CS 439
Principles of Computer Systems

Final Exam Review
Overview – What we have done since midterm 2

- Computer Networks
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- **Socket Programming**
  - Sockets, Creating a Socket, Socket Address, Socket Options, connect, listen, accept, Client/Server, Process or Threaded Server Design, Single-Threaded Event-Driven Server Design, Select, epoll

- **Transactions**
  - ACID, Transactions, Write-Ahead Logging, Isolation, Schedule, Conflict Pairs, Conflicts, Conflict-Preserving Serializability, Dependency Graph, Two-Phase Locking, Durability and Atomicity, Two Generals Problem, Ordering, FIFO, Causal Ordering, Two-Phase Commit (2PC), CAP Theorem
Overview – What we have done since midterm 2

- Elective Topics
  - Security
  - MapReduce

- Expected knowledge:
  - What are the fundamental problems of the domain
  - What are the most widely-used solutions (as discussed in class) and how do they work
  - What are the alternatives