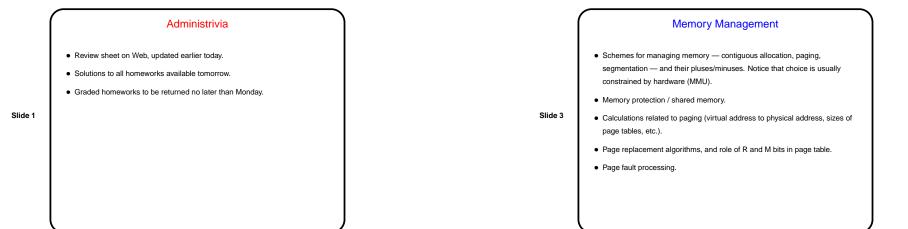
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Slide 4



Exam Format

- Open book, open notes. Can bring a calculator, but I'll try to keep any calculations simple.
- Questions probably similar in format to last exam some multiple-choice, some short essay, some calculational problems.

Slide 2

I/O hardware — devices, device controllers, I/O ports versus memory-mapped I/O, DMA. I/O software — programmed I/O versus interrupt-driven I/O versus I/O using DMA. I/O software layers and how they work together. Functions provided by user-level and device-independent layers (e.g., buffering). Synchronous versus asynchronous. I/O software for disks, terminals (character-oriented and GUI-capable), clocks.

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Filesystems

- File and directory abstractions notice many variations.
- Schemes for keeping track of which blocks belong to a file (contiguous allocation, linked list, FAT, i-nodes) — pluses/minuses, comparison of how long it takes to find a particular block in a file.

Slide 5

- Schemes for keeping track of free space free list versus bitmaps.
 - Calculations involving the above how much space is required for a FAT, limits on file size, etc.
 - Backups and consistency checking.
 - Optimizations buffer cache, placement of data on disk, fragmentation.

Minute Essay

- Do you feel reasonably prepared for this exam?
- (Optional) Any plans for the holiday weekend (other than studying!)?

Slide 6