Homework 5, due April.13
Interconnections. Read chapter 11.

Note on collaboration: It’s OK to give hints to each other, but you should still each do your own work. For instance, I want each of you to get the experience of exploring the RFC database. You can get hints from each other about how to find things, but each of you should be skimming the relevant RFCs on-line to look for the answers to 4, 5, and 6.

1. 11-1
2. 11-4
3. 11-5

Practice browsing RFCs. Go to www.ietf.org. Click on RFCs. Search for appropriate RFCs. Note a useful RFC is one periodically published called “Assigned Numbers”, which says which numbers have been assigned for fields such as the IP protocol type field.

Then answer the following questions, including which documents you needed to reference in order to answer these questions::

4. Show an ARP query packet (meaning saying what the various fields would contain), including the layer 2 header, assuming it’s transmitted on an Ethernet. (involves skimming through the Address Resolution Protocol RFC and possibly other RFCs such as the Assigned Numbers RFC to find out, for instance, whether it is sent with an IP header, or whether it has its own layer 2 protocol type, and if it’s IP, what the IP protocol type is). Assume node A with IP address A and layer 2 address a is trying to find IP address B.
5. Show a ping packet, including the layer 2 header.
6. Explain the “pseudo header” in UDP (User Datagram Protocol), and TCP (Transmission Control Protocol). What fields are included, and where do they come from?