

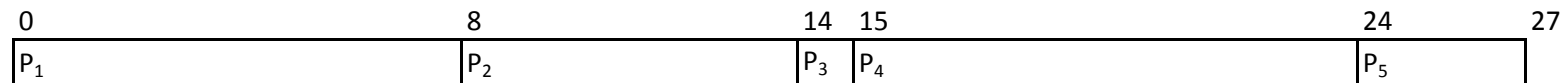
CPU Scheduling Exercises

Problem 1

Solutions

Process	Burst	Priority
P ₁	8	4
P ₂	6	1
P ₃	1	2
P ₄	9	2
P ₅	3	3

First Come First Served



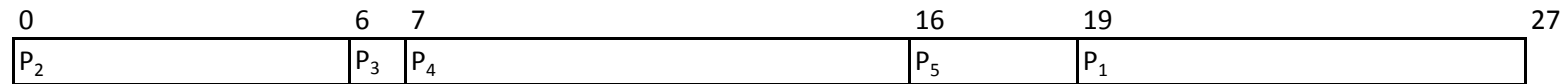
Avg. Wait = $0+8+14+15+24 = 61/5 = 12.2\text{ms}$ Avg. TAT = $8+14+15+24+27 = 17.6\text{ms}$

Shortest Job First



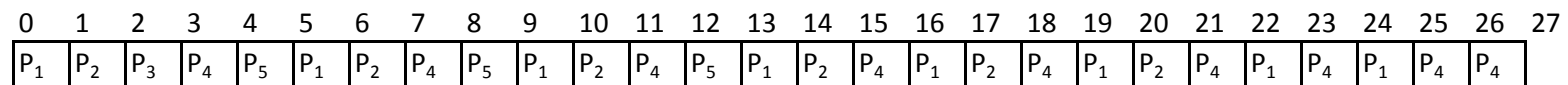
Avg. Wait = $0+1+4+10+18 = 33/5 = 6.6\text{ms}$ Avg. TAT = $1+4+10+18+27 = 60/5 = 12\text{ms}$

Non-Preemptive Priority



Avg. Wait Time = $0+6+7+16+19 = 48/5 = 9.6\text{ms}$ Avg TAT = $6+7+16+19+27 = 75/5 = 15\text{ms}$

Round Robin (1ms Quantum)



Wait Time P₁ = $0+5-1+9-6+13-10+16-14+19-17+22-20+24-23 = 0+4+3+3+2+2+2+1 = 17$

Wait Time P₂ = $1+6-2+10-7+14-11+17-15+20-18 = 1+4+3+3+2+2 = 15$

Wait Time P₃ = 2

Wait Time P₄ = $3+7-4+11-8+15-12+18-16+21-19+23-22+25-24 = 3+3+3+3+2+2+1+1 = 18$

Wait Time P₅ = $4+8-5+12-9 = 4+3+3 = 10$

Avg Wait Time = $62/5 = 12.4\text{ms}$

Avg TAT = $25+21+3+27+13 = 89/5 = 17.8\text{ms}$

Algorithm	Avg Wait	Avg TAT
FCFS	12.2	17.6
SJF	6.6	12
NonP Priority	9.6	15
RR	12.4	17.8

SJF has shortest wait and shortest TAT