COMP 304

Assignment 2

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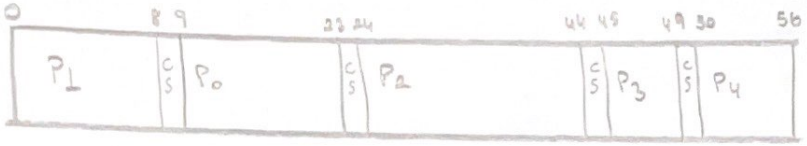
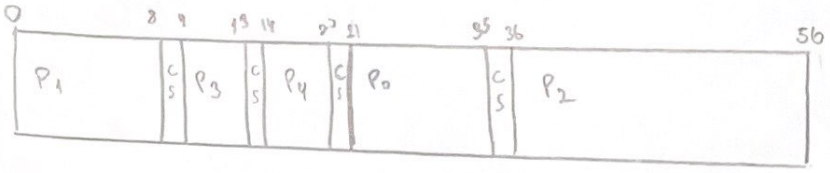
Problem 1

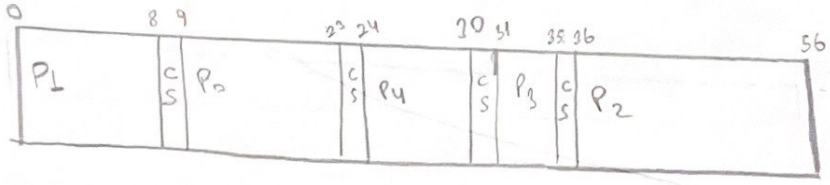
Part A.1:



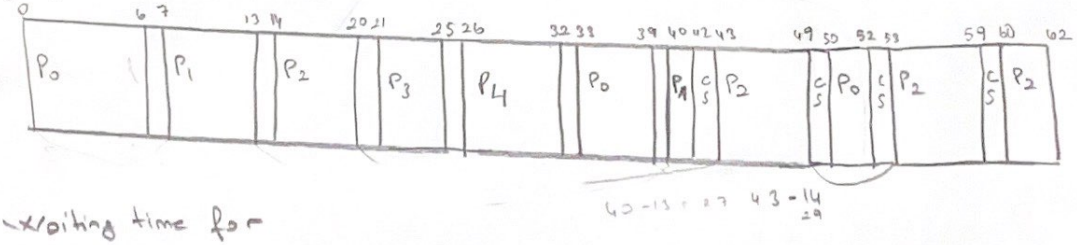
Part A.2:



Part A.3:



Part A.4: q=6ms



40-13 = 27 43-14 = 29

Part B) waiting time for

A.1

$P_0 = 9ms$
$P_1 = 0ms$
$P_2 = 24-2 = 22ms$
$P_3 = 45-4 = 41ms$
$P_4 = 50-6 = 44ms$
Total = 116ms

avg waiting time = $\frac{116}{5}$ = 23,2ms

A.2

$P_0 = 21ms$
$P_1 = 0ms$
$P_2 = 36-2 = 34ms$
$P_3 = 9-4 = 5ms$
$P_4 = 14-6 = 8ms$
Total = 68ms

average waiting time = $\frac{68ms}{5} = 13,6ms$

A.3

$P_0 = 9ms$
$P_1 = 0ms$
$P_2 = 36-2 = 34ms$
$P_3 = 31-4 = 27ms$
$P_4 = 24-6 = 18ms$
Total =

average waiting time = $\frac{88}{5} = 17,6ms$

A.4

$P_0 = 27+11 = 38ms$
$P_1 = 7+27 = 34ms$
$P_2 = 12+23+4+1 = 40ms$
$P_3 = 21-4 = 17ms$
$P_4 = 26-6 = 20ms$
Total =

average waiting time = $\frac{149}{5} = 29,8$

Part C Average Turnaround time for (Exit Time - Arrival Time)

A.1) $T_{Trend}(P_0) = \tau(P_0) = 23ms$
$T_{Trend}(P_1) = \tau(P_1) = 8ms$
$T_{Trend}(P_2) = \tau(P_2) = 44 - 2 = 42ms$
$T_{Trend}(P_3) = \tau(P_3) = 49 - 4 = 45ms$
$T_{Trend}(P_4) = \tau(P_4) = 56 - 6 = 50ms$

Total TurnAround Time 168ms
average = $\frac{168}{5} = 33.6ms$

A.2) $T_{Trend}(P_0) = \tau(P_0) = 35 - 0 = 35ms$
$T_{Trend}(P_1) = \tau(P_1) = 8 - 0 = 8ms$
$T_{Trend}(P_2) = \tau(P_2) = 56 - 2 = 54ms$
$T_{Trend}(P_3) = \tau(P_3) = 13 - 4 = 9ms$
$T_{Trend}(P_4) = \tau(P_4) = 20 - 6 = 14ms$

Total = 120ms
average = $\frac{120}{5} = 24ms$

A.3) $T_{Trend}(P_0) = \tau(P_0) = 23 - 0 = 23ms$
$T_{Trend}(P_1) = \tau(P_1) = 8ms$
$T_{Trend}(P_2) = \tau(P_2) = 56 - 2 = 54ms$
$T_{Trend}(P_3) = \tau(P_3) = 35 - 4 = 31ms$
$T_{Trend}(P_4) = \tau(P_4) = 30 - 6 = 24ms$

Total = 140ms
average = $\frac{140}{5} = 28ms$

A.4) $T_{Trend}(P_0) = \tau(P_0) = 52 - 0 = 52ms$
$T_{Trend}(P_1) = \tau(P_1) = 42 - 0 = 42ms$
$T_{Trend}(P_2) = \tau(P_2) = 62 - 2 = 60ms$
$T_{Trend}(P_3) = \tau(P_3) = 25 - 4 = 21ms$
$T_{Trend}(P_4) = \tau(P_4) = 32 - 6 = 26ms$

Total = 201
average = $\frac{201}{5} = 40.2ms$

Part D Round-Robin is the best in the response time.