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CSCD 340

Lab 7

Problem 1)

Process	P1	P2	P3	P4	P5	P6
Arrival Time	t	t + 1	t + 2	t + 3	t + 4	t + 5
CPU Burst	6	2	3	7	1	5

Service Order	1	2	3	4	5	6
Process	P1	P2	P3	P4	P5	P6
Wait Time	0	6	8	11	18	19

Throughput: 1/4 = 6 / (6 + 2 + 3 + 7 + 1 + 5)

Avg Wait Time: 10 1/3 = (0 + 6 + 8 + 11 + 18 + 19) / 6

Problem 2)

Process	P1	P2	P3	P4	P5	P6
Priority	2	3	4	1	2	5
Arrival Time	t	t + 2	t + 4	t + 6	t + 8	t + 10
CPU Burst	5	3	9	1	7	3

Service Order	1	2	3	4	5	6
Process	P1	P3	P6	P2	P5	P4
Time Remaining	5	9	3	3	7	1
Wait Time	0	1	4	15	12	21
Time	t	t + 5	t + 14	t + 17	t + 20	t + 27

Throughput: 1/5 = 6 / (5 + 3 + 9 + 1 + 7 + 3)

Avg Wait Time: 8 5/6 = (0 + 1 + 4 + 15 + 12 + 21) / 6

Problem 3)

Process	P1	P2	P3	P4	P5	P6
Priority	2	3	4	1	2	5
Arrival Time	t	t + 2	t + 4	t + 6	t + 8	t + 10
CPU Burst	5	3	9	1	7	3

Service Order	1	2	3	4	5	6	7	8	9
Process	P1	P2	P3	P6	P3	P2	P1	P5	P4
Time Remaining	5	3	9	3	3	1	3	7	1
Wait Time	0	0	0	0	3	12	15	20	27
Time	t	t + 2	t + 4	t + 10	t + 13	t + 16	t + 17	t + 20	t + 27

Throughput: 1/5 = 6 / (5 + 3 + 9 + 1 + 7 + 3

Avg Wait Time: 12 5/6 = (3 + 12 + 15 + 20 + 27) / 6

Problem 4)

Process	P1	P2	P3	P4	P5	P6
Arrival Time	t	t + 2	t + 4	t + 6	t + 8	t + 10
CPU Burst	5	3	1	7	9	5

Service Order	1	2	3	4	5	6
Process	P1	P1	P2	P4	P6	P5
Time Remaining	5	1	3	7	5	9
Wait Time	0	1	4	3	6	13
Time	t	t + 5	t + 6	t + 9	t + 16	t + 21

Throughput: 1/5 = 6 / (5 + 3 + 1 + 7 + 9 + 5)

Avg Wait Time: 4 1/2 = (0 + 1 + 4 + 3 + 6 + 13) / 6

Problem 5)

Process	P1	P2	P3	P4	P5	P6
Arrival Time	t	t + 2	t + 4	t + 6	t + 8	t + 10
CPU Burst	5	3	1	7	9	5

Service Order	1	2	3	4	5	6	7
Process	P1	P3	P2	P4	P6	P4	P5
Time Remaining	5	1	3	7	5	6	9
Wait Time	0	1	4	3	0	5	13
Time	t	t + 5	t + 6	t + 9	t + 10	t + 15	t + 21

Throughput: 1/5 = 6 / (5 + 3 + 1 + 7 + 9 + 5)

Avg Wait Time: 4 1/3 = (0 + 1 + 4 + 3 + 0 + 5 + 13) / 6

Problem 6)

Process	P1	P2	P3	P4	P5	P6
Arrival Time	t	t + 3	t + 6	t + 8	t + 12	t + 15
CPU Burst	8	1	3	5	6	3

Service Order	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Process	P1	P1	P2	P1	P3	P1	P4	P3	P5	P4	P6	P5	P4	P6	P5
Time Remaining	8	6	1	4	3	2	5	1	6	3	3	4	1	1	2
Wait Time	0	0	1	1	1	2	3	4	2	3	3	4	4	3	2
Time	t	t + 2	t + 4	t + 5	t + 7	t + 9	t + 11	t + 13	t + 14	t + 16	t + 18	t + 20	t + 22	t + 23	t + 24

Throughput: 1/4 = 6 / (8 + 1 + 3 + 5 + 6 + 3)

Avg Wait Time: 5 1/2 = (1 + 1 + 1 + 2 + 3 + 4 + 2 + 3 + 3 + 4 + 4 + 3 + 2) / 6