

Homework 2

*Assigned: January 31**Due: February 6 (in class)*

Note: Late homeworks will NOT be accepted, however your lowest homework grade will be dropped.

1. Implement the Internet checksum code as presented in the book. Modify the code to print both the binary and hexadecimal representation of each intermediate result (i.e., each intermediate sum). Apply the code to the problem from HW 1 and compare the code output to your hand computed results.
2. Read the following article about Gigabit Ethernet (IEEE 802.3z):
http://www.10gea.org/GEA-Accel1999_rev-wp.pdf
Questions to be answered on the article will be posted early next week.
3. Design a TDMA system with slot reservations that allows for up to k slots per station per frame. How much longer is the slot reservation period as compared to the basic TDMA system with slot reservations that allows only one slot per station per frame? How would you determine a “good” value for k ? That is, what factors would you need to consider, and how would they affect the choice of k ?
4. Read Section 6.4.2 in the text, which describes polling as a method of scheduling medium access. For a configuration with a central controller and four stations (A,B,C,D), show a timing diagram that indicates the message transmissions if stations A, C and D have packets to send, but B does not. Label each message with the sender and receiver of the message, as well as the message meaning (e.g., POLL message).