

ITBU 373, Operating Systems Homework 28

Chapter 36, *Operating Systems, Three Easy Pieces*

Readings

Read chapter 36 in the *Operating Systems, Three Easy Pieces* book.

Discussion Questions

Answer the discussion questions in writing.

1. (not in book) What is a *bus* as that term is used when talking about computer hardware and architecture?
2. What is the *memory bus* (sometimes called the frontside bus)? What is the speed of this bus on your machine?
3. What is the *peripheral bus* (sometimes called the I/O bus)? What is the speed of this bus on your machine?
4. What is meant by the *internal structure* of an I/O device? What is its function? Does it include hardware? Does it include software?
5. Discuss the three components of the *status register*. Describe the responsibilities of each component.
6. What are the advantages and disadvantages of *polling*? What are the advantages and disadvantages of *interrupts*? Which is “better.”
7. Explain how the *two phased approach* works.
8. What is *DMA*? What does it do? Why do we use it?
9. Discuss the two methods of device communication.
 - Explain how I/O instructions work.
 - Explain how memory mapped I/O instructions work.