Tut 8 - Scheduling

Started: Nov 6 at 10:24am

Quiz Instructions

An OS uses a multi-level feedback scheduler with 2 levels. New and returning processes start at level 0, which uses round robin scheduling with a quantum of 2. A process that uses its entire quantum at level 0 gets moved to level 1, which uses first-come-first-served scheduling. The scheduler always chooses a process from the lowest-numbered non-empty level. Admission of a new process or a process returning from I/O does not force a scheduling decision; those processes are placed on the level 0 queue to wait until a scheduling decision is to be made.

Initially, there is one process, P0. New processes P1 and P6 are created at times 1 and 6 respectively. Those are the only three processes you need to schedule. Each process has a CPU burst of 5 time units, an I/O burst of 3 time units, and a CPU burst of 1 time unit. During an I/O burst, a process is blocked (on a wait queue); it does not require the processor.

Assume context switches take no time. Assume that a new process arrives after the scheduling decision is made for that time slot. Fill in the timeline below for each process. Note when a process is **New**, when it has the **CPU**, when it loses the CPU due to a **Preempt**, what queue it is on (**L0**, **L1**, **I/O**), and when it **Exit**s. The first 5 time units have been filled in for you.

The dropdown in each box shows the possible options. In the last question, if a thread has already exited, select the "-". The timeline continues from one question to the next.

Question 1 — 5 pts

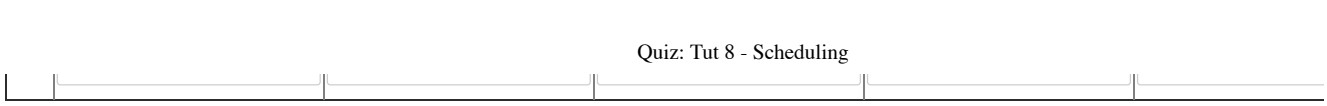
Time	0	1	2	3	4	5	6
P0	CPU	CPU	Preempt, L1	L1	CPU	[Select]	[Select]
P1		New, L0	CPU	CPU	Preempt, L1	[Select]	[Select]
P6							[Select]

Question 2 — 10 pts

Time	7	8	9	10	11
P0	[Select]	[Select]	[Select]	[Select]	[Select]
P1	[Select]	[Select]	[Select]	[Select]	[Select]
P6	[Select]	[Select]	[Select]	[Select]	[Select]

Question 3 — 10 pts

Time	14	15	16	17	18
P0	[Select]	[Select]	[Select]	[Select]	[Select]
P1	[Select]	[Select]	[Select]	[Select]	[Select]
P6	[Select]	[Select]	[Select]	[Select]	[Select]



Quiz saved at 12:25am Submit Quiz