CPU Scheduling

Review Questions

Section 5.1

5.1 What are the two bursts that CPU schedulers are designed around?

5.2 True or False? Under preemptive scheduling, when a process switches from the running to the ready state, it may lose control of the CPU.

Section 5.2

5.3 List at least three different criteria for designing a CPU scheduling algorithm.

Section 5.3

5.4 What scheduling algorithm assigns the CPU to the process with the highest priority?

5.5 True or False? The multilevel feedback queue scheduling algorithm allows processes to migrate between different queues.

5.6 What scheduling algorithm assigns the CPU to the process that first requested it?

5.7 What scheduling algorithm assigns the CPU to a process for only its time slice (or time quantum?)

5.8 What scheduling algorithm assigns the CPU to the process with the shortest burst?

Section 5.4

5.9 What are the two types of contention scope for thread scheduling?

5.10 What are the two general hardware instructions that can be performed atomically?

Section 5.5

5.11 What is more common on current systems, asymmetric or symmetric multiprocessing?

5.12 What are the two forms of processor affinity?

5.13 What are the two general approaches for load balancing?

5.14 What are the two ways to multithread a processing core?

Section 5.6

5.15 What are the two general types of real-time scheduling?

5.16 What real-time scheduling algorithm uses deadline as its scheduling criteria?

5.17 What real-time scheduling algorithm is used for scheduling periodic tasks with static priorities?

Section 5.7

5.18 What is the name of the default scheduling algorithm for current Linux systems?

5.19 True or False? A Windows thread is assigned both a priority class and a relative priority within that class.

5.20 If a thread on a Solaris system exhausts its time quantum, will it later be assigned a higher or lower priority?

Section 5.8

5.21 True or False? Deterministic modeling and simulations are similar strategies for evaluating scheduling algorithms.