

# Worksheet 15

1. If all the links in the Internet were to provide reliable delivery service, would the TCP reliable delivery service be redundant? Why or why not?
2. What are some of the possible services that a link-layer protocol can offer to the network layer? Which of these link-layer services have corresponding services in IP? In TCP?
3. True or False:
  - a. Single-bit parity checks can detect and correct a single bit error.
  - b. Single-bit parity checks can detect even number of bit errors.
  - c. Two-dimensional parity checks can detect and correct a single bit error.
  - d. Two-dimensional parity checks can detect and correct a double-bit error.
  - e. Two-dimensional parity checks can detect but cannot correct a double-bit error.
4. Consider the 4-bit generator,  $G=1001$ , and suppose that  $D$  has the value 101110. What is the value of  $R$ ? Show your work.