A Brain-Friendly Guide

2nd Edition
Updated for HTML5

Head First HTML and CSS

Launch your web career in one chapter

A learner's guide to creating standards-based web pages

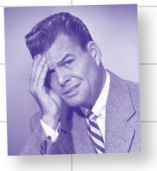
Watch out for common HTML & CSS traps and pitfalls

Learn why everything your friends know about style is probably wrong

Free Sampler

Bend your mind around 100 puzzles & exercises

Avoid embarrassing validation mistakes



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Elisabeth Robson & Eric Freeman

Head First HTML and CSS

by Elisabeth Robson and Eric Freeman

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Table of Contents (summary)

Table of Contents (the real thing)

Intro

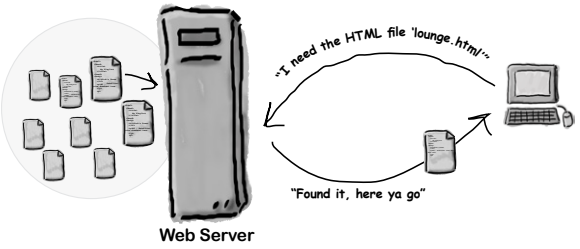
Your brain on HTML and CSS. Here *you* are trying to *learn* something, while here your *brain* is doing you a favor by making sure the learning doesn't *stick*. Your brain's thinking, "Better leave room for more important things, like which wild animals to avoid and whether naked snowboarding is a bad idea." So how *do* you trick your brain into thinking that your life depends on knowing HTML and CSS?

getting to know html

1 The Language of the Web

The only thing that is standing between you and getting yourself on the Web is learning to speak the lingo:

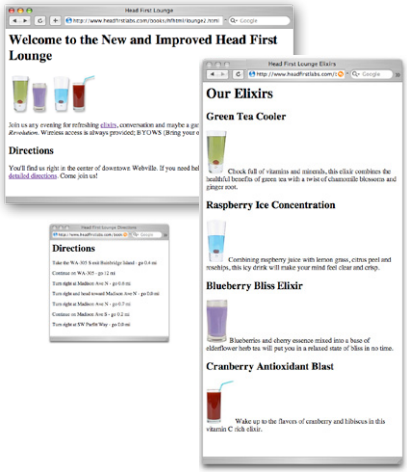
HyperText Markup Language, or HTML for short. So, get ready for some language lessons. After this chapter, not only are you going to understand some basic **elements** of HTML, but you'll also be able to speak HTML with a little **style.** Heck, by the end of this book, you'll be talking HTML like you grew up in Webville.



going further with hypertext

2 Meeting the "HT" in HTML

Did someone say "hypertext?" What's that? Oh, only the entire basis of the Web. In Chapter 1 we kicked the tires of HTML and found it to be a nice markup language (the "ML" in HTML) for describing the structure of web pages. Now we're going to check out the "HT" in HTML, hypertext, which will let us break free of a single page and link to other pages. Along the way we're going to meet a powerful new element, the <a> element, and learn how being "relative" is a groovy thing. So, fasten your seat belts—you're about to learn some hypertext.

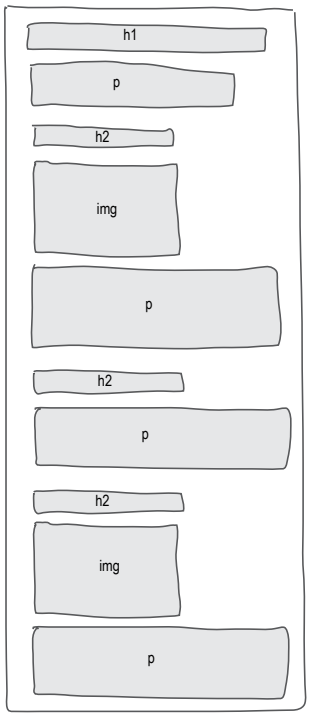


building blocks

3 Web Page Construction

I was told I'd actually be creating web pages in this book?

You've certainly learned a lot already: tags, elements, links, paths…but it's all for nothing if you don't create some killer web pages with that knowledge. In this chapter we're going to ramp up construction: you're going to take a web page from conception to blueprint, pour the foundation, build it, and even put on some finishing touches. All you need is your hard hat and your toolbelt, as we'll be adding some new tools and giving you some insider knowledge that would make Tim "The Toolman" Taylor proud.



getting connected

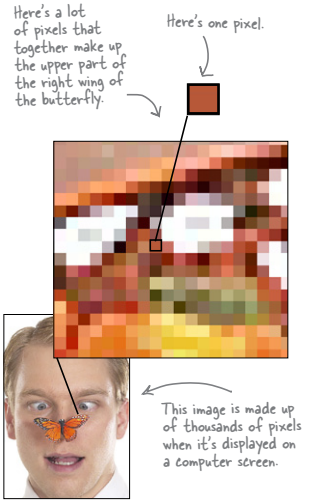
4 A Trip to Webville

Web pages are a dish best served on the Internet. So far you've only created HTML pages that live on your own computer. You've also only linked to pages that are on your own computer. We're about to change all that. In this chapter we'll encourage you to get those web pages on the Internet where all your friends, fans, and customers can actually see them. We'll also reveal the mysteries of linking to other pages by cracking the code of the h, t, t, p, :, /, /, w, w, w. So, gather your belongings; our next stop is Webville.

adding images to your pages

5 Meeting the Media

Smile and say "cheese." Actually, smile and say "gif," "jpg," or "png"—these are going to be your choices when "developing pictures" for the Web. In this chapter you're going to learn all about adding your first media type to your pages: images. Got some digital photos you need to get online? No problem. Got a logo you need to get on your page? Got it covered. But before we get into all that, don't you still need to be formally introduced to the <img> element? So sorry, we weren't being rude; we just never saw the "right opening." To make up for it, here's an entire chapter devoted to <img>. By the end of the chapter you're going to know all the ins and outs of how to use the <img> element and its attributes. You're also going to see exactly how this little element causes the browser to do extra work to retrieve and display your images.



standards and all that jazz

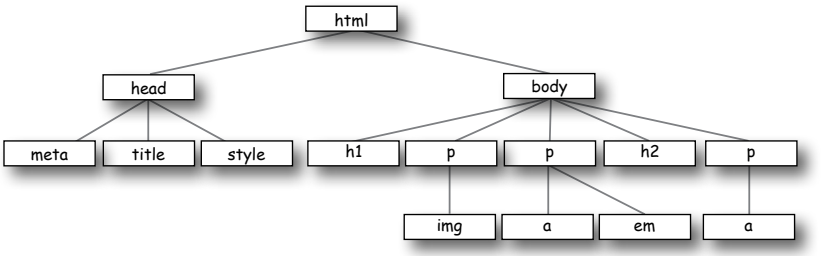
6 Serious HTML

What else is there to know about HTML? You're well on your way to mastering HTML. In fact, isn't it about time we move on to CSS and learn how to make all this bland markup look fabulous? Before we do, we need to make sure your HTML is really ready for the big leagues. Don't get us wrong, you've been writing first-class HTML all along, but there are just a few extra things you need to do to make it "industry standard" HTML. It's also time you think about making sure you're using the latest and greatest HTML standard, otherwise known as HTML5. By doing so, you'll ensure that your pages play well with the latest i-Device, and that they'll display more uniformly across all browsers (at least the ones you'd care about). You'll also have pages that load faster, pages that are guaranteed to play well with CSS, and pages that are ready to move into the future as the standards grow. Get ready, this is the chapter where you move from web tinkerer to web professional.

getting started with CSS

7 Adding a Little Style

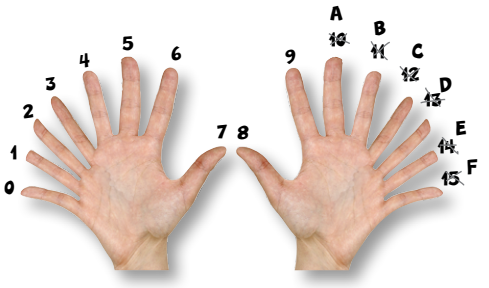
I was told there'd be CSS in this book. So far you've been concentrating on learning HTML to create the structure of your web pages. But as you can see, the browser's idea of style leaves a lot to be desired. Sure, we could call the fashion police, but we don't need to. With CSS, you're going to completely control the presentation of your pages, often without even changing your HTML. Could it really be so easy? Well, you *are* going to have to learn a new language; after all, Webville is a bilingual town. After reading this chapter's guide to learning the language of CSS, you're going to be able to stand on *either* side of Main Street and hold a conversation.



styling with fonts and colors

8 Expanding Your Vocabulary

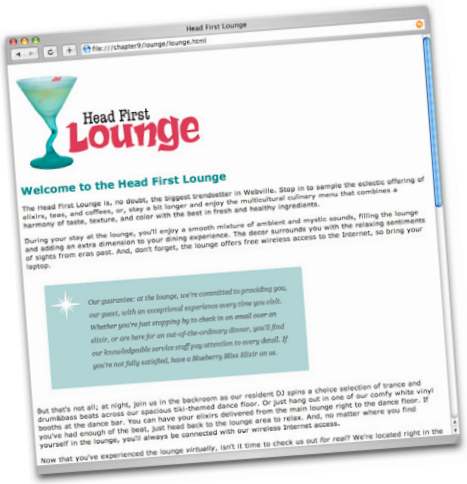
Your CSS language lessons are coming along nicely. You already have the basics of CSS down, and you know how to create CSS rules to select and specify the style of an element. Now it's time to build your vocabulary, and that means picking up some new properties and learning what they can do for you. In this chapter we're going to work through some of the most common properties that affect the display of text. To do that, you'll need to learn a few things about fonts and color. You're going to see you don't have to be stuck with the fonts everyone else uses, or the clunky sizes and styles the browser uses as the defaults for paragraphs and headings. You're also going to see there is a lot more to color than meets the eye.



the box model

9 Getting Intimate with Elements

To do advanced web construction, you really need to know your building materials. In this chapter we're going to take a close look at our building materials: the HTML elements. We're going to put block and inline elements right under the microscope and see what they're made of. You'll see how you can control just about every aspect of how an element is constructed with CSS. But we don't stop there—you'll also see how you can give elements unique identities. And, if that weren't enough, you're going to learn when and why you might want to use multiple stylesheets. So, turn the page and start getting intimate with elements.



divs and spans

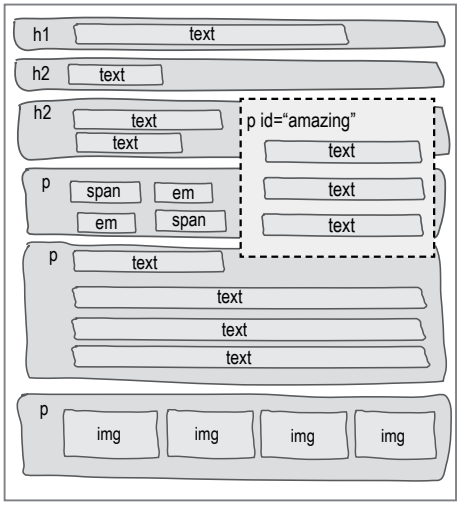
10 Advanced Web Construction

It's time to get ready for heavy construction. In this chapter we're going to roll out two new HTML elements: and . These are no simple "two by fours"; these are full-blown steel beams. With and , you're going to build some serious supporting structures, and once you've got those structures in place, you're going to be able to style them all in new and powerful ways. Now, we couldn't help but notice that your CSS toolbelt is really starting to fill up, so it's time to show you a few shortcuts that will make specifying all these properties a lot easier. And we've also got some special guests in this chapter, the *pseudo-classes*, which are going to allow you to create some very interesting selectors. (If you're thinking that "pseudo-classes" would make a great name for your next band, too late; we beat you to it.)

layout and positioning

11 Arranging Elements

It's time to teach your HTML elements new tricks. We're not going to let those HTML elements just sit there anymore—it's about time they get up and help us create some pages with real *layouts*. How? Well, you've got a good feel for the and structural elements and you know all about how the box model works, right? So, now it's time to use all that knowledge to craft some real designs. No, we're not just talking about more background and font colors—we're talking about full-blown professional designs using multicolumn layouts. This is the chapter where everything you've learned comes together.



html5 markup

12 Modern HTML

So, we're sure you've heard the hype around HTML5. And, given how far along you are in this book, you're probably wondering if you made the right purchase. Now, one thing to be clear about, up front, is that everything you've learned in this book has been HTML, and more specifically has met the HTML5 standard. But there are some new aspects of HTML markup that were added with the HTML5 standard that we haven't covered yet, and that's what we're going to do in this chapter. Most of these additions are evolutionary, and you're going to find you are quite comfortable with them given all the hard work you've already done in this book. There's some revolutionary stuff too (like video), and we'll talk about that in this chapter as well. So, let's dive in and take a look at these new additions!

tables and more lists

13 Getting Tabular

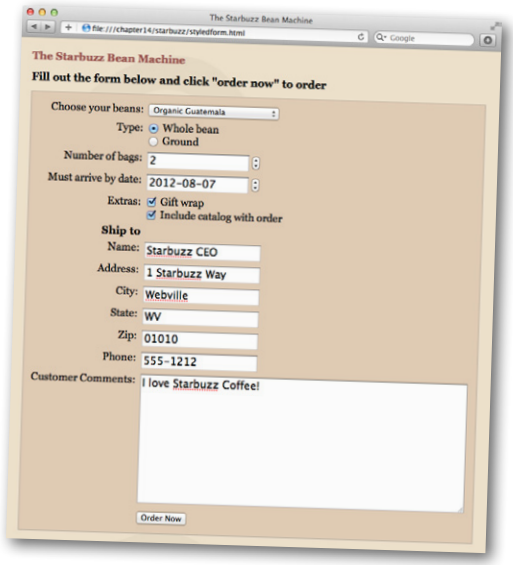
If it walks like a table and talks like a table… There comes a time in life when we have to deal with the dreaded *tabular data*. Whether you need to create a page representing your company's inventory over the last year or a catalog of your vinylmation collection (don't worry, we won't tell), you know you need to do it in HTML, but how? Well, have we got a deal for you: order now, and in a single chapter we'll reveal the secrets that will allow you to put your very own data right inside HTML tables. But there's more: with every order we'll throw in our exclusive guide to styling HTML tables. And, if you act now, as a special bonus, we'll throw in our guide to styling HTML lists. Don't hesitate; call now!

City	Date	Temperature	Altitude	Population	Diner Rating
Walla Walla, WA	June 15th	75	1,204 ft	29,686	4/5
Magic City, ID	June 25th	74	5,312 ft	50	3/5
Bountiful, UT	July 10th	91	4,226 ft	41,173	4/5
Last Chance, CO	July 23rd	102	4,780 ft	265	3/5
Truth or Consequences, NM	August 9th	93	4,242 ft	7,289	5/5
	August 27th	98			Tess 5/5 Tony 4/5
Why, AZ	August 18th	104	860 ft	480	3/5

html forms

14 Getting Interactive

So far all your web communication has been one-way: from your page to your visitors. Golly, wouldn't it be nice if your visitors could talk back? That's where HTML forms come in: once you enable your pages with forms (along with a little help from a web server), your pages are going to be able to gather customer feedback, take an online order, get the next move in an online game, or collect the votes in a "hot or not" contest. In this chapter you're going to meet a whole team of HTML elements that work together to create web forms. You'll also learn a bit about what goes on behind the scenes in the server to support forms, and we'll even talk about keeping those forms stylish.



15 appendix: leftovers

The Top Ten Topics (We Didn't Cover)

We covered a lot of ground, and you're almost finished with this book. We'll miss you, but before we let you go, we wouldn't feel right about sending you out into the world without a little more preparation. We can't possibly fit everything you'll need to know into this relatively short chapter. Actually, we *did* originally include everything you need to know about HTML and CSS (not already covered by the other chapters), by reducing the type point size to .00004. It all fit, but nobody could read it. So, we threw most of it away, and kept the best bits for this Top Ten appendix.

1 getting to know HTML

The Language of the Web

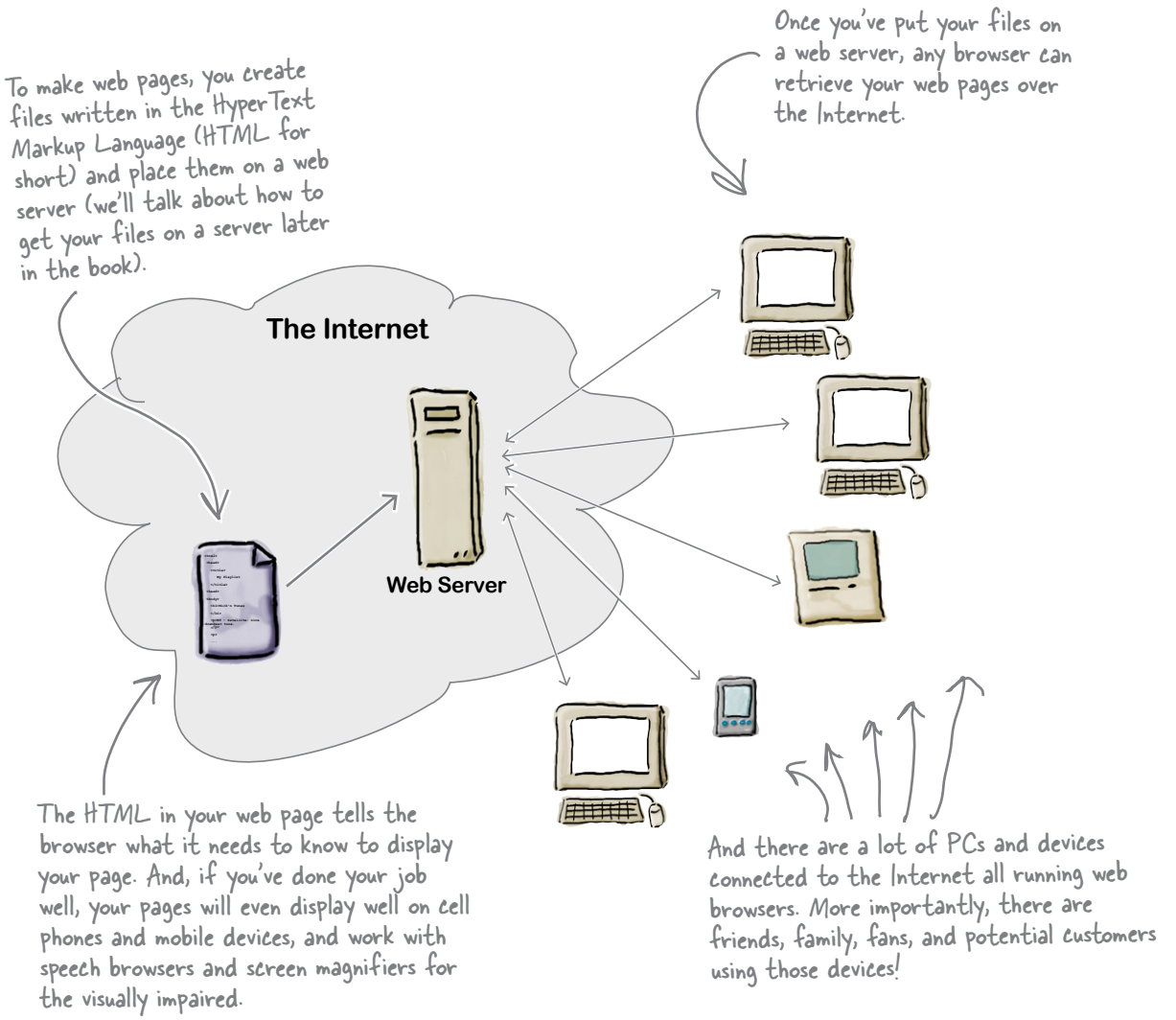
The only thing that is standing between you and getting yourself on the Web is learning to speak the lingo:

HyperText Markup Language, or HTML for short. So, get ready for some language lessons. After this chapter, not only are you going to understand some basic **elements** of HTML, but you'll also be able to speak HTML with a little **style.** Heck, by the end of this book you'll be talking HTML like you grew up in Webville.

The Web
~~Video~~ killed the radio star

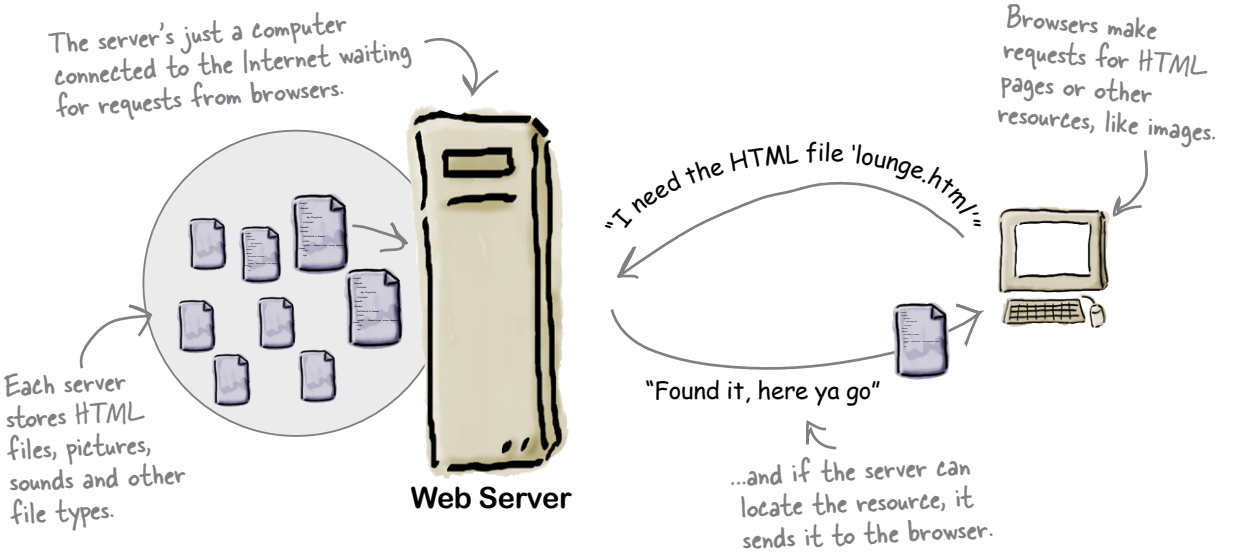
Want to get an idea out there? Sell something? Just need a creative outlet? Turn to the Web—we don't need to tell you it has become the universal form of communication. Even better, it's a form of communication **YOU** can participate in.

But if you really want to use the Web effectively, you've got to know a few things about **HTML**—not to mention, a few things about how the Web works too. Let's take a look from 30,000 feet:



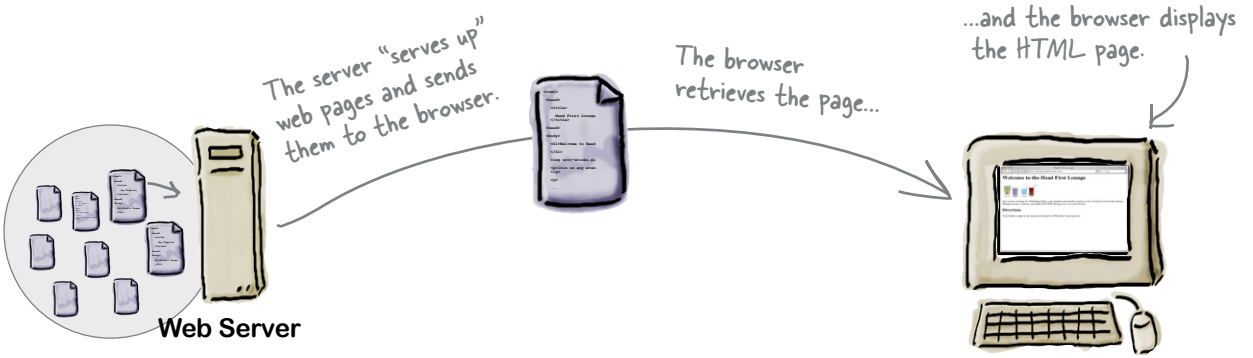
What does the web server do?

Web servers have a full-time job on the Internet, tirelessly waiting for requests from web browsers. What kinds of requests? Requests for web pages, images, sounds, or maybe even a video. When a server gets a request for any of these resources, the server finds the resource, and then sends it back to the browser.



What does the web browser do?

You already know how a browser works: you're surfing around the Web and you click on a link to visit a page. That click causes your browser to request an HTML page from a web server, retrieve it, and display the page in your browser window.



But how does the browser know how to display a page? That's where HTML comes in. HTML tells the browser all about the content and structure of the page. Let's see how that works…

What you write (the HTML)

So, you know HTML is the key to getting a browser to display your pages, but what exactly does HTML look like? And what does it do?

Let's have a look at a little HTML…imagine you're going to create a web page to advertise the *Head First Lounge*, a local hangout with some good tunes, refreshing elixirs, and wireless access. Here's what you'd write in HTML:

```
<html>
  <head>
    <title>Head First Lounge</title>  (A)
  </head>
  <body>
    <h1>Welcome to the Head First Lounge</h1>  (B)
    <img src="drinks.gif">  (C)
    <p>
  (D)  Join us any evening for refreshing elixirs,
       conversation and maybe a game or
       two of <em>Dance Dance Revolution</em>.  (E)
       Wireless access is always provided;
       BYOWS (Bring your own web server).
    </p>
    <h2>Directions</h2>  (F)
    <p>
  (G)  You'll find us right in the center of
       downtown Webville. Come join us!
    </p>
  </body>
</html>
```

We don't expect you to know HTML yet.

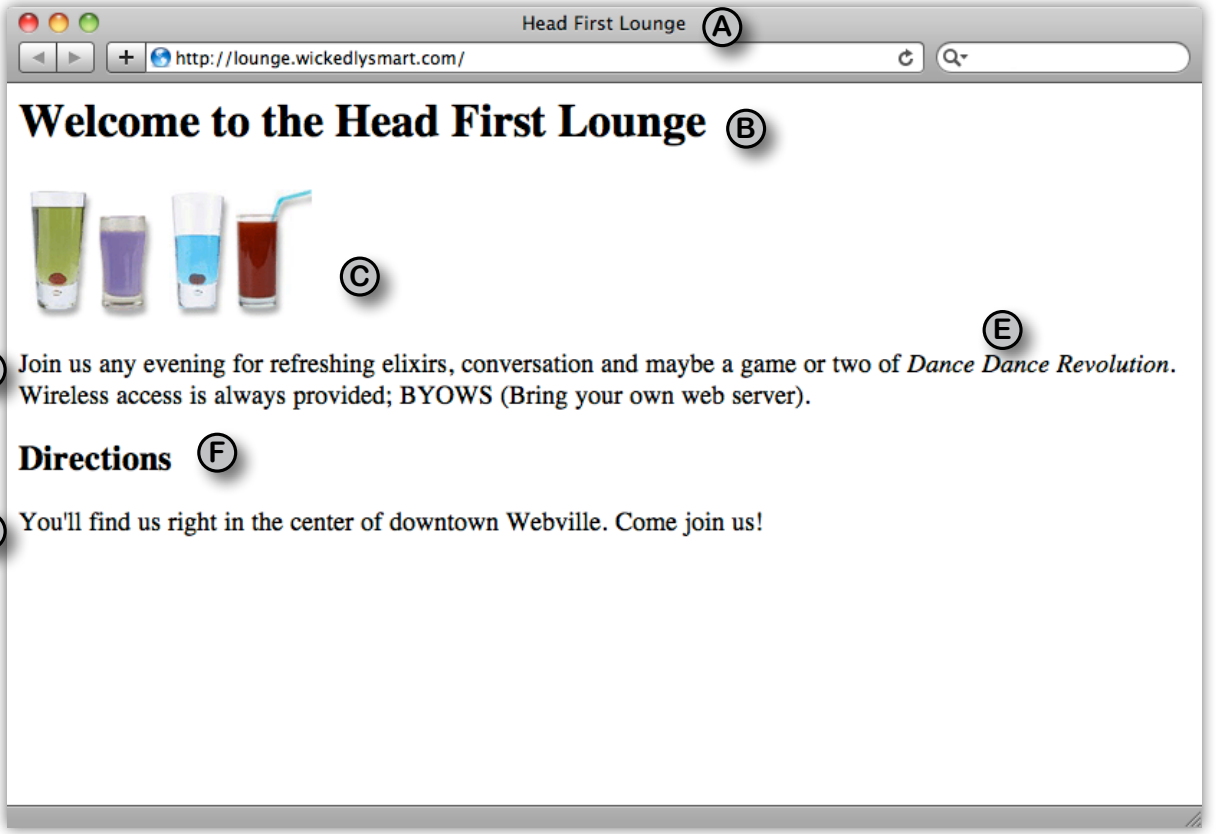
At this point you should just be getting a feel for what HTML looks like; we're going to cover everything in detail in a bit. For now, study the HTML and see how it gets represented in the browser on the next page. Be sure to pay careful attention to each letter annotation and how and where it is displayed in the browser.

What the browser creates

When the browser reads your HTML, it interprets all the *tags* that surround your text. Tags are just words or characters in angle brackets, like `<head>`, `<p>`, `<h1>`, and so on. The tags tell the browser about the *structure and meaning* of your text. So rather than just giving the browser a bunch of text, with HTML you can use tags to tell the browser what text is in a heading, what text is a paragraph, what text needs to be emphasized, or even where images need to be placed.

Let's check out how the browser interprets the tags in the Head First Lounge:

Notice how each tag in the HTML maps to what the browser displays.



there are no Dumb Questions

Q: So HTML is just a bunch of tags that I put around my text?

A: For starters. Remember that HTML stands for HyperText Markup Language, so HTML gives you a way to "mark up" your text with tags that tell the browser how your text is structured. But there is also the HyperText aspect of HTML, which we'll talk about a little later in the book.

Q: How does the browser decide how to display the HTML?

A: HTML tells your browser about the structure of your document: where the headings are, where the paragraphs are, what text needs emphasis, and so on. Given this information, browsers have built-in default rules for how to display each of these elements.

But you don't have to settle for the default settings. You can add your own style and formatting rules with CSS that determine font, colors, size, and a lot of other characteristics of your page. We'll get back to CSS later in the chapter.

Q: The HTML for the Head First Lounge has all kinds of indentation and spacing, and yet I don't see that when it is displayed in the browser. How come?

A: Correct, and good catch. Browsers ignore tabs, returns, and most spaces in HTML documents. Instead, they rely on your markup to determine where line and paragraph breaks occur.

So why did we insert our own formatting if the browser is just going to ignore it? To help us more easily read the document when we're editing the HTML. As your HTML documents become more complicated, you'll find a few spaces, returns, and tabs here and there really help to improve the readability of the HTML.

Q: So there are two levels of headings, <h1> and a subheading <h2>?

A: Actually there are six, <h1> through <h6>, which the browser typically displays in successively smaller font sizes. Unless you are creating a complex and large document, you typically won't use headings beyond <h3>.

Q: Why do I need the <html> tag? Isn't it obvious this is an HTML document?

A: The <html> tag tells the browser your document is actually HTML. While some browsers will forgive you if you omit it, some won't, and as we move toward "industrial-strength HTML" later in the book, you'll see it is quite important to include this tag.

Q: What makes a file an HTML file?

A: An HTML file is a simple text file. Unlike a word processing file, there is no special formatting embedded in it. By convention, we add an ".html" to the end of the filename to give the operating system a better idea of what the file is. But, as you've seen, what really matters is what we put inside the file.

Q: Everyone is talking about HTML5. Are we using it? If so, why aren't we saying "HTML-FIVE" instead of "HTML"?

A: You're learning about HTML, and HTML5 just happens to be the latest version of HTML. HTML5 has had a lot of attention recently, and that's because it simplifies many of the ways we write HTML and enables some new functionality, which we're going to cover in this book. It also provides some advanced features through its JavaScript application programming interfaces (APIs), and those are covered in Head First HTML5 Programming.

Q: Markup seems silly. What-you-see-is-what-you-get applications have been around since, what, the '70s? Why isn't the Web based on a format like Microsoft Word or a similar application?

A: The Web is created out of text files without any special formatting characters. This enables any browser in any part of the world to retrieve a web page and understand its contents. There are WYSIWYG applications out there like Dreamweaver, and they work great. But in this book we're going to take it down to the bare metal, and start with text. Then you're in good shape to understand what your Dreamweaver application is doing behind the scenes.

Q: Is there any way to put comments to myself in HTML?

A: Yes, if you place your comments in between <!-- and --> the browser will totally ignore them. Say you wanted to write a comment "Here's the beginning of the lounge content." You'd do that like this:

```
<!-- Here's the beginning of
the lounge content -->
```

Notice that you can put comments on multiple lines. Keep in mind anything you put between the "<!--" and the "-->", even HTML, will be ignored by the browser.

You're closer to learning HTML than you think…

Here's the HTML for the Head First Lounge again. Take a look at the tags and see if you can guess what they tell the browser about the content. Write your answers in the space on the right; we've already done the first couple for you.

```
<html>
  <head>
    <title>Head First Lounge</title>
  </head>
  <body>
    <h1>Welcome to the Head First Lounge</h1>
    <img src="drinks.gif">
    <p>
       Join us any evening for refreshing elixirs,
       conversation and maybe a game or
       two of <em>Dance Dance Revolution</em>.
       Wireless access is always provided;
       BYOWS (Bring your own web server).
    </p>
    <h2>Directions</h2>
    <p>
       You'll find us right in the center of
       downtown Webville. Come join us!
    </p>
  </body>
</html>
```

Tells the browser this is the start of HTML.

Starts the page "head" (more about this later).


```
<html>                                                    Tells the browser this is the start of HTML.
  <head>                                                  Starts the page "head".
    <title>Head First Lounge</title>                      Gives the page a title.
  </head>                                                 End of the head.
  <body>                                                  Start of the body of page.
    <h1>Welcome to the Head First Lounge</h1>             Tells browser that "Welcome to..." is a heading.
    <img src="drinks.gif">                                Places the image "drinks.gif" here.
    <p>                                                   Start of a paragraph.
       Join us any evening for refreshing elixirs,
       conversation and maybe a game or
       two of <em>Dance Dance Revolution</em>.            Puts emphasis on Dance Dance Revolution.
       Wireless access is always provided;
       BYOWS (Bring your own web server).
    </p>                                                  End of paragraph.
    <h2>Directions</h2>                                   Tells the browser that "Directions" is a subheading.
    <p>                                                   Start of another paragraph.
       You'll find us right in the center of
       downtown Webville. Come join us!
    </p>                                                  End of paragraph.
  </body>                                                 End of the body.
</html>                                                   Tells the browser this is the end of the HTML.
```

Your big break at Starbuzz Coffee

Starbuzz Coffee has made a name for itself as the fastest growing coffee shop around. If you've seen one on your local corner, look across the street—you'll see another one.

In fact, they've grown so quickly, they haven't even managed to put up a web page yet…and therein lies your big break: By chance, while buying your Starbuzz Chai Tea, you run into the Starbuzz CEO…

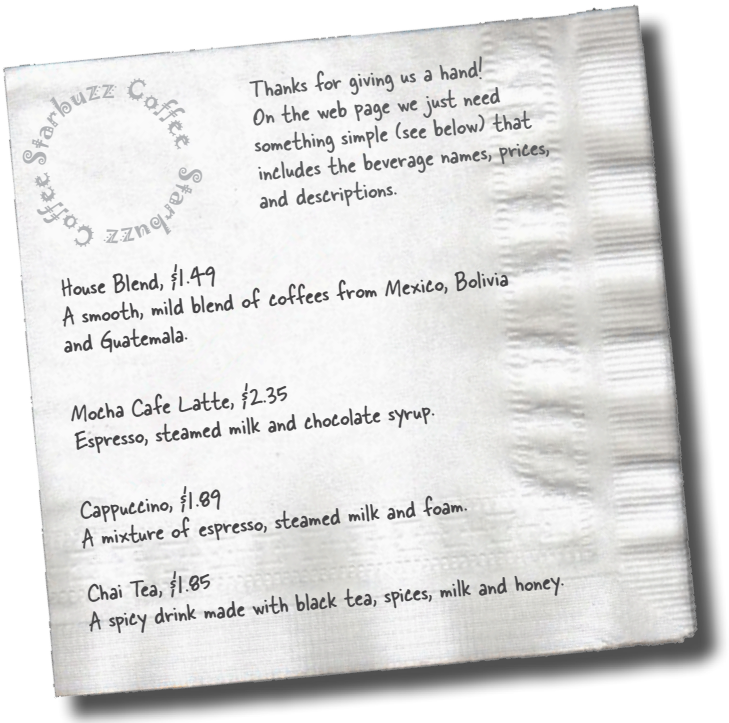
BRAIN POWER

Decisions, decisions.
Check your first priority below (choose only one):

- ☐ A. Give dog a bath.
- ☐ B. Finally get my checking account balanced.
- ☐ C. Take the Starbuzz gig and launch BIG-TIME web career.
- ☐ D. Schedule dentist appointment.

Wonderful! We're so glad you'll be helping us.* Here's what we need on our first page...

The CEO scribbles something on a napkin and hands it to you...



Sharpen your pencil

Take a look at the napkin. Can you determine the *structure* of it? In other words, are there obvious headings? Paragraphs? Is it missing anything like a title?

Go ahead and mark up the napkin (using your pencil) with any structure you see, and add anything that is missing.

You'll find our answers at the end of Chapter 1.

* If by chance you chose option A, B, or D on the previous page, we recommend you donate this book to a good library, use it as kindling this winter, or what the heck, go ahead and sell it on Amazon and make some cash.

Creating the Starbuzz web page

Of course, the only problem with all this is that you haven't actually created any web pages yet. But that's why you decided to dive head first into HTML, right?

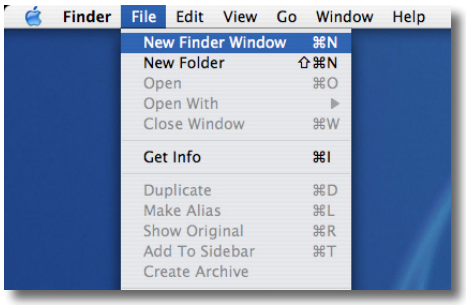
No worries, here's what you're going to do on the next few pages:

1. **Create an HTML file using your favorite text editor.**
2. **Type in the menu the Starbuzz CEO wrote on the napkin.**
3. **Save the file as "index.html".**
4. **Open the file "index.html" in your favorite browser, step back, and watch the magic happen.**

Creating an HTML file (Mac)

All HTML files are text files. To create a text file, you need an application that allows you to create plain text without throwing in a lot of fancy formatting and special characters. You just need plain, pure text.

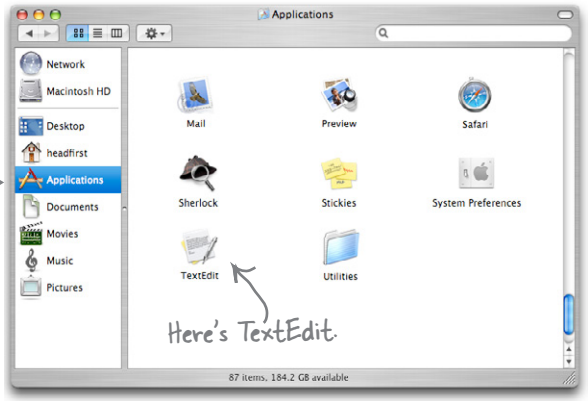
We'll use TextEdit on the Mac in this book; however, if you prefer another text editor, that should work fine as well. And, if you're running Windows, you'll want to skip ahead a couple of pages to the Windows instructions.



Step one:

Navigate to your **Applications** folder

The TextEdit application is in the *Applications* folder. The easiest way to get there is to choose New Finder Window from the Finder's File menu and then look for the Application directly in your shortcuts. When you've found it, click on Applications.



Step two:

Locate and run **TextEdit**

You'll probably have lots of applications listed in your *Applications* folder, so scroll down until you see TextEdit. To run the application, double-click on the TextEdit icon.

Step three (optional):

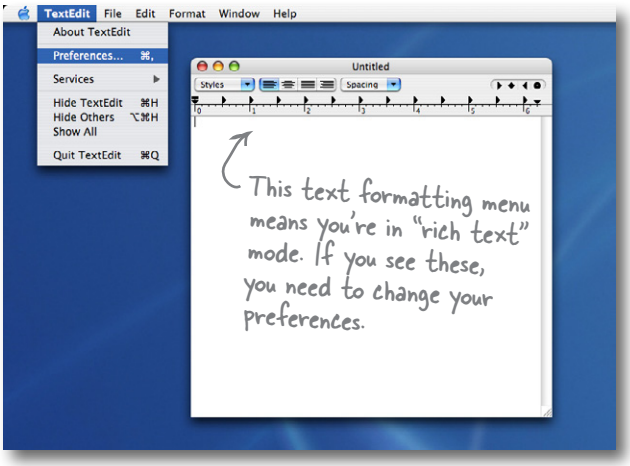
Keep **TextEdit** in your **Dock**

If you want to make your life easier, click and hold on the TextEdit icon in the Dock (this icon appears once the application is running). When it displays a pop-up menu, choose Options, then "Keep in Dock." That way, the TextEdit icon will always appear in your Dock and you won't have to hunt it down in the *Applications* folder every time you need to use it.

Step four:

Change your TextEdit **Preferences**

By default, TextEdit is in "rich text" mode, which means it will add its own formatting and special characters to your file when you save it—not what you want. So, you'll need to change your TextEdit Preferences so that TextEdit saves your work as a pure text file. To do this, first choose the Preferences menu item from the TextEdit menu.



Step five:

Set Preferences for **Plain text**

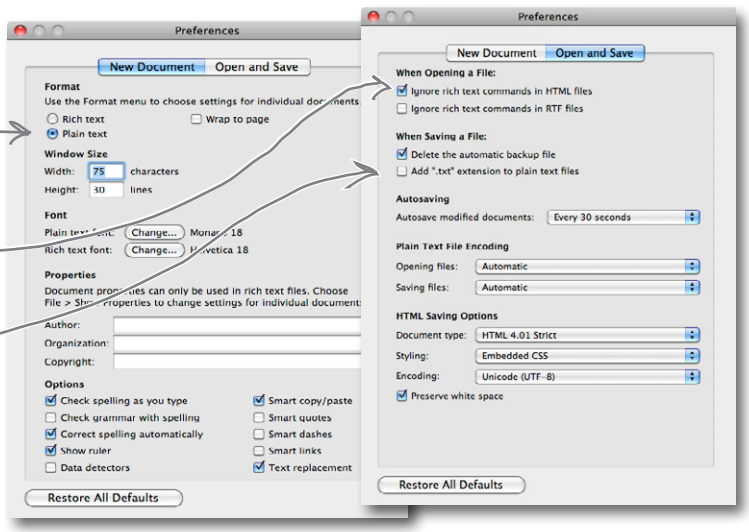
Once you see the Preferences dialog box, there are three things you need to do.

First, choose "Plain text" as the default editor mode in the New Document tab.

In the "Open and Save" tab, make sure "Ignore rich text commands in HTML files" is checked.

Last, make sure that the "Add .txt extension to plain text files" is **un**checked.

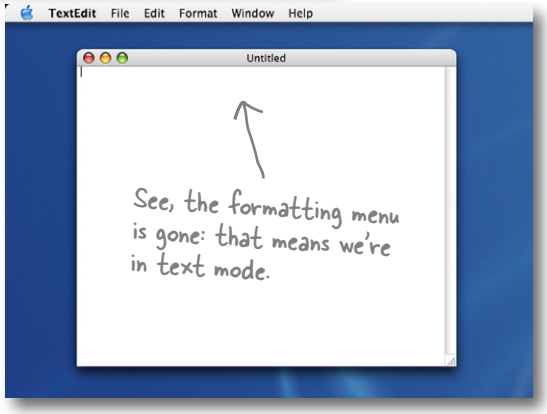
That's it; to close the dialog box, click on the red button in the top-left corner.



Step six:

Quit and **restart**

Now quit out of TextEdit by choosing Quit from the TextEdit menu, and then restart the application. This time, you'll see a window with no fancy text formatting menus at the top. You're now ready to create some HTML.



Creating an HTML file (Windows)

Or another version of Windows

If you're reading this page you must be a Windows 7 user. If you're not, you might want to skip a couple of pages ahead. Or, if you just want to sit in the back and not ask questions, we're okay with that too.

If you're using another version of Windows, you'll find Notepad there as well.

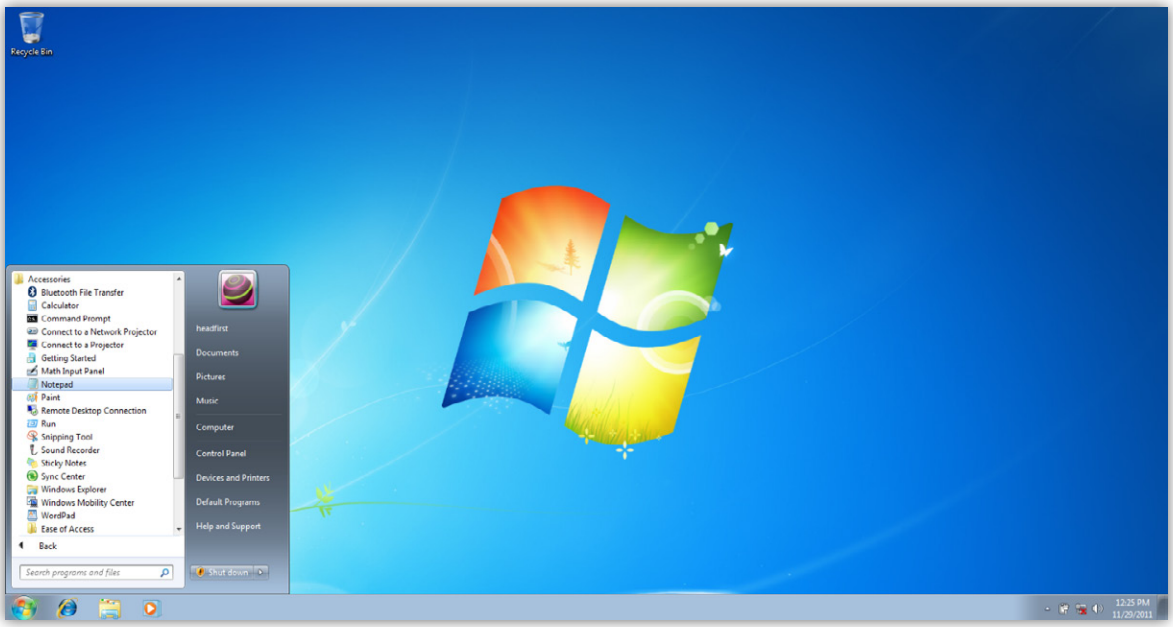
To create HTML files in Windows 7, we're going to use Notepad—it ships with every copy of Windows, the price is right, and it's easy to use. If you've got your own favorite editor that runs on Windows 7, that's fine too; just make sure you can create a plain-text file with an ".html" extension.

Assuming you're using Notepad, here's how you're going to create your first HTML file.

Step one:

Open the **Start** menu and navigate to Notepad.

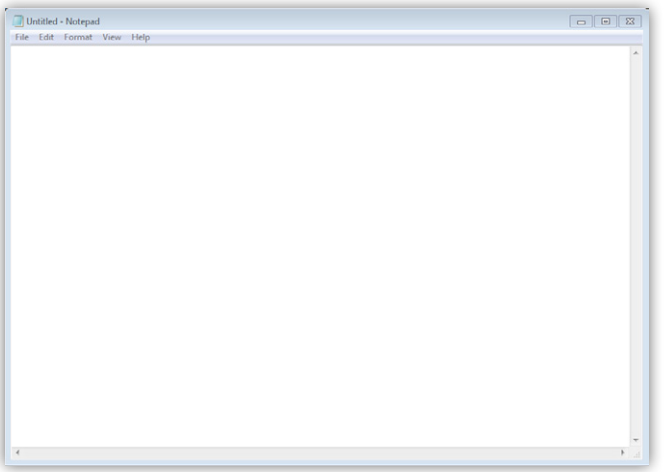
You'll find the Notepad application in *Accessories*. The easiest way to get there is to click on the Start menu, then on All Programs, then Accessories. You'll see Notepad listed there.



Step two:

Open **Notepad**.

Once you've located Notepad in the *Accessories* folder, go ahead and click on it. You'll see a blank window ready for you to start typing HTML.



But recommended

Step three (optional):

Don't hide extensions of well-known file types.

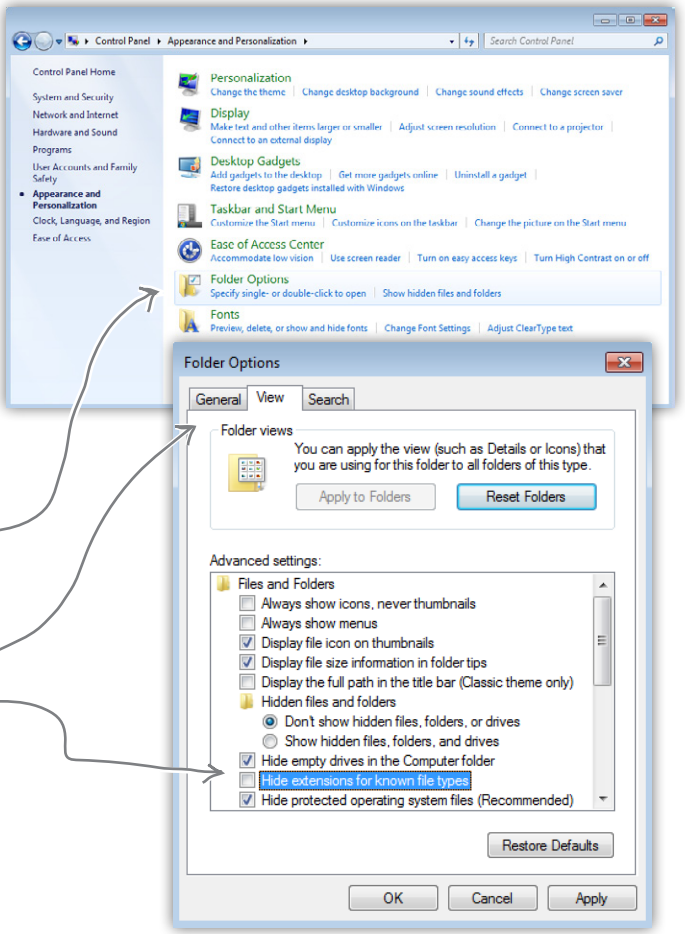
By default, Windows File Explorer hides the file extensions of well-known file types. For example, a file named "Irule.html" will be shown in the Explorer as "Irule" without its ".html" extension.

It's much less confusing if Windows shows you these extensions, so let's change your folder options so you can see them.

First, open Folder Options by clicking the Start button, clicking Control Panel, clicking "Appearance and Personalization," and then clicking Folder Options.

Next, in the View tab, under "Advanced settings," scroll down until you see "Hide extensions for known file types" and *uncheck* this option.

That's it. Click on the OK button to save the preference and you'll now see the file extensions in the Explorer.



there are no Dumb Questions

Q: Why am I using a simple text editor? Aren't there powerful tools like Dreamweaver and Expression Web for creating web pages?

A: You're reading this book because you want to understand the true technologies used for web pages, right? Now those are all great tools, but they do a lot of the work for you, and until you are a master of HTML and CSS, you want to learn this stuff without a big tool getting in your way.

Once you're a master, however, these tools do provide some nice features like syntax checking and previews. At that point, when you view the "code" window, you'll understand everything in it, and you'll find that changes to the raw HTML and CSS are often a lot faster than going through a user interface. You'll also find that as standards change, these tools aren't always updated right away and may not support the most recent standards until their next release cycle. Since you'll know how to change the HTML and CSS without the tool, you'll be able to keep up with the latest and greatest all the time.

There are many more fully featured editors that include great features like clips (for automatically inserting bits of HTML you write often), preview (for previewing directly in the editor before you test in the browser), syntax coloring (so tags are a different color from content), and much more. Once you get the hang of writing basic HTML and CSS in a simple editor, it may be worth checking out one of the fancier editors, such as Coda, TextMate, CoffeeCup, or Aptana Studio. There are many out there to choose from (both free and not).

Q: I get the editor, but what browser am I supposed to be using? There are so many—Internet Explorer, Chrome, Firefox, Opera, Safari—what's the deal?

A: The simple answer: use whatever browser you like. HTML and CSS are industry standards, which means that all browsers try to support HTML and CSS in the same way (just make sure you are using the newest version of the browser for the best support).

The complex answer: in reality there are slight differences in the way browsers handle your pages. If you've got users who will be accessing your pages in a variety of browsers, then always test your web page in several different browsers. Some pages will look exactly the same; some won't. The more advanced you become with HTML and CSS, the more these slight differences may matter to you, and we'll get into some of these subtleties throughout the book.

Any of the major browsers—Internet Explorer, Chrome, Firefox, Opera, and Safari—will work for most examples (except where noted); they are all modern browsers with great HTML and CSS support. And as a web developer, you'll be expected to test your code in more than one browser, so we encourage you to download and get familiar with at least two!

Q: I'm creating these files on my own computer—how am I going to view these on the Web?

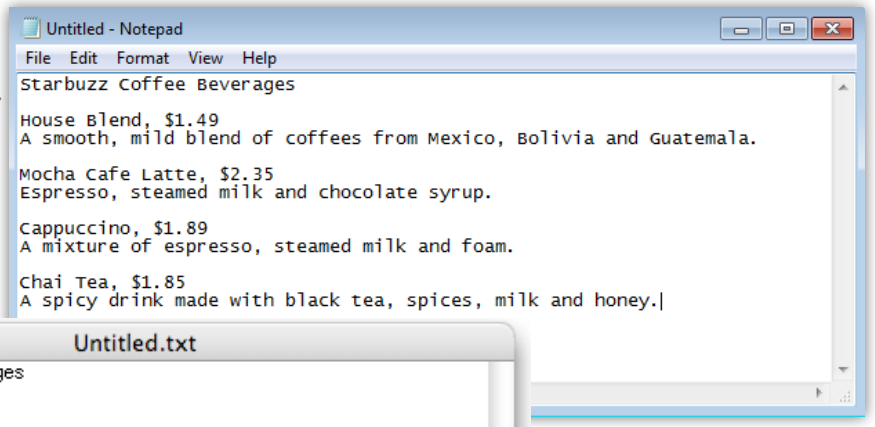
A: That's one great thing about HTML: you can create files and test them on your own computer and then later publish them on the Web. Right now, we're going to worry about how to create the files and what goes in them. We'll come back to getting them on the Web a bit later.

Meanwhile, back at Starbuzz Coffee...

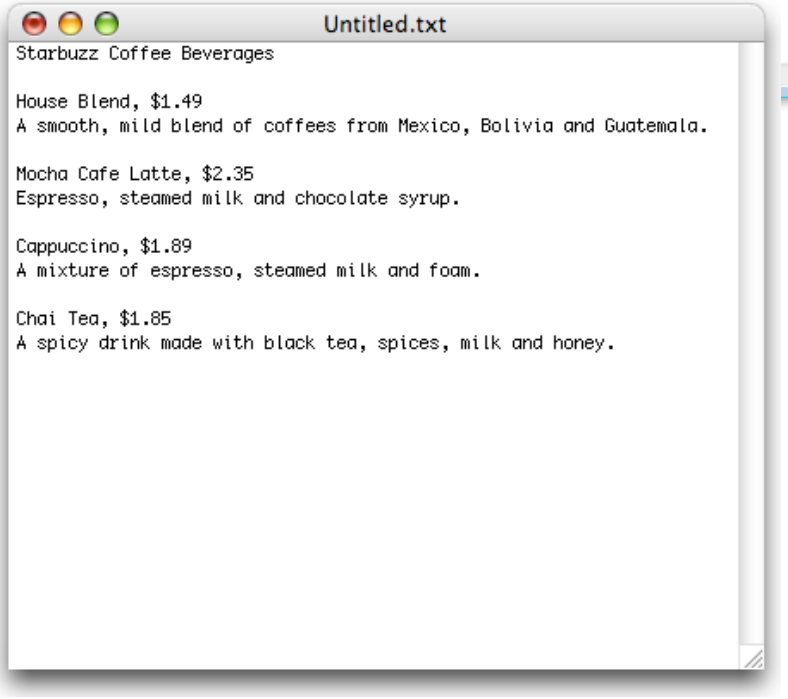
Okay, now that you know the basics of creating a plain-text file, you just need to get some content into your text editor, save it, and then load it into your browser.

Start by typing in the beverages straight from the CEO's napkin; these beverages are the content for your page. You'll be adding some HTML markup to give the content some structure in a bit, but for now, just get the basic content typed in. While you're at it, go ahead and add "Starbuzz Coffee Beverages" at the top of the file.

Type in the info from the napkin like this.



Windows



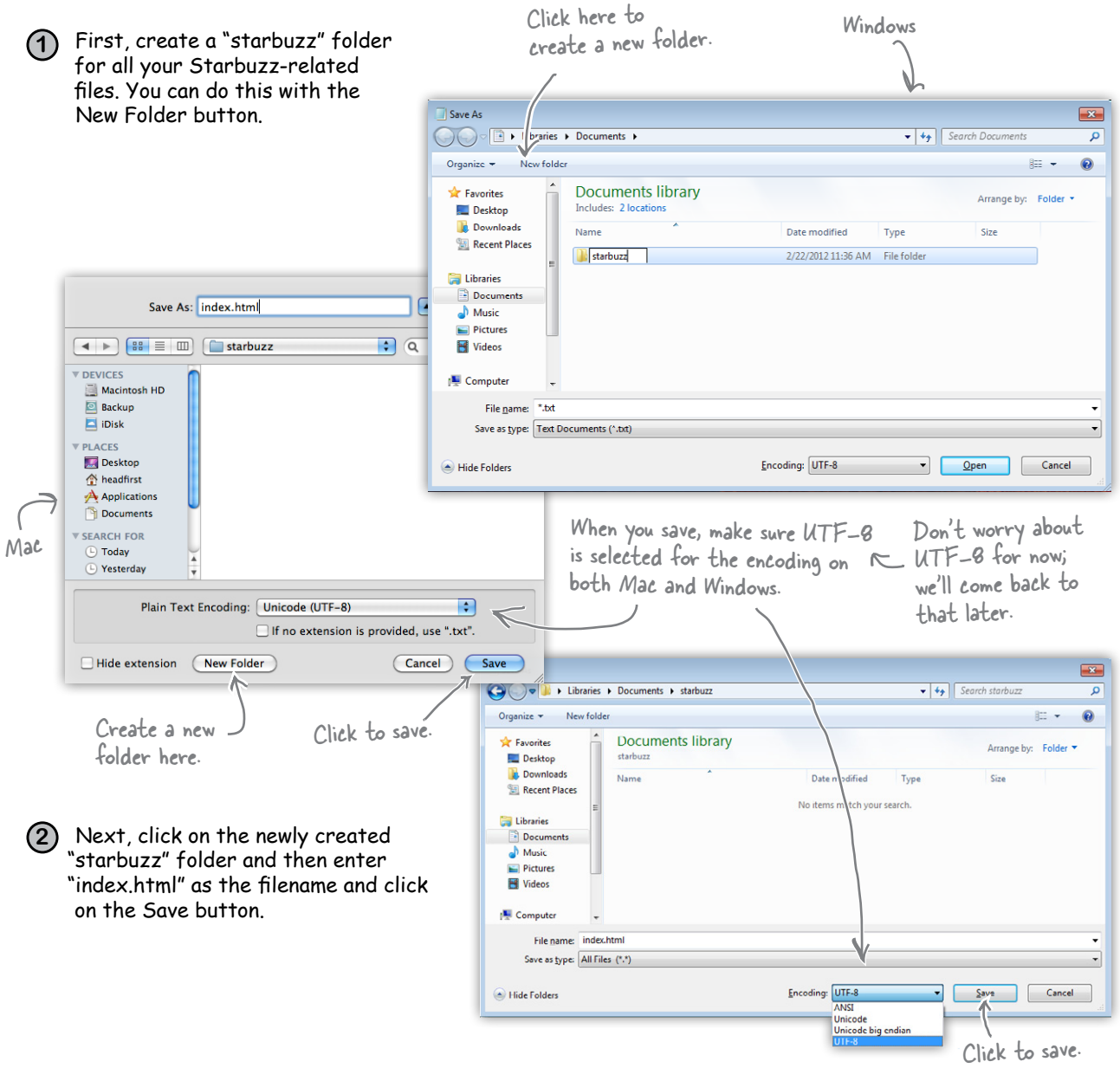
Mac

Saving your work

Once you've typed in the beverages from the CEO's napkin, you're going to save your work in a file called "index.html". Before you do that, you'll want to create a folder named "starbuzz" to hold the site's files.

To get this all started, choose Save from the File menu and you'll see a Save As dialog box. Then, here's what you need to do:

1. First, create a "starbuzz" folder for all your Starbuzz-related files. You can do this with the New Folder button.

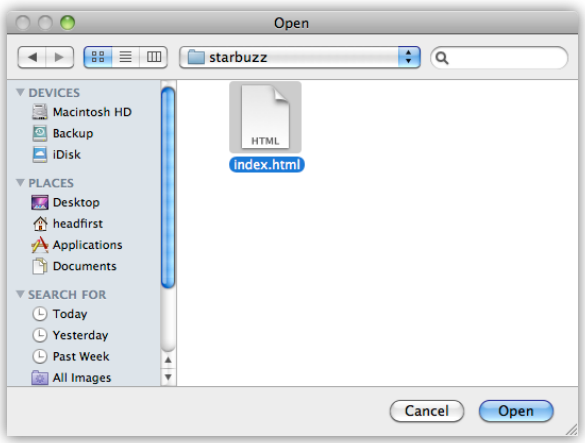


2. Next, click on the newly created "starbuzz" folder and then enter "index.html" as the filename and click on the Save button.

Opening your web page in a browser

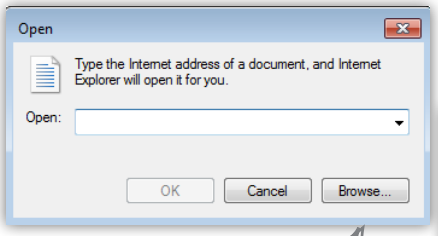
Are you ready to open your first web page? Using your favorite browser, choose "Open File…" (or "Open…" using Windows 7 and Internet Explorer) from the File menu and navigate to your "index.html" file. Select it and click Open.

Mac



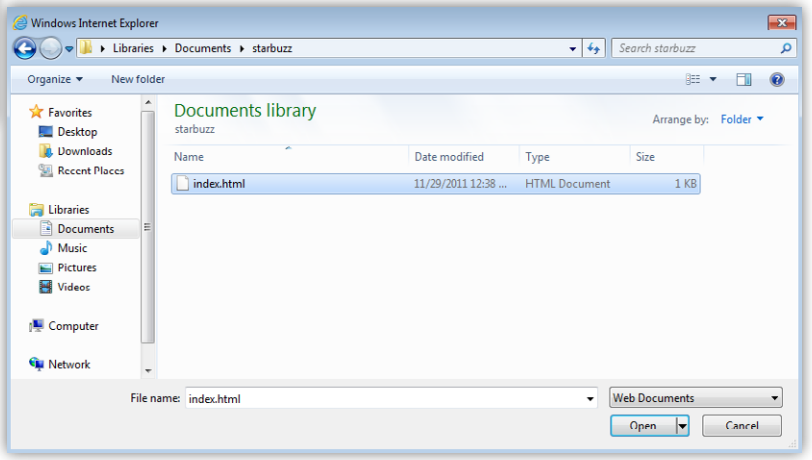
On the Mac, navigate to your file, and select it by clicking on the file icon and then on the Open button.

Windows



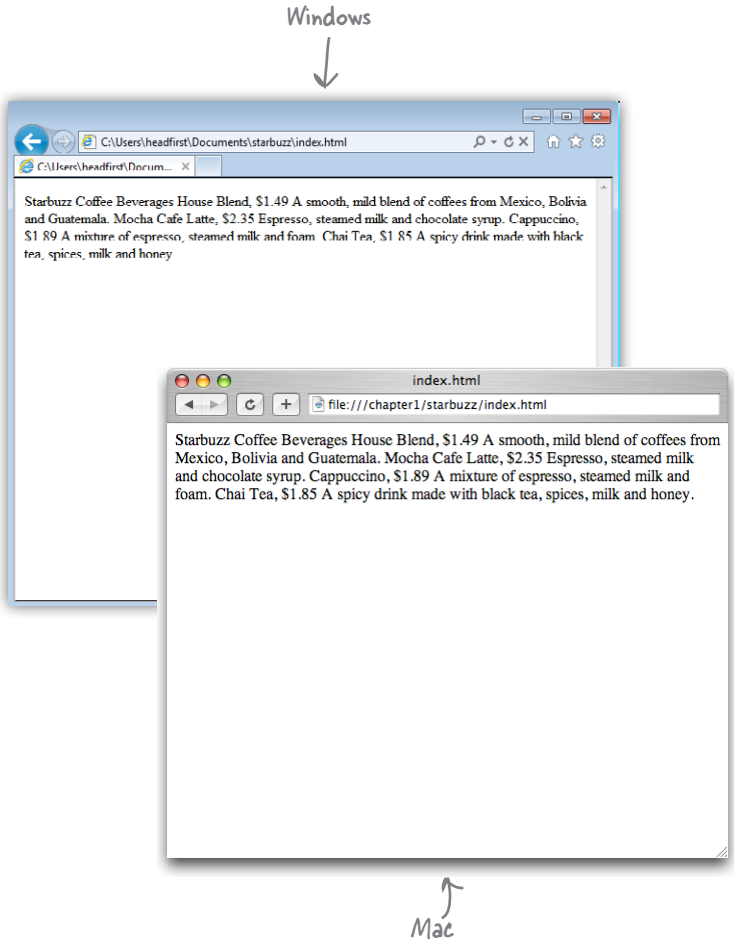
In Windows Internet Explorer it's a two-step process. First, you'll get the Open dialog box.

Then click Browse to get a browse dialog and navigate to where you saved your file.



Take your page for a test drive

Success! You've got the page loaded in the browser, although the results are a little…uh…unsatisfying. But that's just because all you've done so far is go through the mechanics of creating a page and viewing it in the browser. And so far, you've only typed in the *content* of the web page. That's where HTML comes in. HTML gives you a way to tell the browser about the *structure* of your page. What's structure? As you've already seen, it is a way of marking up your text so that the browser knows what's a heading, what text is in a paragraph, what text is a subheading, and so on. Once the browser knows a little about the structure, it can display your page in a more meaningful and readable manner.



Depending on your operating system and browser, often you can just double-click the HTML file or drag it on top of the browser icon to open it. Much simpler.

Markup Magnets

So, let's add that structure…

Your job is to add structure to the text from the Starbuzz napkin. Use the fridge magnets at the bottom of the page to mark up the text so that you've indicated which parts are headings, subheadings and paragraph text. We've already done a few to get you started. You won't need all the magnets below to complete the job; some will be left over.

<h1> Starbuzz Coffee Beverages </h1>

House Blend, $1.49

A smooth, mild blend of coffees from Mexico, Bolivia and Guatemala.

<h2> Mocha Cafe Latte, $2.35 </h2>

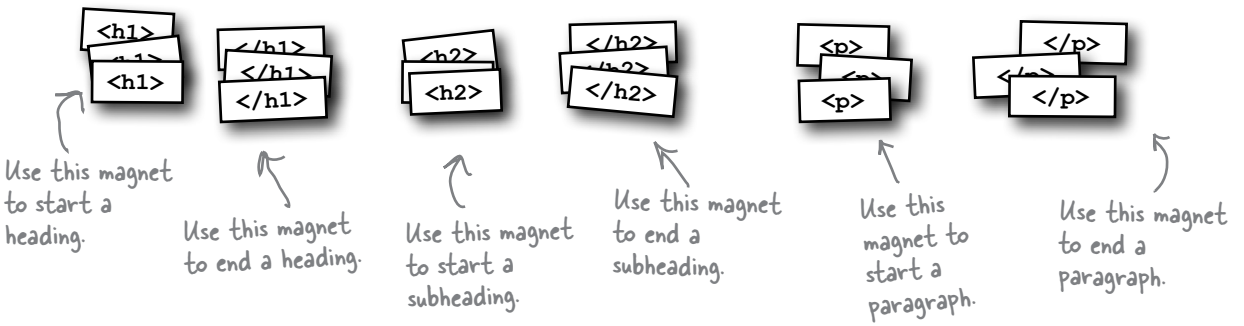
 Espresso, steamed milk and chocolate syrup.

Cappuccino, $1.89

A mixture of espresso, steamed milk and foam.

Chai Tea, $1.85

A spicy drink made with black tea, spices, milk and honey.



Congratulations, you've just written your first HTML!

They might have looked like fridge magnets, but you were really *marking up* your text with HTML. Only, as you know, we usually refer to the magnets as *tags*.

Check out the markup below and compare it to your magnets on the previous page.

Use the <h1> and </h1> tags to mark headings. All the text in between is the actual content of the heading.

```
<h1>Starbuzz Coffee Beverages</h1>

<h2>House Blend, $1.49</h2>
<p>A smooth, mild blend of coffees from Mexico, Bolivia
and Guatemala.</p>

<h2>Mocha Cafe Latte, $2.35</h2>
<p>Espresso, steamed milk and chocolate syrup.</p>

<h2>Cappuccino, $1.89</h2>
<p>A mixture of espresso, steamed milk and foam.</p>

<h2>Chai Tea, $1.85</h2>
<p>A spicy drink made with black tea, spices, milk and
honey.</p>
```

The <h2> and </h2> tags go around a subheading. Think of an <h2> heading as a subheading of an <h1> heading.

The and tags go around a block of text that is a paragraph. That can be one or many sentences.

Notice that you don't have to put matching tags on the same line. You can put as much content as you like between them.

Are we there yet?

You have an HTML file with markup—does that make a web page? Almost. You've already seen the <html>, <head>, <title>, and <body> tags, and we just need to add those to make this a first-class HTML page…

First, surround your HTML with <html> & </html> tags. This tells the browser the content of the file is HTML.

Next add <head> and </head> tags. The head contains information about your web page, like its title. For now, think about it this way: the head allows you to tell the browser things about the web page.

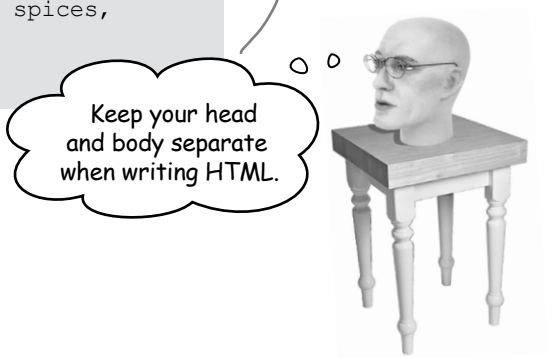
Go ahead and put a title inside the head. The title usually appears at the top of the browser window.

The head consists of the <head> & </head> tags and everything in between.

```
<html>

  <head>
    <title>Starbuzz Coffee</title>
  </head>

  <body>
    <h1>Starbuzz Coffee Beverages</h1>
    <h2>House Blend, $1.49</h2>
    <p>A smooth, mild blend of coffees from Mexico,
       Bolivia and Guatemala.</p>

    <h2>Mocha Cafe Latte, $2.35</h2>
    <p>Espresso, steamed milk and chocolate syrup.</p>

    <h2>Cappuccino, $1.89</h2>
    <p>A mixture of espresso, steamed milk and foam.</p>

    <h2>Chai Tea, $1.85</h2>
    <p>A spicy drink made with black tea, spices,
       milk and honey.</p>
  </body>

</html>
```

The body consists of the <body> & </body> tags and everything in between.

The body contains all the content and structure of your web page—the parts of the web page that you see in your browser.



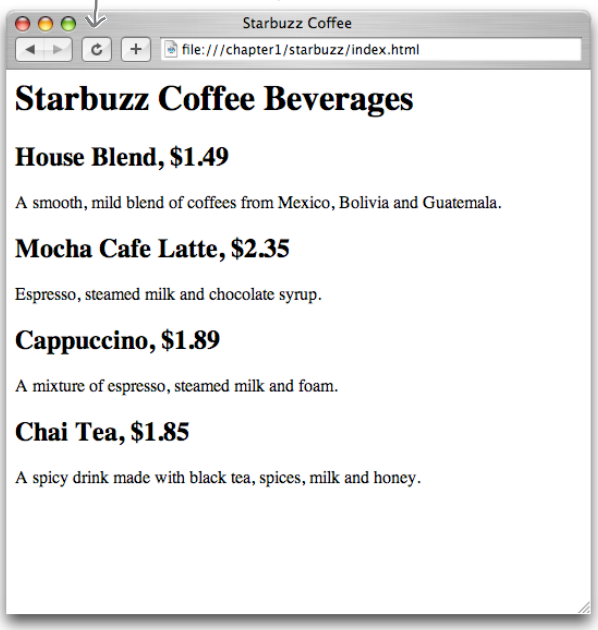
Another test drive

Go ahead and change your "index.html" file by adding in the <head>, </head>, <title>, </title>, <body> and </body> tags. Once you've done that, save your changes and reload the file into your browser.

You can reload the index.html file by selecting the Open File menu item again, or by using your browser's reload button.

Notice that the title, which you specified in the <head> element, shows up here.

Now things look a bit better. The browser has interpreted your tags and created a display for the page that is not only more structured, but also more readable.



Tags dissected

Okay, you've seen a bit of markup, so let's zoom in and take a look at how tags really work.

You usually put tags around some piece of content. Here we're using tags to tell the browser that our content, "Starbuzz Coffee Beverages," is a top-level heading (that is, heading level one).

Here's the opening tag that begins the heading.

This is the closing tag that ends the heading; in this case the </h1> tag is ending an <h1> heading. You know it's a closing tag because it comes after the content, and it's got a "/" before the "h1". All closing tags have a "/" in them.

```
<h1> Starbuzz Coffee Beverages </h1>
```

Tags consist of the tag name surrounded by angle brackets; that is, the < and > characters.

The whole shebang is called an element. In this case, we can call it the <h1> element. An element consists of the enclosing tags and the content in between.

We call an opening tag and its closing tag matching tags.

To tell the browser about the structure of your page, use pairs of tags around your content.

Remember:

Element = Opening Tag + Content + Closing Tag

there are no Dumb Questions

Q: So matching tags don't have to be on the same line?

A: No; remember the browser doesn't really care about tabs, returns, and most spaces. So, your tags can start and end anywhere on the same line, or they can start and end on different lines. Just make sure you start with an opening tag, like <h2>, and end with a closing tag, like </h2>.

Q: Why do the closing tags have that extra "/"?

A: That "/" in the closing tag is to help both you and the browser know where a particular piece of structured content ends. Otherwise, the closing tags would look just like the opening tags, right?

Q: I've noticed the HTML in some pages doesn't always match opening tags with closing tags.

A: Well, the tags are supposed to match. In general, browsers do a pretty good job of figuring out what you mean if you write incorrect HTML. But, as you're going to see, these days there are big benefits to writing totally correct HTML. If you're worried you'll never be able to write perfect HTML, don't be; there are plenty of tools to verify your code before you put it on a web server so the whole world can see it. For now, just get in the habit of always matching your opening tags with closing tags.

Q: Well, what about that <img src="drinks.gif"> tag in the lounge example? Did you forget the closing tag?

A: Wow, sharp eye. There are some elements that use a shorthand notation with only one tag. Keep that in the back of your mind for now, and we'll come back to it in a later chapter.

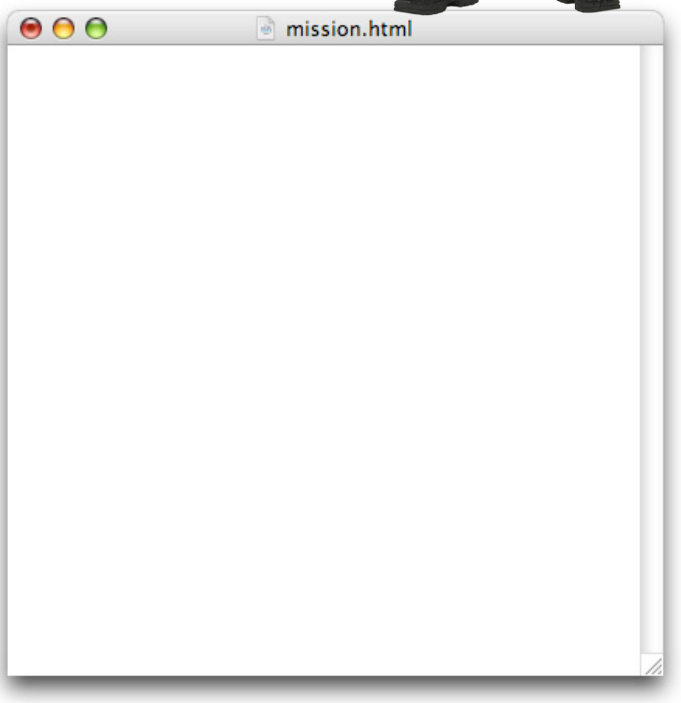
Q: An element is an opening tag + content + closing tag, but can't you have tags inside other tags? Like the <head> and <body> are inside an <html> tag?

A: Yes, HTML tags are often "nested" like that. If you think about it, it's natural for an HTML page to have a body, which contains a paragraph, and so on. So many HTML elements have other HTML elements between their tags. We'll take a good look at this kind of thing in later chapters, but for now just get your mind noticing how the elements relate to each other in a page.

Tags can be a little more interesting than what you've seen so far. Here's the paragraph tag with a little extra added to it. What do you think this does?

```
<p id="houseblend">A smooth, mild
blend of coffees from Mexico, Bolivia
and Guatemala.</p>
```

Exercise



1. Write the HTML for the new "mission.html" page here.

2. Type in your HTML using a text editor, and save it as "mission.html" in the same folder as your "index.html" file.

3. Once you've done that, open "mission.html" in your browser.

4. Check your work at the end of the chapter before moving on…

Okay, it looks like you're getting somewhere. You've got the main page and the mission page all set. But don't forget the CEO said the site needs to look great too. Don't you think it needs a little style?

Right. We have the structure down, so now we're going to concentrate on its presentation.

You already know that HTML gives you a way to describe the structure of the content in your files. When the browser displays your HTML, it uses its own built-in default style to present this structure. But relying on the browser for style obviously isn't going to win you any "designer of the month" awards.

That's where CSS comes in. CSS gives you a way to describe how your content should be presented. Let's get our feet wet by creating some CSS that makes the Starbuzz page look a little more presentable (and launch your web career in the process).

CSS is an abbreviation for Cascading Style Sheets. We'll get into what that all means later, but for now just know that CSS gives you a way to tell the browser how elements in your page should look.

Meet the style element

To add style, you add a new (say it with us) E-L-E-M-E-N-T to your page—the <style> element. Let's go back to the main Starbuzz page and add some style. Check it out…

The <style> element is placed inside the head of your HTML.

Just like other elements, the <style> element has an opening tag, <style>, and a closing tag, </style>.

The <style> tag also has an (optional) attribute, called type, which tells the browser the kind of style you're using. Because you're going to use CSS, you can specify the "text/css" type.

And here's where you're going to define the styles for the page.

```
<html>
  <head>
    <title>Starbuzz Coffee</title>
    <style type="text/css">


    </style>
  </head>
  <body>
    <h1>Starbuzz Coffee Beverages</h1>

    <h2>House Blend, $1.49</h2>
    <p>A smooth, mild blend of coffees from Mexico, Bolivia and
    Guatemala.</p>

    <h2>Mocha Caffe Latte, $2.35</h2>
    <p>Espresso, steamed milk and chocolate syrup.</p>

    <h2>Cappuccino, $1.89</h2>
    <p>A mixture of espresso, steamed milk and milk foam.</p>

    <h2>Chai Tea, $1.85</h2>
    <p>A spicy drink made with black tea, spices, milk and honey.</p>
  </body>
</html>
```

there are no Dumb Questions

Q: An element can have an "attribute"? What does that mean?

A: Attributes give you a way to provide additional information about an element. Like, if you have a <style> element, the attribute allows you to say exactly what kind of style you're talking about. You'll be seeing a lot more attributes for various elements; just remember they give you some extra info about the element.

Q: Why do I have to specify the type of the style ("text/css") as an attribute of the style? Are there other kinds of style?

A: At one time the designers of HTML thought there would be other styles, but as it turns out we've all come to our senses since then and you can just use <style> without an attribute—all the browsers will know you mean CSS. We're disappointed; we were holding our breath for the <style type="50sKitsch"> style. Oh well.

Giving Starbuzz some style...

Now that you've got a `<style>` element in the HTML head, all you need to do is supply some CSS to give the page a little pizzazz. Below you'll find some CSS already "baked" for you. Whenever you see the Reapy Bake logo, you're seeing HTML and CSS that you should type in as-is. *Trust us*. You'll learn how the markup works later, after you've seen what it can do.

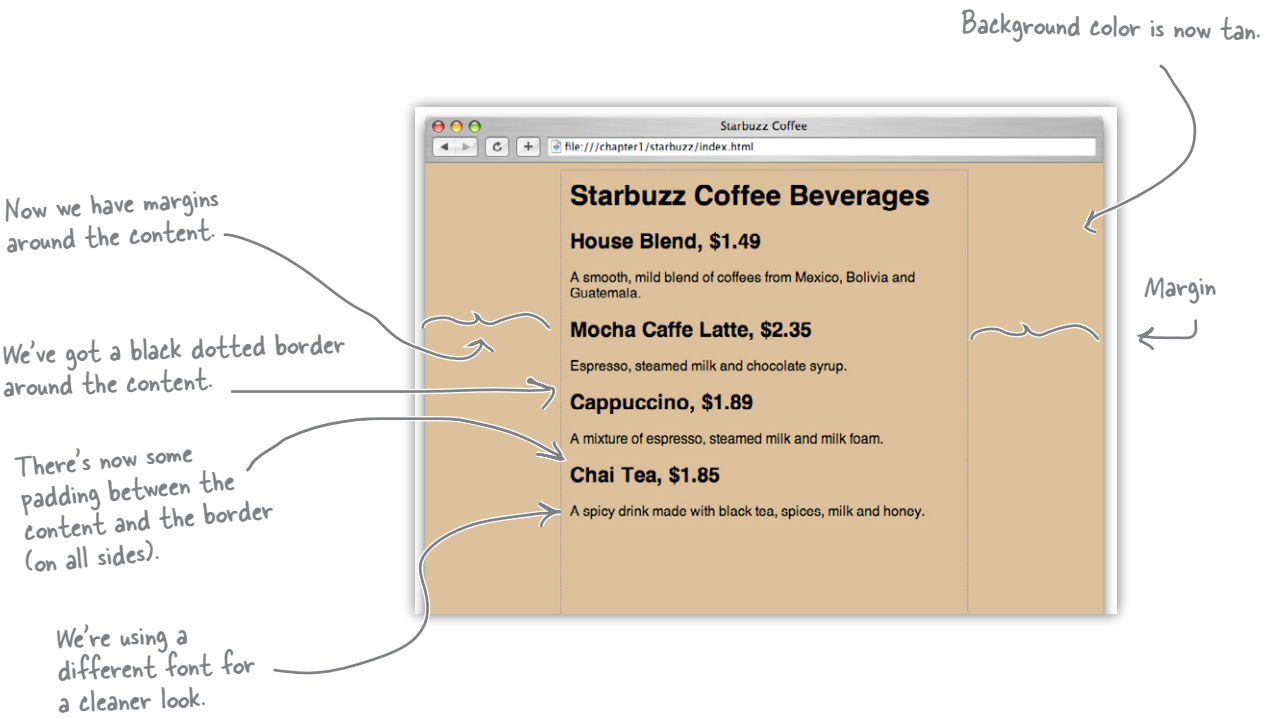
So, take a look at the CSS and then add it to your "index.html" file. Once you've got it typed in, save your file.


```
<html>
  <head>
    <title>Starbuzz Coffee</title>
    <style type="text/css">
      body {
        background-color: #d2b48c;
        margin-left: 20%;
        margin-right: 20%;
        border: 2px dotted black;
        padding: 10px 10px 10px 10px;
        font-family: sans-serif;
      }
    </style>
  </head>

  <body>
    <h1>Starbuzz Coffee Beverages</h1>

    <h2>House Blend, $1.49</h2>
    <p>A smooth, mild blend of coffees from Mexico, Bolivia and
    Guatemala.</p>

    <h2>Mocha Caffe Latte, $2.35</h2>
    <p>Espresso, steamed milk and chocolate syrup.</p>

    <h2>Cappuccino, $1.89</h2>
    <p>A mixture of espresso, steamed milk and milk foam.</p>

    <h2>Chai Tea, $1.85</h2>
    <p>A spicy drink made with black tea, spices, milk and honey.</p>
  </body>
</html>
```

CSS uses a syntax that is totally different from HTML.

Cruisin' with style...

It's time for another test drive, so reload your "index.html" file again. This time, you'll see the Starbuzz web page has a whole new look.



Watch it!

If you're using IE, you might not see the border.

Internet Explorer does not display the border around the body correctly. Try loading the page in Firefox, Chrome or Safari to see the border.

WHO DOES WHAT?

Even though you've just glanced at CSS, you've already begun to see what it can do. Match each line in the style definition to what it does.

```
background-color: #d2b48c;

margin-left: 20%;
margin-right: 20%;

border: 2px dotted black;

padding: 10px 10px 10px 10px;

font-family: sans-serif;
```

Defines the font to use for text.

Defines a border around the body that is dotted and the color black.

Sets the left and right margins to take up 20% of the page each.

Sets the background color to tan.

Creates some padding around the body of the page.

there are no Dumb Questions

Q: CSS looks like a totally different language than HTML. Why have two languages? That's just more for me to learn, right?

A: You are quite right that HTML and CSS are completely different languages, but that is because they have very different jobs. Just like you wouldn't use English to balance your checkbook, or math to write a poem, you don't use CSS to create structure or HTML to create style because that's not what they were designed for. While this does mean you need to learn two languages, you'll discover that because each language is good at what it does, this is actually easier than if you had to use one language to do both jobs.

Q: #d2b48c doesn't look like a color. How is #d2b48c the color "tan"?

A: There are a few different ways to specify colors with CSS. The most popular is called a "hex code," which is what #d2b48c is. This really is a tan color. For now, just go with it, and we'll be showing you exactly how #d2b48c is a color a little later.

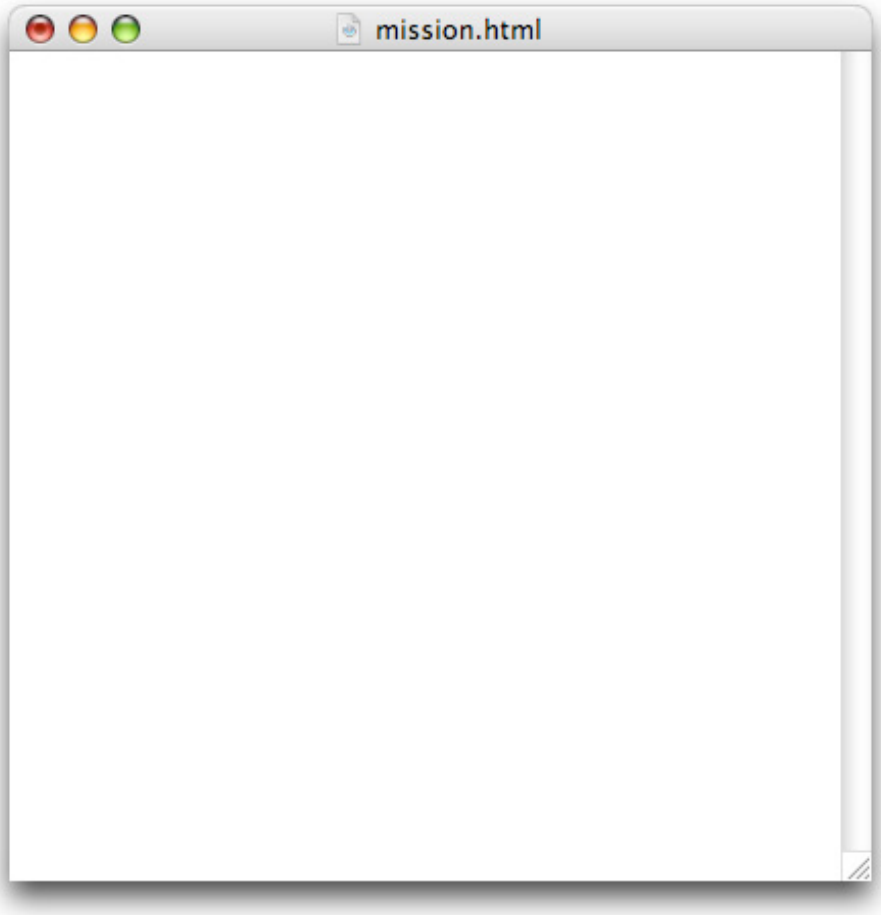
Q: Why is there a "body" in front of the CSS rules? What does that mean?

A: The "body" in the CSS means that all the CSS between the "{" and "}" applies to content within the HTML <body> element. So when you set the font to sans-serif, you're saying that the default font within the body of your page should be sans-serif.

We'll go into a lot more detail about how CSS works shortly, so keep reading. Soon, you'll see that you can be a lot more specific about how you apply these rules, and by doing so, you can create some pretty cool designs.

Now that you've put a little style in the Starbuzz "index.html" page, go ahead and update your "mission.html" page to have the same style.

1. Write the HTML for the "mission.html" page below, and then add the new CSS.
2. Update your "mission.html" file to include the new CSS.
3. Once you've done that, reload "mission.html" in your browser.
4. Make sure your mission page looks like ours at the end of the chapter.



Fireside Chats

Tonight's talk: **HTML and CSS on content and style**

HTML

Greetings, CSS; I'm glad you're here because I've been wanting to clear up some confusion about us.

Lots of people think that my tags tell the browsers how to *display* the content. It's just not true! I'm all about *structure*, not presentation.

Well, you can see how some people might get confused; after all, it's possible to use HTML without CSS and still get a decent-looking page.

Hey, I'm pretty powerful too. Having your content structured is much more important than having it look good. Style is so superficial; it's the structure of the content that matters.

Whoa, what an ego! Well, I guess I shouldn't expect anything else from you—you're just trying to make a fashion statement with all that style you keep talking about.

CSS

Really? What kind of confusion?

Heck yeah—I don't want people giving you credit for my work!

"Decent" might be overstating it a bit, don't you think? I mean, the way most browsers display straight HTML looks kinda crappy. People need to learn how powerful CSS is and how easily I can give their web pages great style.

Get real! Without me, web pages would be pretty damn boring. Not only that, but take away the ability to style pages and no one is going to take your pages seriously. Everything is going to look clumsy and unprofessional.

HTML

Right. In fact, we're totally different languages, which is good because I wouldn't want any of your style designers messing with my structure elements.

Yeah, that is obvious to me any time I look at CSS—talk about an alien language.

Millions of web writers would disagree with you. I've got a nice clean syntax that fits right in with the content.

Hey, ever heard of closing tags?

Just notice that no matter where you go, I've got you surrounded by <style> tags. Good luck escaping!

CSS

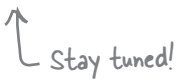
Fashion statement? Good design and layout can have a huge effect on how readable and usable pages are. And you should be happy that my flexible style rules allow designers to do all kinds of interesting things with your elements without messing up your structure.

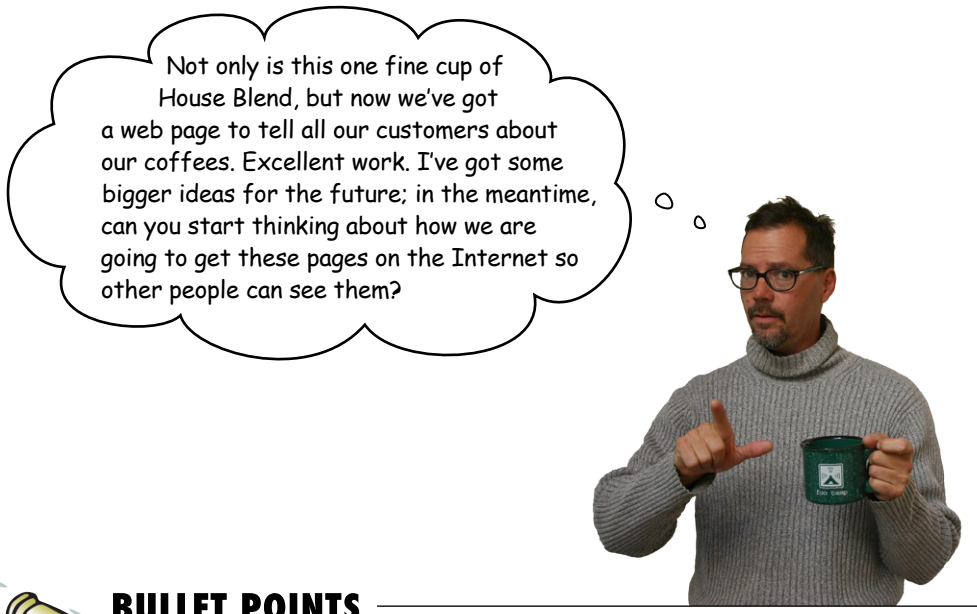
Don't worry, we're living in separate universes.

Yeah, like HTML can be called a language? Who has ever seen such a clunky thing with all those tags?

Just take a look at CSS; it's so elegant and simple, no goofy angle brackets <around> <everything>. <See> <I> <can><talk> <just><like><Mr.><HTML><,><look><at> <me><!>

Ha! I'll show you…because, guess what? I *can* escape…



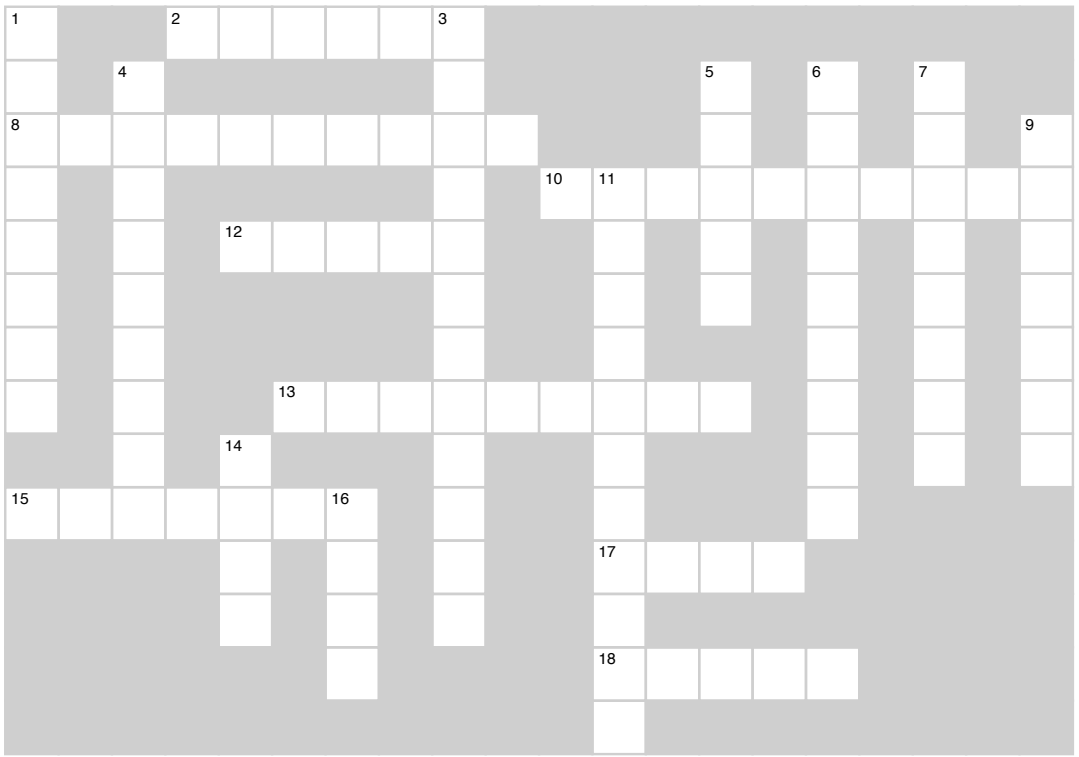


BULLET POINTS

- HTML and CSS are the languages we use to create web pages.
- Web servers store and serve web pages, which are created from HTML and CSS. Browsers retrieve pages and render their content based on the HTML and CSS.
- HTML is an abbreviation for HyperText Markup Language and is used to structure your web page.
- CSS is an abbreviation for Cascading Style Sheets, and is used to control the presentation of your HTML.
- Using HTML, we mark up content with tags to provide structure. We call matching tags, and their enclosed content, elements.
- An element is composed of three parts: an opening tag, content, and a closing tag. There are a few elements, like <img>, that are an exception to this rule.
- Opening tags can have attributes. We've seen one already: type.
- Closing tags have a "/" after the left angle bracket, in front of the tag name, to distinguish them as closing tags.
- Your pages should always have an <html> element along with a <head> element and a <body> element.
- Information about the web page goes into the <head> element.
- What you put into the <body> element is what you see in the browser.
- Most whitespace (tabs, returns, spaces) is ignored by the browser, but you can use it to make your HTML more readable (to you).
- You can add CSS to an HTML web page by putting the CSS rules inside the <style> element. The <style> element should always be inside the <head> element.
- You specify the style characteristics of the elements in your HTML using CSS.

HTMLcross

It's time to sit back and give your left brain something to do. It's your standard crossword; all of the solution words are from this chapter.



Across

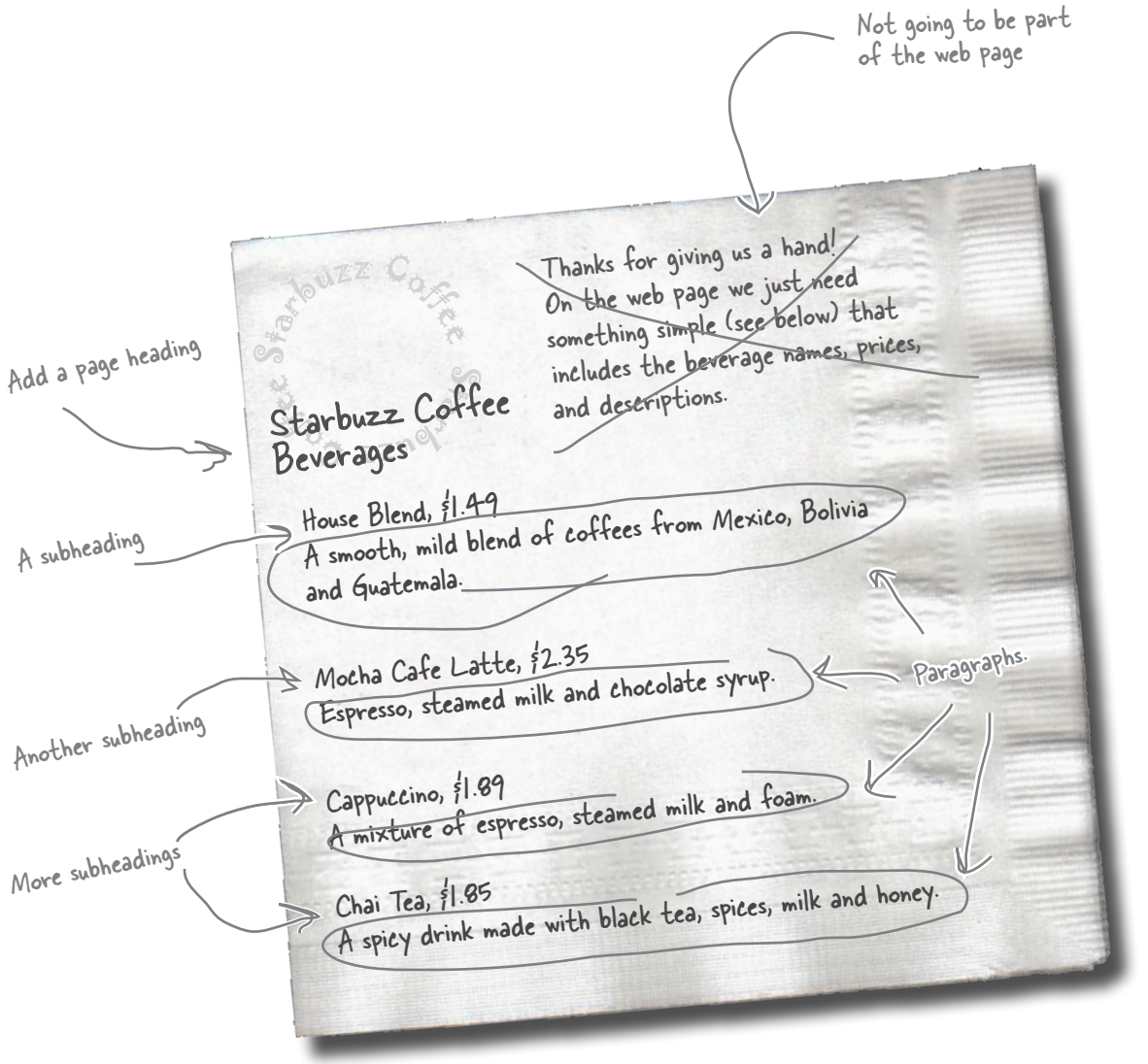
2. The "M" in HTML.
8. Tags can have these to provide additional information.
10. Browsers ignore this.
12. You define presentation through this element.
13. Purpose of <p> element.
15. Two tags and content.
17. What you see in your page.
18. We emphasized Dance _____ Revolution.

Down

1. There are six of these.
3. CSS is used when you need to control this.
4. You mark up content to provide this.
5. Appears at the top of the browser for each page.
6. Style we wish we could have had.
7. Company that launched your web career.
9. Only type of style available.
11. Always separate these in HTML.
14. About your web page.
16. Opening and closing.

Sharpen your pencil Solution

Go ahead and mark up the napkin (using your pencil) with any structure you see, and add anything that is missing.



Markup Magnets Solution

Your job was to add some structure to the text from the Starbuzz napkin. Use the fridge magnets at the bottom of the page to mark up the text so that you've indicated which parts are headings, subheadings, and paragraph text. Here's our solution.

```
<h1> Starbuzz Coffee Beverages </h1>

<h2> House Blend, $1.49 </h2>
<p> A smooth, mild blend of coffees from Mexico, Bolivia and
Guatemala. </p>

<h2> Mocha Cafe Latte, $2.35 </h2>
<p> Espresso, steamed milk and chocolate syrup. </p>

<h2> Cappuccino, $1.89 </h2>
<p> A mixture of espresso, steamed milk and foam. </p>

<h2> Chai Tea, $1.85 </h2>
<p> A spicy drink made with black tea, spices, milk and honey. </p>
```

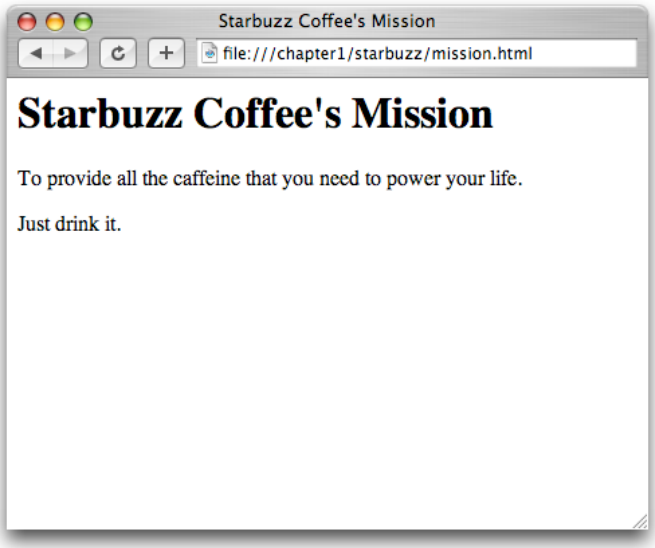
<h1>
<h1>
</h1>
</h1>

Leftover magnets

mission.html

```
<html>
  <head>
    <title>Starbuzz Coffee's Mission</title>
  </head>
  <body>
    <h1>Starbuzz Coffee's Mission</h1>
    <p>To provide all the caffeine that you need to
power your life.</p>
    <p>Just drink it.</p>
  </body>
</html>
```

Here's the HTML.



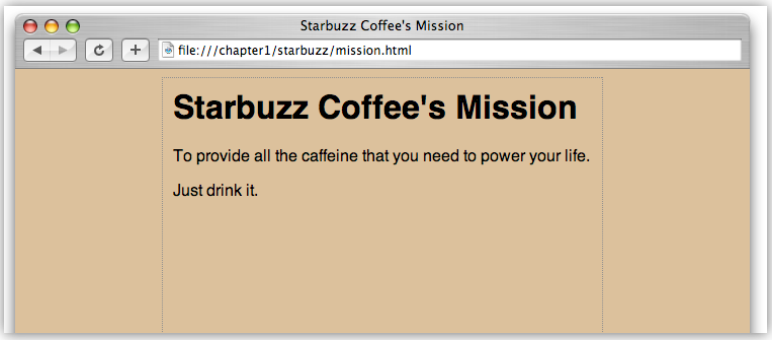
Here's the HTML displayed in a browser.

Here's the CSS in the mission page.

mission.html

```
<html>
  <head>
    <title>Starbuzz Coffee's Mission</title>
    <style type="text/css">
      body {
        background-color: #d2b48c;
        margin-left: 20%;
        margin-right: 20%;
        border: 2px dotted black;
        padding: 10px 10px 10px 10px;
        font-family: sans-serif;
      }
    </style>
  </head>
  <body>
    <h1>Starbuzz Coffee's Mission</h1>
    <p>To provide all the caffeine that you need to power
your life.</p>
    <p>Just drink it.</p>
  </body>
</html>
```

Now, the style matches the main Starbuzz page.



Who does what?

Even though you've just glanced at CSS, you've already seen the beginnings of what it can do. Match each line in the style definition to what it does.

```
background-color: #d2b48c;

margin-left: 20%;
margin-right: 20%;

border: 2px dotted black;

padding: 10px 10px 10px 10px;

font-family: sans-serif;
```

- Defines the font to use for text.
- Defines a border around the body that is dotted and the color black.
- Sets the left and right margins to take up 20% of the page each.
- Sets the background color to tan.
- Creates some padding around the body of the page.