

# ITBU 373, Operating Systems Homework 34

## Chapter 42, *Operating Systems, Three Easy Pieces*

### Readings

Read chapter 42 in the *Operating Systems, Three Easy Pieces* book.

### Discussion Questions

Answer the discussion questions in writing.

1. What is the *crash-consistency* problem?
2. What is the *file-system inconsistency*?
3. What happens when the inode and bitmap are written to the disk, but not the data? Please be specific.
4. What happens when the inode and data block are written to the disk, but not the bitmap? Please be specific.
5. What happens when the data block and bitmap are written to the disk, but not the inode? Please be specific.
6. How does `fsck` work? How is it a solution to the problem of disk consistency?
7. Describe the *checkpointing process*?
8. What happens if we keep adding data to a finite log? How does a *circular log* solve this problem?
9. How is *ordered journaling (metadata journaling)* different from data journaling?
10. Describe how *backpointer-based consistency* works?