

# ITBU 373, Operating Systems Homework 11

## Chapter 15, *Operating Systems, Three Easy Pieces*

### Readings

Read chapter 15 in the *Operating Systems, Three Easy Pieces* book.

### Discussion Questions

Answer the discussion questions in writing.

1. What are the two main goals of any modern operating system?
2. What does *control* imply?
3. Describe *hardware-based address translation*.
4. For simplicity, the book makes three assumptions. List the three assumptions.
5. What is a program's *address space*? What is the machine's address space?
6. What is the idea that forms the basis of *base and bounds*?
7. Specifically, what is the difference between *static relocation* and *dynamic relocation*? How are each of these two schemes implemented?
8. What is the *memory management unit*?
9. What is the *free list*? Who or what uses the free list? For what purpose is the free list used?
10. Describe the steps taken by the operating system when a context switch occurs.
11. What is the *process control block* and why do we need it?
12. What is *internal fragmentation*? What causes internal fragmentation?