CSC 469 WEEK 8 TEST STUDY GUIDE

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There may be a question on any networking topic covered since the beginning, but the emphasis will be on the transport and network layer. In general, Chase's notes are a very good resource for what can be on the test.

In addition, I want to specifically mention the following:

General principles of writing networked applications with TCP. How to write a multi-threaded TCP server.

General principles of writing networked applications with UDP. Understand the main parts of a *DatagramPacket*: a buffer, an offset in the buffer, the length of data in the good portion of the buffer, a sender socket address, and a receiver socket address.

The main points about a *DatagramSocket*: how creation of datagram server socket differs from that of a client socket, the *send* and *receive* methods, the *bind* and *connect* methods.

Ways of converting between string and byte array formats: we covered use of the String class methods *toBytes*() to convert a string to an array of bytes, and use of the String class constructor to convert in the reverse direction. Another method will be covered on Tuesday: it too might be on the test.

Implementation of Reliable protocols: definition of finite state machine and its use in protocol implementation, Operation of Go Back N and Selective Repeat type protocols.

Implementation of TCP, estimating the interval for setting the retransmission timers, meaning of the fields in a TCP segments.

The network layer: routers, packet switches, link layer switches, control plane and data plane, the major components inside a router: Difference between routing and forwarding.

If there are questions that involve significant coding, they will be open book.