Quantum Time = 3

3 3 2 5 8 7 4

5 1 4

6 4 8 2 10 2 7 5 6

CPU 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57

P0 P0IP1 P1 P1RP2 P2 P2RP1TP0 P0 P0RP2 P2 P2RP0 P0 P0RP2 P2IP0 P0IP2 P2 P2RP2 P2 P2RP2 P2 P2RP0 P0 P0RP2IP0T P2 P2 P2RP2 P2 P2RP2I P2 P2 P2RP2 P2 P2T

Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q

IO 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57

P0 P0 P0 P0 P0R P2 P2RP0 P0 P0 P0 P0 P0 P0R P2 P2R P2 P2 P2 P2 P2R

Q Q Q Q Q

Listed only if NOT just passthrough

RQ 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 ...

P2 P2 P1 P1 P1 P0 P2 P2 P2 PO P0 P0 P2 P2 P2 P0 P0 P0 P0 P2 P2 P2 P0

P0 P2

IOQ 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 ...

Output Log File

0: no event

1: no event

2: no event

3: start of 3: P0 arrives – new process – enters Ready Queue – CPU burst of 2

start of 3: CPU empty – move P0 from Ready Queue into CPU – CPU burst of 2

4: end of 4: P0 CPU burst complete – moved to I/O queue (now Blocked from CPU until I/O burst complete) – I/O burst of 5

5: start of 5: P1 arrives – new process – enters Ready Queue – CPU burst of 4

start of 5: CPU empty – move P1 from Ready Queue into CPU – CPU burst of 4 (note: will preempt with 1 time unit remaining)

start of 5: I/O processor empty – move P0 into I/O processor – I/O burst of 5

6: start of 6: P2 arrives – new process – enters Ready Queue – CPU burst of 8

7: end of 7: P1 preempted from CPU – moved to Ready Queue – CPU burst of 1

8: start of 8: CPU empty – move P2 into CPU – CPU burst of 8 (note: will preempt with 5 time units remaining)

9: end of 9: P0 I/O burst complete – move to Ready Queue – CPU burst of 8

10: end of 10: P2 preempted from CPU – moved to Ready Queue – CPU burst of 5

11: start of 11: CPU empty – move P1 from Ready Queue into CPU – CPU burst of 1

end of 11: P1 CPU burst complete – no more events for P1 – process Terminated

12: start of 12: CPU empty – move P0 from Ready Queue into CPU – CPU burst of 8 (note: will preempt with 5 time units remaining)

13: no event

14: end of 14: P0 preempted from CPU – moved to Ready Queue – CPU burst of 5

15: start of 15: CPU empty – move P2 into CPU – CPU burst of 5 (note: will preempt with 2 time units remaining)

16: no event

17: end of 17: P2 preempted from CPU – moved to Ready Queue – CPU burst of 2

18: start of 18: CPU empty – move P0 from Ready Queue into CPU – CPU burst of 5 (note: will preempt with 2 time units remaining)

19: no event

20: end of 20: P0 preempted from CPU – moved to Ready Queue – CPU burst of 2

21: start of 21: CPU empty – move P2 into CPU – CPU burst of 2

22: end of 22: P2 CPU burst complete – moved to I/O queue (now Blocked from CPU until I/O burst complete) – I/O burst of 2

23: start of 23: CPU empty – move P0 into CPU – CPU burst of 2

start of 23: I/O processor empty – move P2 into I/O processor – I/O burst of 2

24: end of 24: P0 CPU burst complete – moved to I/O queue (now Blocked from CPU until I/O burst complete) – I/O burst of 7

end of 24: P2 I/O burst complete – move to Ready Queue – CPU burst of 10

25: start of 25: CPU empty – move P2 into CPU – CPU burst 10 (note: will preempt with 7 time units remaining)

start of 25: I/O processor empty – move P0 into I/O processor – I/O burst of 7

26: no event

27: end of 27: P2 preempted from CPU – moved to Ready Queue – CPU burst of 7 /\* optimized OS would not remove as Ready Queue is empty – as stated in class your program will to reuse code already developed \*/

28: start of 28: CPU empty – move P2 into CPU – CPU burst 7 (note: will preempt with 4 time units remaining)

29: no event

30: end of 30: P2 preempted from CPU – moved to Ready Queue – CPU burst of 4

31: start of 31: CPU empty – move P2 into CPU – CPU burst 4 (note: will preempt with 1 time unit remaining)

end of 31: P0 I/O burst complete – move to Ready Queue – CPU burst of 4

32: no event

33: end of 33: P2 preempted from CPU – moved to Ready Queue – CPU burst of 1

34: start of 34: CPU empty – move P0 into CPU – CPU burst 4 (note: will preempt with 1 time unit remaining)

35: no event

36: end of 36: P0 preempted from CPU – moved to Ready Queue – CPU burst of 1

37: start of 37: CPU empty – move P2 into CPU – CPU burst 1

end of 37: P2 CPU burst complete – move to I/O queue (now Blocked from CPU until I/O burst complete) – I/O burst of 2

38: start of 38: CPU empty – move PO into CPU – CPU burst 1

start of 38: I/O processor empty – move P2 into I/O processor – I/O burst of 2

end of 38: P0 CPU burst complete – no more events for P1 – process Terminated

39: end of 39: P2 I/O burst complete – move to Ready Queue – CPU burst of 7

40: start of 40: CPU empty – move P2 into CPU – CPU burst 7 (note: will preempt with 4 time units remaining)

41: no event

42: end of 42: P2 preempted from CPU – moved to Ready Queue – CPU burst of 4

43: start of 43: CPU empty – move P2 into CPU – CPU burst 4 (note: will preempt with 1 time unit remaining)

44: no event

45: end of 45: P2 preempted from CPU – moved to Ready Queue – CPU burst of 1

46: start of 46: CPU empty – move P2 into CPU – CPU burst 1

end of 46: P2 CPU burst complete – moved to I/O queue (now Blocked from CPU until I/O burst complete) – I/O burst of 5

47: start of 47: I/O processor empty – move P2 into I/O processor – I/O burst of 5

48: no event

49: no event

50: no event

51: end of 51: P2 I/O burst complete – move to Ready Queue – CPU burst of 6

52: start of 52: CPU empty – move P2 into CPU – CPU burst 6 (note: will preempt with 3 time units remaining)

53: no event

54: end of 54: P2 preempted from CPU – moved to Ready Queue – CPU burst of 3

55: start of 55: CPU empty – move P2 into CPU – CPU burst 3

56: no event

57: end of 45: P2 CPU burst complete – no more events for P2 – process Terminated

Output File

3: P0 arrives – new process changes state to Ready

P0 changes state from Ready to Running

4: P0 CPU changes state from Running to Blocked

5: P1 arrives – new process changes state to Ready

P1 from Ready to Running

CPU: P1 I/O: P0 Ready Queue: empty I/O Queue: empty

6: P2 arrives – new process changes state to Ready

7: P1 preempted – changes state from Running to Ready

8: P2 changes state from Ready to Running

9: P0 changes state from Blocked to Ready

10: P2 preempted – changes state from Running to Ready

CPU: P2 I/O: empty Ready Queue: P1 I/O Queue: empty

P0

11: P1 changes state from Ready to Running

P1 changes state from Running to Terminate

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