Sheet 7

I Solve the following *Review Problems* from *Computer Science: An Overview*:

- **4.11**
  What is the distinction between a network, an internet, and the Internet?
- **4.13**
  Using 32-bit Internet addresses was originally thought to provide ample room for expansion, but that conjecture is not proving to be accurate. IPv6 uses 128-bit addressing. Will that prove to be adequate? Justify your answer. (For example, you might compare the number of possible addresses to the population of the world ≈ 7 billion.)
- **4.14**
  Encode each of the following bit patterns using dotted decimal notation.
  a) `00000101000100100010011` b) `1000000000100000` c) `0011000000011000`
- **4.15**
  What bit pattern is represented by each of the following dotted decimal patterns?
  a) `0.0` b) `26.19.1` c) `8.12.20.13`
- **4.25**
  Many "lay users" of the Internet interchange the terms *Internet* and *World Wide Web*. To what do each of the terms correctly refer?
- **4.27**
  List five HTML tags and describe their meaning
- **4.28**
  Modify the HTML document below so that the word "Rover" is linked to the document whose URL is http://en.wikipedia.org/wiki/Rover_Dangerfield.

```
<html>
   <head>
      <title>Example</title>
   </head>
   <body>
      <h1>My Pet Dog</h1>
      <p>My dog's name is Rover.</p>
   </body>
</html>
```

- **4.29**
  Draw a sketch showing how the following HTML document would appear when displayed on a computer screen.

```
<html>
   <head>
      <title>Example</title>
   </head>
   <body>
      <h1>My Pet Dog</h1>
      <img src = "Rover.jpg">
   </body>
</html>
```

- **4.40**
  List the four layers in the Internet software hierarchy and identify a task performed by each layer.
- **4.41**
  Why does the transport layer chop large messages into small packets?

II Answer the following questions:

1. In the context of *Networking and the Internet*, define the following and/or give an example:
   a) *Protocol*
   b) *DNS*
   c) *Browser*
   d) *URL*
   e) *HTML*
   f) *Malware*
   g) *Denial of Service*
   h) *Spam*
   i) *Antivirus*
   j) *Firewall*
   k) *Spam Filter*
   l) *http, ftp, https, ftps*

2. Compare *Repeater*, *Bridge*, *Switch*, and *Router*

3. Compare *CSMA/CD* protocol with *CSMA/CA* protocol

4. Compare *Client/Server* model with *Peer-to-Peer* model

5. Compare *Client-side* activities with *Server-side* activities (on the Web)

6. Compare *TCP* protocol with *UDP* protocol