Final Review

- Final exam logistics
- Review of principles
- Where next?
Final Exam Logistics

- Examination aids allowed:
  - Non-programmable calculators
  - 1 double-sided page of notes

- *No cell phones allowed*
Final Exam

- Part I – Multiple choice
  - 1 correct answer for each question
- Part II – Definitions
  - 4-5 sentences each
- Part III – Longer Questions
  - Might need more time than Part I & II
  - Still very simple problems
  - Similar to midterm and problem sets
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Review of Basic Concepts

The 7-layer OSI Model

The 4-layer Internet model

Application
Presentation
Session
Transport
Network
Link
Physical

FTP
ASCII/Binary
TCP
IP
Ethernet

Application
Transport
Network
Link
Example: FTP over the Internet
Using TCP/IP and Ethernet

1. App
2. OS
3. Ethernet
4. “A” U of T

5. Ethernet
6. R1
7. R2
8. R3
9. R4
10. R5
11. Ethernet
12. “B” Stanford
13. 14
14. 15
15. 16
16. 17
17. 18
18. 19
19. 20
20. App

Using TCP/IP and Ethernet.
Review of Basic Principles

- Basic ideas:
  - Packet switching, statistical multiplexing, layering,

- Link Layer:
  - Channel capacity, encoding and clock recovery, error detection/correction, Ethernet switching

- Network Layer:
  - Fragmentation, Bellman-Ford, Dijkstra, addresses and lookups, BGP, IGP
Review of Basic Principles – Cont’d

• Transport Layer:
  • Flow control, congestion control, retransmissions and sliding windows, congestion avoidance (RED)

• Miscellaneous:
  • Queuing mechanisms, middleboxes, peer-to-peer, software-defined networking, and network security
Final Review

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Where next?
Where Next?

- Courses to take:
  - CSC2203: Packet Switch & Network Architectures
  - CSC2229: Software-Defined Networking
  - CSC309: Programming on the Web
  - CSC2231: Special Topics in Computer Systems
    - Online Social Networking Systems
    - Internet Systems and Services
  - CSC2206: Systems Modeling and Analysis
  - CSC2221: Theory of Distributed Computing
  - CSC2415: Advanced Topics in Distributed Computing
  - CSC2720: Systems Thinking for Global Problems

- Individual study courses
  - CSC494 and CSC495
Thank You!