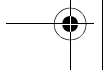
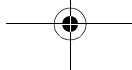
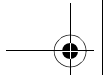


HTML AND ITS RELATIONSHIP TO CSS

Topics in This Chapter

- How CSS can be Incorporated Into HTML Code
- The <STYLE> Tag
- The Tag
- The <DIV> Tag
- The <LINK> Tag
- The STYLE Attribute
- The CLASS Attribute
- The ID attribute





Chapter 2

CSS does not replace HTML code on a Web page; instead, it is added to existing HTML tags, augmenting them. You do not have to change the way you write HTML code for your Web pages, as CSS can simply sit on top of your existing code. In fact, once you get used to using CSS, you may find yourself using fewer HTML tags in favor of CSS. For example, the `` tag is superseded by various CSS properties that give you far greater control over how text is displayed onscreen. And once you understand the basics of CSS, you'll find it easy to understand and to use.

CSS works by adding CSS properties to a specific HTML tag, which tells the browser how the tag should be modified in its display. A typical CSS statement (or "rule") consists of two parts:

- the element to be changed, known as the "selector"
- a statement that describes how the "selector" should be displayed, known as the "declaration"

Here is a simple example of some HTML code that includes a few simple CSS rules:

Listing 2-1 Simple CSS Example

```
<HTML>
<HEAD>
<TITLE>Simple CSS Example</TITLE>
<STYLE>B {TEXT-TRANSFORM: UPPERCASE}</STYLE>
</HEAD>
<BODY STYLE="FONT-SIZE: X-LARGE">
This text is displayed as usual...<BR>
<B>but this bold text is rendered in all uppercase letters</B>.
</BODY>
</HTML>
```

The effects of this code can be seen in the following illustration:

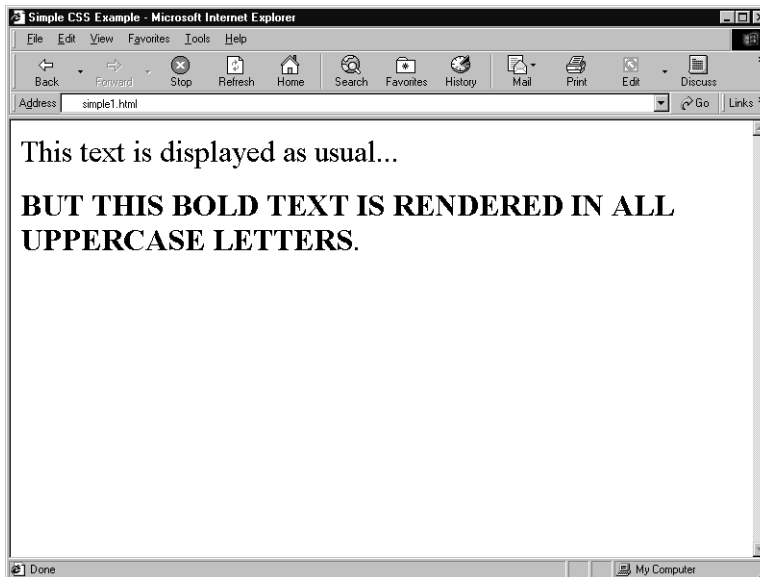


Figure 2-1 Web page displaying the effects of some simple CSS code.

There are two separate CSS modifications being made to the HTML tags that appear in the previous code example. In the first example, set between the `<STYLE>` tags near the top of the Web page, the selector is the bold tag (``, but without the usual brackets — see below) and the declaration assigns



to the `TEXT-TRANSFORM` property the value "UPPERCASE": (`{TEXT-TRANSFORM: UPPERCASE}`). The second CSS example affects the `<BODY>` tag, which is the selector, modifying it with the declaration "FONT-SIZE: X-LARGE". This applies the effect of an extra large font (the equivalent of ``) to all of the text that appears on the Web page. This is a relatively simple example of what can be done with a couple of CSS elements, but the combined effects of some well-chosen CSS code can easily make for Web pages that stand out from the crowd.

Adding Cascading Style Sheets to Web Pages

There are several ways in which CSS information can be specified within a Web page; we saw two in the previous code example. In this section, we look at the HTML tags and attributes that enable Web authors to add CSS code to their Web pages.

The different ways in which CSS information can be added to a Web page are as follows:

- It can be embedded within the header of a Web page
- It can be embedded within the body of a Web page (usually in certain sections or individual tags)
- It can be specified within a separate Web page

Each of these will be explored in this section.

There are four HTML tags and three HTML attributes that can be used to add CSS to a web page. The HTML tags are `<STYLE>`, ``, `<DIV>` and `<LINK>`. The HTML attributes are `STYLE`, `CLASS` and `ID`. The three tags are most commonly used to modify a section of a Web page or a particular set of HTML tags. The attributes, which can be added to almost every existing HTML tag, are designed to modify the display of the particular HTML tag with which it is associated.

As noted above, there is a special formatting style used to signify the CSS modifications to be associated with a particular HTML tag. The specified tag (the selector) is not surrounded by the usual angle brackets, but is instead left "naked" at the beginning of a line. The declaration is contained within "curly" brackets ("{" and "}") , and a simple space separates the selector and the declaration. Many beginners to CSS often make the simple mistake of adding

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angle brackets to the selector, or using the wrong style of bracket type in the declaration. Browsers are finicky when it comes to CSS rules, and it is important to get this format right.

The <STYLE> Tag

As we saw in the initial CSS example, it is possible to add CSS code within the header of a Web page. This is done by using the <STYLE> tag, which is used to set CSS properties to a Web tag that is applied to the whole of a Web document.

<STYLE> ... </STYLE>

Description: Used to add CSS information to specific HTML tags.

Attributes:

DISABLED

Indicates that the particular CSS function should not be enabled (i.e., displayed).

MEDIA - ALL | BRAILLE | PRINT | PROJECTION | SCREEN | SPEECH

Specifies the type of medium for which the CSS definitions are designed.

TITLE - string

Used to “name” a particular CSS style that a browser can be told to use.

TYPE - MIME type

Specifies the MIME type of the content enclosed by the style tag.

Sample Code:

```
<HTML>  
<HEAD>  
<STYLE>  
B {COLOR: BLUE}  
</STYLE>
```

```
</HEAD>
<BODY>
<B>This bold text is blue.</B>
</BODY>
</HTML>
```

The <STYLE> tag is always contained within the header of a Web page, and unless overridden elsewhere in the Web page, its effects are applied globally to the selected HTML tags contained within it.

The <STYLE> tag has several attributes: **DISABLED**, **MEDIA**, **TITLE** and **TYPE**, all of which are optional — and few of which are ever actually used in practice, frankly. It is important to know the values of the attributes in those cases where it may be useful, however.

The **DISABLED** attribute — which is an unofficial attribute for <STYLE> that is only supported within Internet Explorer version 4.0 and higher — indicates that the particular CSS function should not be “enabled” (in other words, that its effects should not be displayed). This is for use in circumstances where you may wish to disable the CSS formatting display in a particular place on the Web page. If you use this particular attribute, the content associated with the selected tag is still displayed, but is not formatted in the CSS style indicated.

The **MEDIA** attribute is used to specify the type of medium for which the CSS formatting is to be used. There are six distinct values: **ALL**, **BRAILLE**, **PRINT**, **PROJECTION**, **SCREEN** and **SPEECH**, reflecting the different types of media in which the Web page can be “viewed”. The default value is **SCREEN**. If a device exists to translate the Web page into a different medium, the device will use the CSS elements associated with the particular style used for it. This is an official HTML 4.0 specification attribute for the <STYLE> tag, and it is only supported within Internet Explorer version 4.0 and higher. Much of this is actually superseded by the more robust CSS2 specification, which deals in more detail with a wider variety of display media — see Part 3 for more detail.

The **TITLE** attribute is used to “name” a particular CSS style contained within a <STYLE> tag. The idea is to enable a Web author to create a gallery of different formatting styles, which the author can then selectively apply to individual Web pages within a Web site. This attribute is part of the HTML 4.0 specification, but is not currently implemented by either of the two major browsers.

The **TYPE** attribute simply specifies the MIME type contained by the <STYLE> tag. There are two possible values for this at the moment: “text/css”,

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which applies directly to CSS, and “text/javascript”, which, not surprisingly, applies to JavaScript code. For the most part, the text/css value is simply assumed, and the two major browsers do not have any problems interpreting CSS code when this value is not present. This attribute is part of the HTML 4.0 specification, and is recognized in Internet Explorer and Netscape Navigator.

The <STYLE> tag can also be used with two of the near-universal HTML attributes: ID and CLASS. ID and CLASS can be added to virtually all HTML tags, and are used for applying more specific CSS formatting to a particular group of HTML tags or to a unique instance of an HTML tag appearing on a Web page. More detailed information about their use can be found in Chapter 5, “Implementation of Basic CSS Concepts”.

The and <DIV> Tags

Other HTML tags can be used to apply CSS to a specific section of a Web page, enabling the Web author to set special CSS characteristics for that section, visually differentiating it from the rest of the Web page. This can be accomplished by using the and <DIV> tags.

 ...

Description: Designed to set CSS information for a specific inline section within a Web page.

Attributes:

CHARSET = ISO-#

Indicates the international character coding being used.

HREF = URL

Points to a Web page that is viewed when the content contained within the tag is activated.

HREFLANG = string

Specifies the base language of the resource indicated in the HREF attribute.

***MEDIA = ALL | BRAILLE | PRINT | PROJECTION |
SCREEN | SPEECH***

Specifies the type of medium for which the CSS definitions are designed.

REL = URL

Indicates the URL of a subdocument.

REV = URL

Indicates the URL of a parent document.

STYLE = CSS element; CSS element(s)

Used to add CSS formatting to the HTML code.

TARGET = frame name

Specifies the name of the frame (if any) within which the content set by HREF should be viewed.

TITLE - string

Used to “name” a particular CSS style that a browser can be told to use.

TYPE = MIME type

Specifies the MIME type of the content enclosed by the style tag.

Sample Code:

```
<HTML>
<HEAD>
<TITLE>Simple Span Example</TITLE>
<STYLE>
P {COLOR: GREEN}
</STYLE>
</HEAD>
<BODY STYLE="FONT-SIZE: X-LARGE">
<P>
Look for the <SPAN STYLE="COLOR: RED">red text
</SPAN> that appears within the green text.
</P>
</BODY>
</HTML>
```


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<DIV> ... </DIV>

Description: Designed to set CSS information for a specific block elements within a Web page.

Attributes:

ALIGN = LEFT | RIGHT | CENTER | JUSTIFY

Specifies the alignment of the content.

CHARSET = ISO-#

Indicates the international character coding being used.

CLEAR = NONE | LEFT | RIGHT | ALL

Used whenever a “floating” element exists on a Web page, to break the line and start the text that appears after it in the next clear margin.

HREF = URL

Points to a Web page that is viewed when the content contained within the <DIV> tag is activated.

HREFLANG = string

Specifies the base language of the resource indicated in the HREF attribute.

***MEDIA - ALL | BRAILLE | PRINT | PROJECTION |
SCREEN | SPEECH***

Specifies the type of medium for which the CSS definitions are designed.

NOWRAP

Suppresses word wrap.

REL = URL

Indicates the URL of a subdocument.

REV = URL

Indicates the URL of a parent document.

STYLE = CSS element; CSS element(s)

Used to add CSS formatting to the HTML code.

TARGET = frame name

Specifies the name of the frame (if any) within which the content set by HREF should be viewed.

TITLE - string

Used to “name” a particular CSS style that a browser can be told to use.

TYPE = MIME type

Specifies the MIME type of the content enclosed by the style tag.

Sample Code:

```
<HTML>
<HEAD>
<TITLE>Simple Div Example</TITLE>
</HEAD>
<BODY STYLE="FONT-SIZE: X-LARGE">
<P>
This text is displayed using the default display
values.
<DIV STYLE="FONT-FAMILY: COURIER; COLOR: LIME">
<H1>A Lime-Colored, Courier-Font Header</H1>
</DIV>
Back to the default values.
</BODY>
</HTML>
```

The tag is designed to temporarily override any existing CSS information that may have already been specified, and is meant to be used as an inline element. The <DIV> tag works in the same manner, but is supposed to be applied to block level elements.

Inline elements refer to those common formatting HTML tags that are usually contained within a line of text, such as or <I>. These elements do not necessarily begin or end a separate line onscreen. Tags such as <H1> or <P> do, and they are known as block elements. and <DIV> work in the same way, but are simply meant to be applied to different types or groups of HTML tags. As you will see later in the book, some CSS elements can only be used with inline or block-level Web elements (i.e., HTML tags).

The and <DIV> tags both have only one required attribute: STYLE. The STYLE attribute is to be used to further refine the CSS element displayed. The STYLE attribute is the third near-universal attribute, along with ID and CLASS, and is probably the most commonly used of the three.

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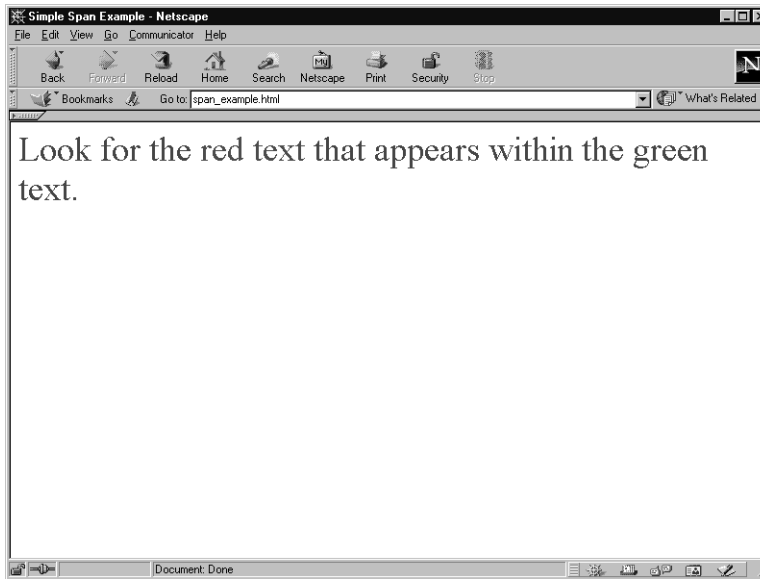


Figure 2-2 The effects of the sample code for the simple `` and `<DIV>` examples displayed.

Using `STYLE`, you can directly set the CSS rule to apply to a specific HTML tag (or with the aid of the `` and `<DIV>` tags, to a group of such tags). Its structure has already been explained, but you will note one important addition in the sample code provided for the `<DIV>` tag: how to add more than one CSS attribute to an HTML tag. This can be accomplished by adding a semi-colon (“;”) between two or more CSS statements, forming a compound CSS rule that is associated with the specific HTML tag.

The `` and `<DIV>` tags share many additional attributes, most of them added beginning with the official HTML 4.0 specification. None of these other attributes are as yet implemented in current browsers, but it is important to know what they are intended to do pending their adoption with the major browsers.

The `CHARSET` attribute is used to specify the international character coding used for the hyperlink. The default value is the standard Latin-1 ISO standard, which is used by most European languages — including English. The `TYPE` attribute is used to specify the MIME type of the file type to which the hypertext anchor points, and works in exactly the same way as it does with the `<STYLE>` tag. Ditto the `MEDIA` attribute and its associated values.

The HREFLANG attribute is designed to set the base language of the resource to which it is being linked. The HREF attribute enables the Web author to make the content contained within a set of or <DIV> tags act as a hypertext link. The associated TARGET attribute specifies the name of the frame within which the link should be displayed, if the content is contained within a framed Web page.

The TITLE attribute is used to “name” a particular CSS style contained within a or <DIV> tag. Using the name the Web author has assigned to the tag, the Web author can create a number of different formatting styles, and the author can then apply different styles to individual sections of the Web page. This attribute is part of the HTML 4.0 specification, but is not currently implemented by either of the two major browsers.

The <DIV> tag has three additional attributes not used by : ALIGN, CLEAR and NOWRAP. The ALIGN attribute specifies the alignment of the content it contains, while CLEAR is used with any “floating” elements (such as an image) that it might contain, and NOWRAP suppresses the normal word wrap characteristics. It should be noted that these attributes, with the possible exception of ALIGN, are rarely used in practice.

The code examples for both the and <DIV> also serve to introduce the meaning behind the “Cascading” part of the term “Cascading Style-Sheets”. Quite simply, more specific CSS rules tend to override global ones. The designers of CSS realized that there would be situations in which a Web author would want to do just that. When this situation occurs, the browser “cascades” from the more general to the more specific rule. This cascading order is defined by the following rules:

Situation: A browser is presented with a number of CSS statements, some of which conflict with each other.

1. If a statement is applied to a “parent” HTML tag (such as <BODY>) and tags that are its “children” have explicit CSS statements of their own, the CSS statement that applies to the parent rules.
2. The CSS statements are then sorted by explicit weight, and any marked !IMPORTANT (covered in Chapter 6) take precedence over the others.
3. Any style sheet information that may be imported through the <LINK> tag will be overruled any CSS statements contained within the Web page.
4. More specific CSS statements overrule more general ones.

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5. If two or more CSS statements appear that have the same weight, the one specified last wins.

This concept is explored in more depth in Chapter 6, “The Cascade”.

The <LINK> Tag

There is a third way CSS information can be added to a Web page: by specifying CSS elements in a completely different Web page, which are then linked to the original page. By specifying the display and layout attributes in a separate Web page, you can customize the style for a set of Web pages that use ordinary HTML code. To do this, you create a Web page containing nothing but CSS information. Then, you can “link” another Web page to the CSS page, by using the <LINK> tag in the header of the target Web page. This is potentially the most appealing for Web authors who manage large Web sites.

<LINK>

Description: The <LINK> tag indicates where a Web document fits into the hierarchy of the Web site.

Attributes:

REL = URL

Indicates the URL of a subdocument.

REV = URL

Indicates the URL of a parent document

TYPE - MIME type

Specifies the MIME type of the content enclosed by the style tag.

Sample Code:

```
<HTML>
<HEAD>
<TITLE>Link Example</TITLE>
<LINK REL=STYLESHEET HREF="formatting.css"
TYPE="text/css">
```

```
</HEAD>
<BODY>
<H1>Link Example</H1>
<P>
This Web page will appear very different depending
on the content of the <B>formatting.css</B> page
that it is linked to. This demonstrates the power
behind the use of the <I>LINK</I> tag to easily
make global changes to a number of different Web
pages at once.
</BODY>
</HTML>
```

The sample code provided in the description of the <LINK> tag shows a fairly ordinary Web page that contains a level-one header, a paragraph tag, a bold tag and an italics tag, all contained within a standard body tag. In the header of this Web page, there is a <LINK> tag that references a separate file called formatting.css. The formatting.css file is a simple text file that contains nothing but CSS formatting information in much the same format as used by the <STYLE> tag, as in the following two example files:

Listing 2-2 formatting.css #1

```
<!-- formatting.css #1 -->
BODY {FONT-SIZE: X-LARGE}
B {FONT-SIZE: XX-LARGE; COLOR: RED}
I {FONT-SIZE: LARGE; COLOR: BLUE}
P {COLOR: GRAY}
H1 {COLOR: WHITE; BACKGROUND: BLACK}
```

Listing 2-3 formatting.css #2

```
<!-- formatting.css #2 -->
BODY {FONT-SIZE: X-LARGE; MARGIN: 1 IN}
B {COLOR: GREEN; BACKGROUND: YELLOW}
I {COLOR: BLACK}
P {BACKGROUND: GRAY; COLOR: WHITE}
H1 {BORDER-COLOR: RED}
```

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You can see how each of these two files are interpreted by the browser in the following two illustrations:

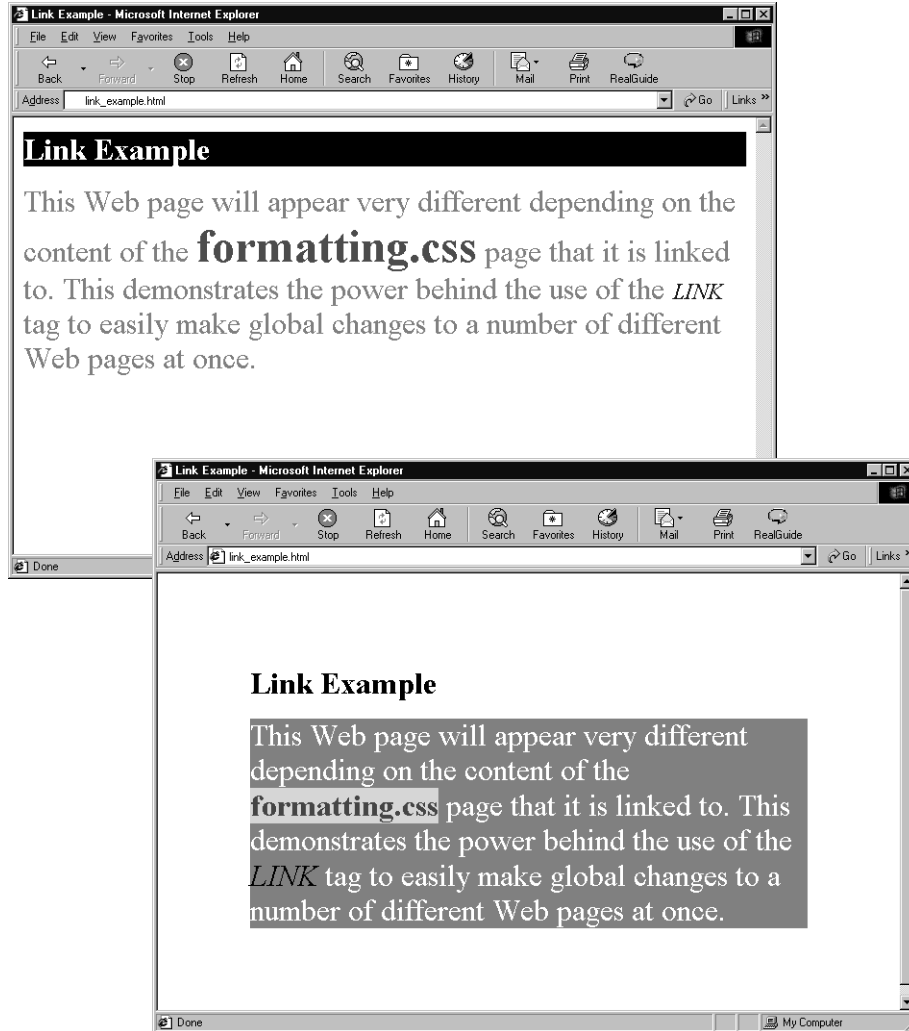


Figure 2-3 The effects of two separate `formatting.css` files on the same Web page.

This is a mere taste of what can be done using CSS within Web pages. The examples shown here have employed only a small subset of the CSS elements available, but nevertheless demonstrate the power behind CSS.



The <LINK> Tag

Unfortunately, not all CSS elements are universally adopted within the two major browsers, which means that Web authors have to be aware of what CSS code should and should not be used.

