

Homework #3

Due Date: Thursday, June 4, 2009, Beginning of class

Please type your answers. No handwritten submissions.

Please include the question itself and the number of the question right before your answer. Please write the answers in order: don't mix the questions up.

Do not forget your name.

Please staple your pages together.

File Systems Questions

1. What is a magic number?
2. Describe Memory-Mapped File I/O.
3. What is an absolute path name? What is a relative path name?
4. Why is there a special syscall (e.g., `readdir`) for accessing directories?
5. What is a disk partition? What is on a disk partition?
6. What does "file system consistency" mean? What are examples of inconsistencies?
7. Describe the file allocation table (FAT).
8. What is a "write-through cache" for disk blocks? What are some of the advantages and disadvantages?

Input/Output Questions

9. Describe Memory-Mapped I/O.
10. Describe DMA.
11. How can DMA be used to transfer data from memory to memory? Why might this be a good idea?
12. What is a "precise interrupt"?
13. How does a disk "block" differ from a disk "sector"?
14. Describe RAID level 5.
15. Describe the elevator algorithm.