CPSC 363: Networks
Homework 3
Due (by email) Monday, Mar. 15 at 11:00 am

For the following problems, please write complete sentences and paragraphs. If you use any sources besides your textbook, please give complete citations.

1. Chapter 4, problem R2
2. Suppose you have a cable modem that gets its IP address dynamically from your ISP. You also have an 802.11 wireless router, and 5 devices attached to the wireless network. How are the IPs assigned to each device? Which protocols are used? From one of the devices connected to the wireless network, you connect to host 143.206.149.21 using port 80. Assume that the address of the cable modem is 1.2.3.4. Making up whatever other addresses and port numbers that you need, give the “to” and “from” addresses of the outbound packet (from your host to the web server) and the “to” and “from” addresses of the return packet. (from the web server to your host). Be sure to indicate any changes in addresses or port numbers that occur along the path of the message.
3. Chapter 4, problem R25
4. Chapter 4, problem P1
5. Chapter 4, problem P9
6. Chapter 4, problem P25d. Show ALL work.
7. Assume that Distance Vector Routing has been used on the same network as problem P25. What is the routing table in switch w? Now, suppose that node w learns that the link between w and x now has the distance 1. How does w’s table change? What messages does w send to its neighbors?