6. What is the term that refers to the "linking together" of documents so that one can move easily from viewing one document to viewing another document to which it is linked?

7. What was the name of the first widely used text-based browser, and the name of the first widely used GUI-based browser?

8. What is the term used to describe the "architecture" illustrated by the relationship between a web browser and a web server?

9. What are the two (potentially confusing) meanings of the term web server?

10. What are the two web browsers that currently have the most users? Note that the answer to this question may well depend on when it is being asked?

11. What is a "communication protocol"?

12. What is the acronym for the underlying web protocol that is used nearly universally these days to move information across the Internet, and what does that acronym stand for?

13. When and why might you find it useful to use the UDP web protocol?

14. If a friend tells you she has just used ftp, what has she probably done?

15. If a program on one computer communicates over the Internet with a program on another computer, what does this mean?

16. What function does an IP address have?

17. Can you give an example of a valid IP address and an invalid IP address and state why the first is valid and the second is not?

18. What is IPv6, and what problem will it solve?

19. What is an FQDN, and how does it relate to an IP address?

20. What are the two possible meanings of the acronym DNS?

21. What are the names and brief descriptions of each part of the URL shown below?

22. What is the difference between a URL, a URN, and a URI?

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**Short Exercises to Improve Your Basic Understanding**

In this section of each chapter you will find short, mostly hands-on, exercises that ask you to perform activities based on the material of the current chapter.

1. Find a computer connected to the Internet with at least two web browsers installed on it.
   - Choose several different websites (the home pages of Microsoft, Google, Adobe, and YouTube, for example).
   - Use each browser to visit each of those pages and note any differences between the appearance of each page from one browser to the next. This is a good way to convince yourself that the "web experience" is not yet as consistent as we might like it to be. It is also a good way to convince you at the outset that we must always be vigilant in constructing our web pages to be as certain as we can be that we have minimized any differences that will be seen by visitors to our web pages who happen to be using different web browsers.

2. On the basis of the preceding exercise, formulate a best practice that you (and all web developers) should follow consistently.

3. Locate a real-world e-commerce website (other than the Jones & Bartlett Learning site used in this chapter) that actually sells products online. Browse the site as though you were going to be an actual customer, choosing items and placing them in the site's "shopping cart", perhaps deleting some items along the way, and then proceeding to check out before canceling the transaction. This will give you a sense of where we are heading in our discussions in the rest of this book.

4. In this chapter we made the statement that IPv6 would provide "more Internet addresses than we are ever likely to need." Do a search to find out how many addresses it will actually provide, and decide whether you agree with that statement.

5. The problem of running out of IP addresses is not quite as dire as we might have suggested, because of something called Network Address Translation (NAT, yet another acronym). This technology permits one unique address on the Internet to "map" into many other addresses that are "hidden" behind that one that appears on the Internet, thus expanding the effective number of available IP addresses. Do a search for more information on NAT if this idea intrigues you. In fact, you may already be using NAT in your home network.

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**Exercises on the Parallel Project**

Since this is the first chapter, and the first group of exercises of this type, we need to say a few words about what we mean by our idea of a "parallel project". Beginning in Chapter 2 we will be using the example of a business called Nature's Source that sells health products online to illustrate all of the topics for web development that we discuss. This example will extend throughout the text, and we want you to develop your own "parallel business" and its corresponding "parallel website" by implementing the same functionality for your business and website that you see in our text example.

Your task for this first parallel project exercise is to produce and submit a single textfile, as described in the specifications given in what follows.

So let's get started. The first thing you need to do is to think about what kind of "business" you would like to run, and for which you would like to develop a website. Our only restrictions are that it cannot be an online store for health products, which is our own main example. It is