

# Homework 9

*Due: 18 May 2009*

## Problem 9.1

Hosts A and B follow a connect/disconnect protocol that uses three-way handshakes as outlined in Sections 6.2.2 and 6.2.3 of the *Computer Networks* book and Wednesday in class. Suppose host A sends a connection request to host B, which is (correctly) acknowledged by B, but A is not ready to actually send data yet, so it decides not to respond. What happens? What state do A and B think the connection is in?

What happens if A then changes his mind and, having not sent any data, initiates the disconnect protocol. How would B respond?

## Problem 9.2

The payload of a packet to be transmitted is the two-byte value 0xBEEF (as represented in hex). If the Hamming code were used (with even parity), how many redundant bits would there be? How many bits wide is the encoded frame? What kinds of errors can it detect and/or correct? Calculate the transmitted frame (and show your work).

## Problem 9.3

The payload of a packet to be transmitted is the two-byte value 0xCC6D (as represented in hex). If the CRC code were used with  $G(x) = x^4 + x^3 + x^2 + 1$ , how many redundant bits would there be? How many bits wide is the checksummed frame  $T(x)$ ? What kinds of errors can it detect and/or correct? Calculate the transmitted frame  $T(x)$  (and show your work).