

(Due Tue 17<sup>th</sup> Feb)

1. What are the 3 timers used in the TCP layer. Explain their purpose.
2. Explain the “silly window syndrome”
3. Explain the need for dynamic window sizes in TCP.
4. A process A initiates a TCP connection to a process B. Over the connection, A sends 10,000 bytes of application data to B. Process B sends 5,000 bytes to A. Make the following assumptions:
  - the starting sequence numbers of A and B are 100,000 and 200,000 respectively;
  - A and B allocate buffers of size 8000 bytes to process the connection.
  - The maximum number of application data bytes is restricted to 1200 bytes in each packet;

Make other reasonable assumptions if required. However, you should *explicitly specify* the assumptions.

Indicate the contents of the TCP headers (SEQ numbers, ACK numbers, flags set, Window size) of all packets exchanged between A and B.

Indicate the difference (if any) in the *TCP headers* of packets exchanged for the following two cases:

- a) A and B are processes running on two different computers;
- b) A and B are processes running on the same computer.