ITBU 373, Operating Systems Homework 29

Chapter 37, *Operating Systems, Three Easy Pieces*

Readings

Read chapter 37 in the *Operating Systems, Three Easy Pieces* book.

Discussion Questions

Answer the discussion questions in writing.

1. What is the *address space* of a hard disk drive? How does it relate to *sectors*? What is a sector?
2. Why is addressing two contiguous blocks faster than addressing two distant blocks? Is this always faster? (The answer is, "it depends." What does it depend on?)
3. What is rotational delay?
4. What is *seek tine*?
5. What are *multi-zoned disks*?
6. What is the hard disk drive *cache*?
7. How does an average seek time of 4ms equate to a rotation time of 2ms? Show your arithmetic.
8. What is the *elevator algorithm*? What is its purpose? How does it work?
9. Explain how *merging* works. Pretend you are talking to your grandmother.
10. What do you find most amazing about hard disk drives?