ITS323 – Quiz 7

Name: _____   ID: _____   Marks: _____ (10)

Question 1   [6 marks]

Write the last 8 digits of your ID in the spaces below *backwards*. (E.g. if my ID is 5222123456, then I would write 6 5 4 3 2 1 2 2).

___ ___ . ___ ___ . ___ ___ . ___ ___

Above is the IP address of your computer. Use it to answer the following questions.

(a) If your IP address has subnet mask /8, then what is the directed broadcast address for the subnet your computer is attached to? [2 marks]

(b) Assume your computer is initially the only IP host in the subnet. Then a router with an IP address with subnet mask `255.255.224.0` is attached to the same subnet. Now how many more IP devices can be attached to the subnet? [2 marks]

(c) Write an IP address that is a loopback address *and* explain what happens if your computer sends an IP datagram to that address. [2 marks]

Question 2   [4 marks]

Assume host A has established a TCP connection to host B. Host A chose initial sequence number of 679. No data has been sent yet.

(a) Host A sends 500 Bytes of data in one segment to B. B responds with an acknowledgement, but with no data. What flags are set in the segment sent by B? [1 mark]

(b) In part (a), what is the sequence number in the segment sent by A? [1 mark]

(c) Host B sends 2000 Bytes of data in one segment to A. And then B sends another 2000 Bytes in a segment to A. A then acknowledges all data received by sending a single segment with ACK number 12345. What was the initial sequence number chosen by B? [2 marks]