

Due in class at 12:30pm on Monday 26 November 2007

typed answers preferred

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1. (counts double) Deadlock can be prevented by eliminating the “no preemption” condition through the following algorithm: If a process A requests a resource held by another process B, and that process B is waiting for other resources as well, the resource requested by A is preempted from B and given to A so that A can proceed. Then B can only continue when it gets the resources it was waiting on and also recovers the resource preempted by B. Will this algorithm prevent deadlock? Explain. Are there any problems with this algorithm?
 2. Why is linking multiple object files together into a single executable file difficult?
 3. Does partitioning with fixed-size partitions suffer from external or internal fragmentation? Explain. How about partitioning with dynamic (variable-size) partitions?
 4. Why is the valid-invalid bit needed in a page table? Why not simply make the page table exactly large enough to hold all the valid pages?