Computer Networks: Home work assignment 2

Assigned: Thursday, Apr 1
Due: Thursday, Apr 15
(LATE SUBMISSIONS WILL NOT BE ACCEPTED)
(INDIVIDUAL EFFORT ONLY. ABSOLUTELY NO COLLOBORATION)

1. Peterson and Davie: Exercises: Chapter 5, Question 14.

2. Peterson and Davie: Exercises: Chapter 5, Question 17.

3. **libpcap packet capture library**
   Libpcap is a general purpose packet capture library. tcpdump is built using libpcap. You can learn more about libpcap using the manual pages 'man pcap'. There is also an online tutorial available at http://reactor-core.org/libpcap-tutorial.html. For this question, you will

   1 Develop a tcp program which will, open a connection from host A to host B, write a 1 byte packet and close the connection.

   2 Develop a program using libpcap to capture the packets transmitted for this tcp transaction. Specifically, measure the sequence numbers used by both sides of the transaction.

4. **tcp connection resetting**
   We will develop a program that will intercept and disconnect a tcp connection. An description of this problem is availale at http://cs.baylor.edu/˜donahoo/NIUNet/hijack.html. We will use the libnet tool (available at http://www.packetfactory.net/projects/libnet/ to develop this tool. For this question, you will

   1 Develop a tcp program which will, open a connection from host A to host B and continously send a packet.

   2 Develop a program using libpcap and libnet to capture packets (to learn the sequence numbers) and inject packets to disconnect this tcp connection.