Welcome to CMSC 122
Programming via the Web

Please put laptops and electronic devices away... 😞
Primary Objectives

• Basic Programming
• Procedural solutions
• Web design
  – HTML (defines “structure” of web pages)
  – CSS (defines “style” of web pages)
  – Javascript (makes web pages DO things)
What Can You Expect?

• Significant work load
• Challenging projects
• Analytical thinking required
• You may surprise yourself...
Course Syllabus

<Queue Elevator Music....>
Ways to Succeed

• Come to EVERY class
• Study
• Ask questions
• Come to office hours
• Start projects immediately
• Do not procrastinate!
More Things to Discuss

• Lecture slides
• Office Hours
• Project deadlines
• Classroom Etiquette
• Emailing your instructor and TAs
• Class announcements
Networks

• The “Internet” is a network... What’s a network?
IP Addresses

• Unique address for each machine
  – E.g: 128.85.117.163
Ports

- Each network application (program) has its own “Port Number”
  - Range is 0 to 65535
- Some port numbers are reserved:
  - 21 ftp (transferring files)
  - 23 telnet (remote terminal)
  - 80 http (web servers)
Packets

• What are packets?
• What’s in one?
  – Destination address and port
  – Sender address and port
  – Data
Internet Protocols (2 Kinds)

1. **UDP** (User Datagram Protocol)
   - “Packet Oriented”
   - Simple
   - Fast
   - Unreliable... Problems with packets:
     - They never arrive.
     - They are garbled/corrupted
     - They arrive in the wrong order
2. TCP (Transmission Control Protocol)
   – “Connection Oriented”
   – Complex
   – Lots of overhead
   – Reliable