CS 356 Pre-Lab #1: Basic Network Setup & Trace-analysis using Ethereal

A completed pre-lab needs to be turned in at the beginning of the lab session and you will need to bring your lab handout with you.

0. Signup for labtimes at http://www.cs.utexas.edu/users/nil
   On the site, click on “Students” and then on “Sign-up”
   Copies of the pre-lab and lab are available on this site as well in case you lose your copy. (click on “Students” and then “Pre-labs and Handouts”)

1. Read: a) the lab handout, and b) the following pages in the text: pg 463-465, 474, 476, 673, 4.4.5, 4.4.6, pg 322-325.

2. a) If we use “class-full” addressing, then which class do the IP addresses from this lab (tasks 1-6), belong to?

b) If the network mask for a Class B address is now described as: 128.83.0.0/16 but was historically written as 255.255.0.0 (and called a subnet mask), then describe how the historic form relates to the new form:

c) Write the network mask for a Class C address 223.1.1.0/24 using the historic format:

d) What is the purpose of the DHCP protocol?

3. If you did a traceroute from mobyduck.cs.utexas.edu to www.cs.utexas.edu, and the only device between mobyduck and www is an Ethernet switch, how many hops would you see? Explain.
4. The "ping" application is built on top of a specific protocol (hint: it's not TCP, UDP, or IP). What is it?

5. Predict what will happen when a computer with IP address 192.168.1.14 and Subnet mask 255.255.254.0 pings computers 1, 2, 3, 4 from Task 6 of the Lab handout.


7. List 5 protocols that Ethereal can decode.

8. Draw a diagram of the network topology that you will have built in Lab 1’s TASK 5 (refer to figure 5.34 in the text for a similar diagram).

9. What’s an ISN?

10. Where is the CS Dept Network Instructional Lab located???