CHAPTER 3 CSS CONFIGURING COLOR AND TEXT WITH CSS

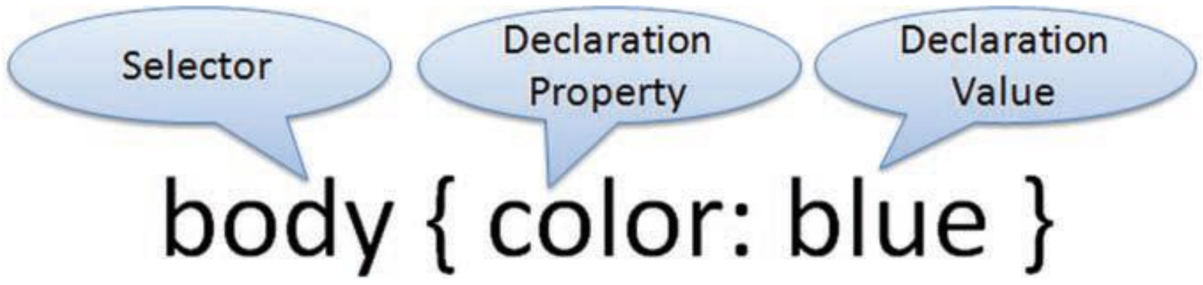
CSS Selectors and Declarations

Style sheets are composed of style rules that describe the styling to be applied. Each rule has two parts: a selector and a declaration:

• CSS Style Rule Selector The selector can be an HTML element name, a class name, or an id name. In this section, we will focus on applying styles to element name selectors. We will work with class selectors and id selectors later in this chapter.

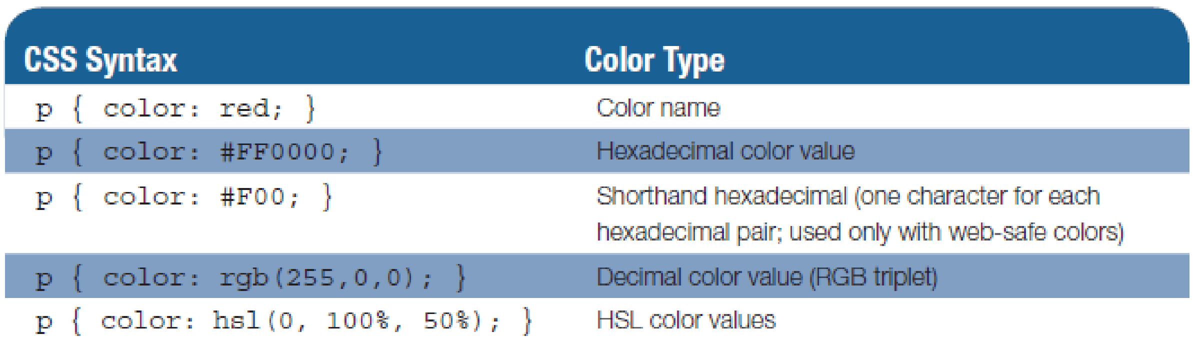
• CSS Style Rule Declaration The declaration indicates the CSS property you are setting (such as color) and the value you are assigning to the property.

For example, the CSS rule shown in the figure below would set the color of the text used on a web page to blue. The selector is the body tag, and the declaration sets the color property to the value of blue.



Hexadecimal color values

- Hexadecimal is the name for the base-16 numbering system, which uses the characters 0,1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, and F to specify numeric values.
- Begins with a # followed by 6 digits ranging from 00 to ff (00 to 255 in base 10)
- The # symbol signifies that the value is hexadecimal. You can use either uppercase or lowercase letters in hexadecimal color values; #FF0000 and #ff0000 both configure the color red.



CSS Syntax	Color Type
`p { color: red; }`	Color name
`p { color: #FF0000; }`	Hexadecimal color value
`p { color: #F00; }`	Shorthand hexadecimal (one character for each hexadecimal pair; used only with web-safe colors)
`p { color: rgb(255,0,0); }`	Decimal color value (RGB triplet)
`p { color: hsl(0, 100%, 50%); }`	HSL color values

Figure 1. CSS Color Syntax examples

<u>HANDS ON PRACTICE 3.1 (INLINE STYLING)</u>

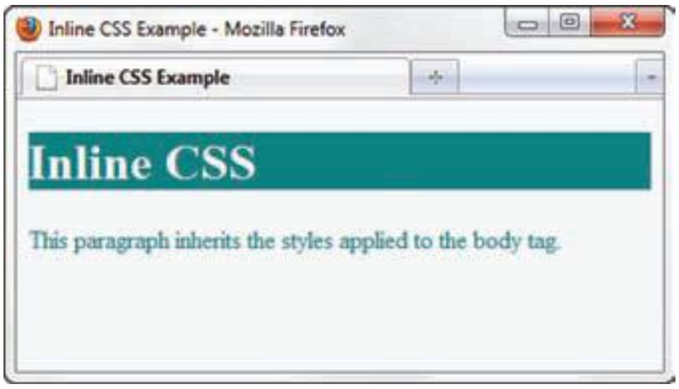
In this Hands-On Practice, you will configure a web page with inline styles. The inline styles will specify the following:

• Global body tag styles for an off-white background with teal text. These styles will be inherited by other elements by default. For example:

<body style="background-color:#F5F5F5;color:#008080;">

• Styles for an h1 element with a teal background with off-white text. This style will override the global styles configured on the body element. For example:

<h1 style="background-color:#008080;color:#F5F5F5;">



Inline CSS

This paragraph inherits the styles applied to the body tag.

Figure 2. Web page using inline styles

-Open the template.html and then save the page at any location of your choosing.

- Launch notepad++ to open and edit template.html.

- Modify the title element, and add heading tags, paragraph tags, style attributes, and text to the body section as indicated by the following highlighted code:

```
<!DOCTYPE html>
<html lang="en">
<head>
<title>Inline CSS Example</title>
<meta charset="utf-8">
</head>
<body style="background-color:#F5F5F5;color:#008080;">
<h1 style="background-color:#008080;color:#F5F5F5;">Inline CSS</h1>
<p>This paragraph inherits the styles applied to the body tag.</p>
</body>
</html>
```

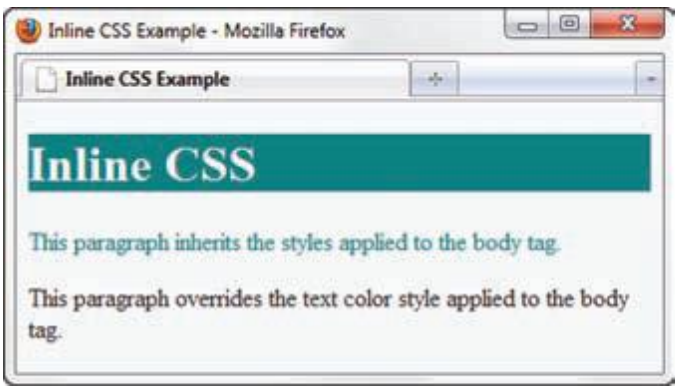
- Save your file as inline2.html and run it in the browser to test your page.
- It should look like the page shown in figure 1.

- You can compare your current web page to the previous one to see the difference

  #Inline styles applied to the body tag are inherited by other elements on the page (such as the paragraph) unless more-specific styles are specified (such as those coded on the <h1> tag).

- Continue and add another paragraph, with the text color configured to be dark gray:

```
<p style="color:#333333">This paragraph overrides the text color style
applied to the body tag.</p>
```



Inline CSS

This paragraph inherits the styles applied to the body tag.

This paragraph overrides the text color style applied to the body tag.

Figure 3 The second paragraph's inline styles override the global styles configured in the body tag

  - Save the document as inline3.html.
  - It should look like the page shown in Figure 2

EMBEDDED CSS WITH STYLE ELEMENT

In the previous Hands-On Practice, you added inline styles for one of the paragraphs. To do so, you coded a style attribute on the paragraph element. But what if you needed to configure the styles for 10 or 20 paragraphs instead of just one? Using inline styles, you might be doing a lot of repetitive coding! While inline styles apply to one HTML element, embedded styles apply to an entire web page.

# Embedded styles are placed within a <style> element located in the head section of a web page.
# The opening <style> tag and the closing </style> tag contain the list of embedded-style rules.

HANDS ON PRACTICE 3.2

- Launch and open starter.html
- Save your page as embedded.html and test it in the browser. It should be similar to the on shown in the figure below

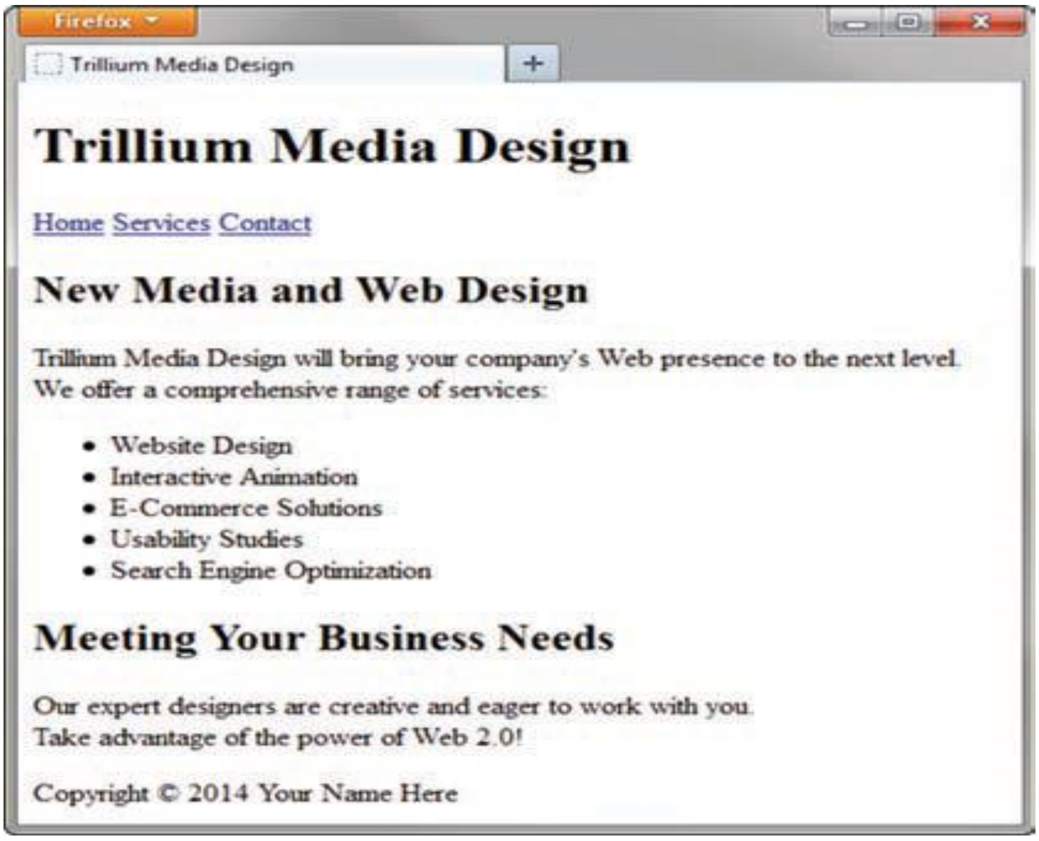


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Figure 4. The web page without styles

- Your codes use different elements
- In this Hands-On Practice, you will code embedded styles to configure selected background and text colors.
- You will use the body element selector to configure the default background color (#e6e6fa) and default text color (#191970) for the entire page. You will also use the

h1 and h2 element selectors to configure different background and text colors for the heading areas.

- Edit the embedded.html file in a text editor, and add the following code below the <title> element in the head section of the web page:

```
<style>
body { background-color: #e6e6fa; color: #191970; }
h1 { background-color: #191970; color: #e6e6fa; }
h2 { background-color: #aeaed4; color: #191970; }
</style>
```

- Save your file and test it in the browser. Figure 5 displays the web page along with corresponding color switches. (A monochromatic color scheme was chosen)

# all the styles were in a single place on the web
page. Since embedded styles are coded in a specific location, they are easier to maintain over time than inline styles.
# notice that you coded the styles for the h2 element selector only once
(in the head section), and both <h2> elements applied the h2 style. This approach is more efficient than coding the same inline style on each <h2> element.

#191970
#AEAED4
#E6E6FA

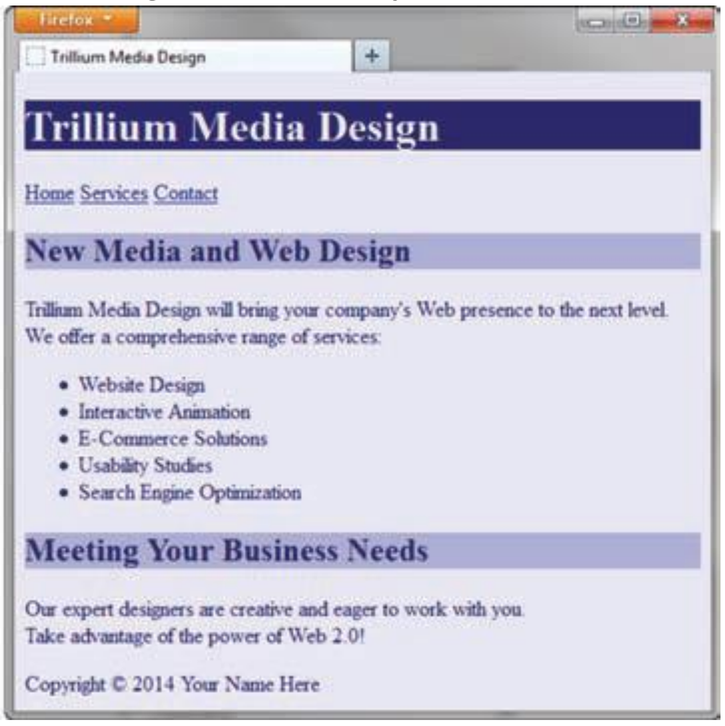

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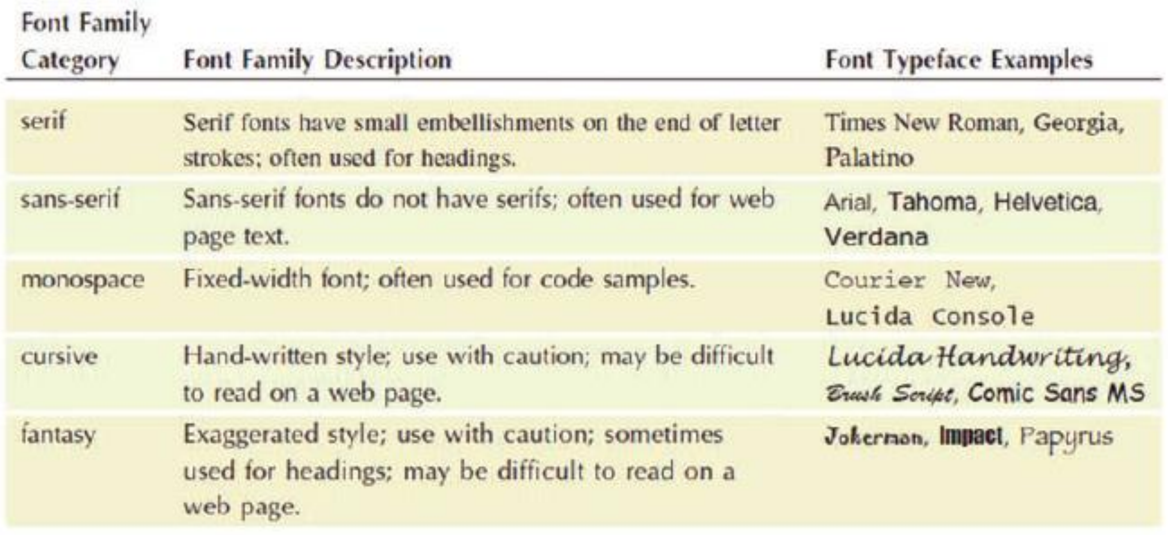
Figure 5 The web page after embedded styles are configured

CONFIGURING TEXT WITH CSS

In this section, you will learn to use CSS to configure font typeface. Using CSS to configure text is more flexible (especially when using an external style sheet, as you will discover later in the chapter) than using HTML elements and is the method preferred by modern web developers.

Font Family property

The font-family property configures font typeface. A web browser displays text using the fonts that have been installed on the user's computer. When a font is specified that is not installed on your web visitor's computer, the default font is substituted. Times New Roman is the default font displayed by most web browsers. Figure 3.11 shows font family categories.

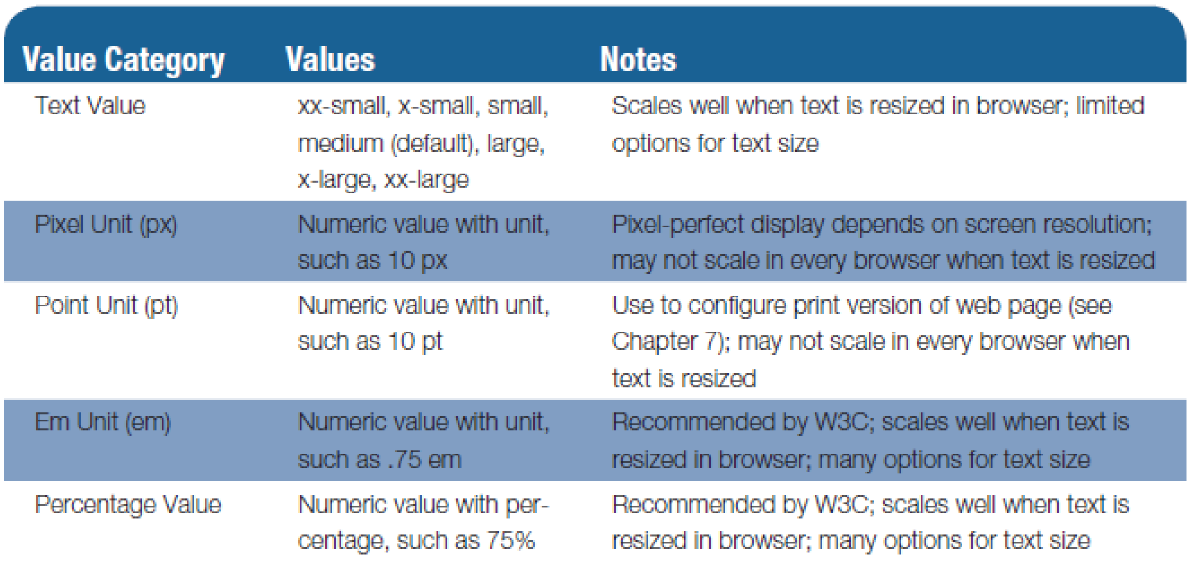


Font Family Category	Font Family Description	Font Typeface Examples
serif	Serif fonts have small embellishments on the end of letter strokes; often used for headings.	Times New Roman, Georgia, Palatino
sans-serif	Sans-serif fonts do not have serifs; often used for web page text.	Arial, Tahoma, Helvetica, Verdana
monospace	Fixed-width font; often used for code samples.	Courier New, Lucida Console
cursive	Hand-written style; use with caution; may be difficult to read on a web page.	Lucida Handwriting, Brush Script, Comic Sans MS
fantasy	Exaggerated style; use with caution; sometimes used for headings; may be difficult to read on a web page.	Jokerman, Impact, Papyrus

Figure 6 Common Fonts

More CSS Font Properties

The font-size property sets the size of the font. Table 7 lists a wide variety of text and numeric values—there are almost too many choices available. See the notes in Figure 7 for recommended use.



Value Category	Values	Notes
Text Value	xx-small, x-small, small, medium (default), large, x-large, xx-large	Scales well when text is resized in browser; limited options for text size
Pixel Unit (px)	Numeric value with unit, such as 10 px	Pixel-perfect display depends on screen resolution; may not scale in every browser when text is resized
Point Unit (pt)	Numeric value with unit, such as 10 pt	Use to configure print version of web page (see Chapter 7); may not scale in every browser when text is resized
Em Unit (em)	Numeric value with unit, such as .75 em	Recommended by W3C; scales well when text is resized in browser; many options for text size
Percentage Value	Numeric value with per-centage, such as 75%	Recommended by W3C; scales well when text is resized in browser; many options for text size

Figure 7 Configuring font size

# The em unit is a relative font unit that has its roots in the print industry, dating back to the day when printers set type manually with blocks of characters. An em unit is the width of a square block of type (typically the uppercase M) for a font and type size. On web pages, an em unit corresponds to the width of the font and size used in the parent element (typically the body element). So, the size of an em unit is relative to the font typeface and default size. Percentage values work in a similar manner to em units. For example, font size: 100% and font-size: 1em should render the same in a browser.

CSS3 text-shadow Property

The CSS3 text-shadow property adds depth and dimension to text displayed on web pages. Current versions of modern browsers, including Internet Explorer (version 10 and later) support the text-shadow property. Configure a text shadow by coding values for the shadow's horizontal offset, vertical offset, blur radius (optional), and color:

• Horizontal offset. Use a numeric pixel value. Positive value configures a shadow on the right. Negative value configures a shadow on the left.
• Vertical offset. Use a numeric pixel value. Positive value configures a shadow below. Negative value configures a shadow above.
• Blur radius (optional). Configure a numeric pixel value. If omitted, defaults to the value 0 which configures a sharp shadow. Higher values configure more blur.
• Color value. Configure a valid color value for the shadow.

HANDS ON PRACTICE 3.3

- For this practice, we are going to use back embedded.html
- Modify the CSS for the body selector to display text using a sans-serif font.
- The new font typeface style rule shown in the following code will apply to the entire web page unless more specific style rules are applied to a selector (such as h1 or p), a class, or an id (more on classes and ids later):

```
body { background-color: #E6E6FA;
       color: #191970;
       font-family: Arial, Verdana, sans-serif; }
```

- Save your file as embedded1.html and test it in the browser. It should look like the figure 8. Notice that just a single line of CSS changed the font typeface of all
- the text on the page!

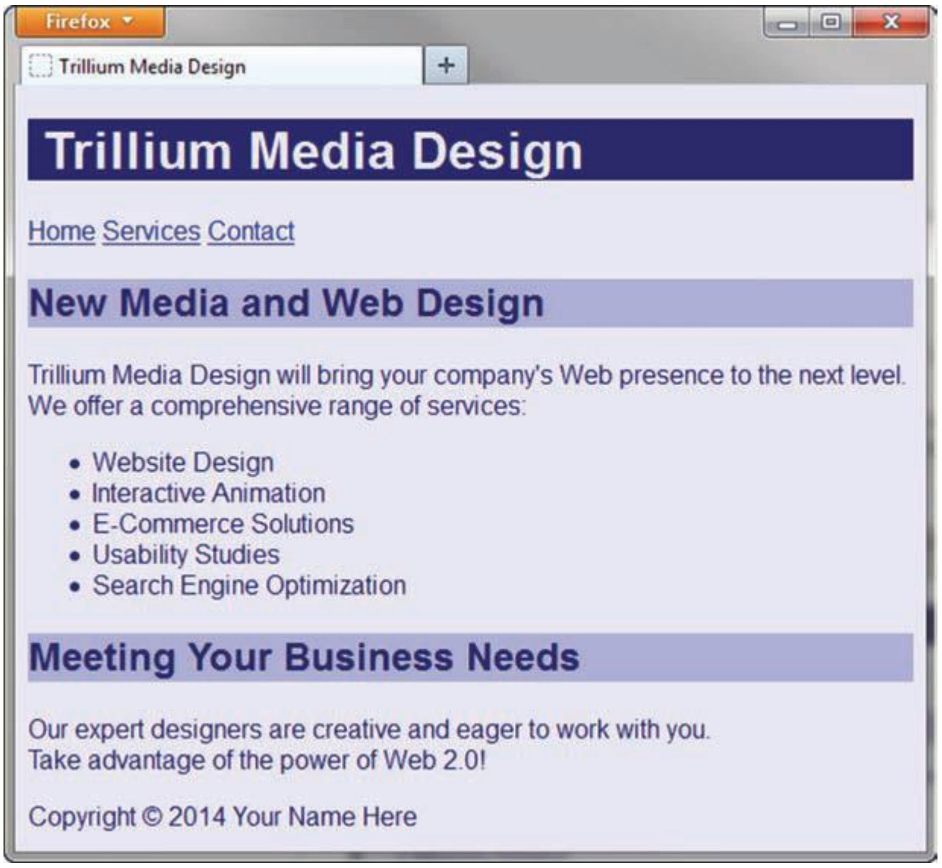


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Figure 8. CSS configures the font on the web page

Configure the h1 Selector

Now you will configure the line-height, font-family, and text-shadow CSS properties

- Set the line-height property to 200%

- Modify the h1 selector to use a serif font. When a font name contains spaces, type quotes as indicated in the code that follows.

- Configure a gray (#CCCCCC) text shadow with a 3 pixel vertical offset, horizontal offset, and blur radius.

- add a &nbsp; nonbreaking space special character in the body of the web page after the opening <h1> tag.

```
h1 { background-color: #191970;
     color: #E6E6FA;
     line-height: 200%;
     font-family: Georgia, "Times New Roman", serif;
     text-shadow: 3px 3px 5px #CCCCCC; }
```

- Save your page, and test it in a browser.

Configure the h2 Selector

- Configure the CSS rule to use the same font typeface as the h1 selector and to display centered text.

```
h2 { background-color: #AEAED4;
     color: #191970;
     font-family: Georgia, "Times New Roman", serif;
     text-align: center; }
```

Configure the Paragraphs

- Edit the HTML, and remove the line break tag that is after the first sentence of each paragraph;
- configure text in paragraphs to display just slightly smaller than the default text size. Use the font-size property set to .90em.
- Configure the first line of each paragraph to be indented. Use the text-indent property to configure a 3em indent

```
p { font-size: .90em;
    text-indent: 3em; }
```

.

Configure the Unordered List

Configure the text displayed in the unordered list to be bold.

```
ul { font-weight: bold; }
```

- Save your page as embedded2.html and test the web page.
- Your page should look similar to the one shown in Figure 9.

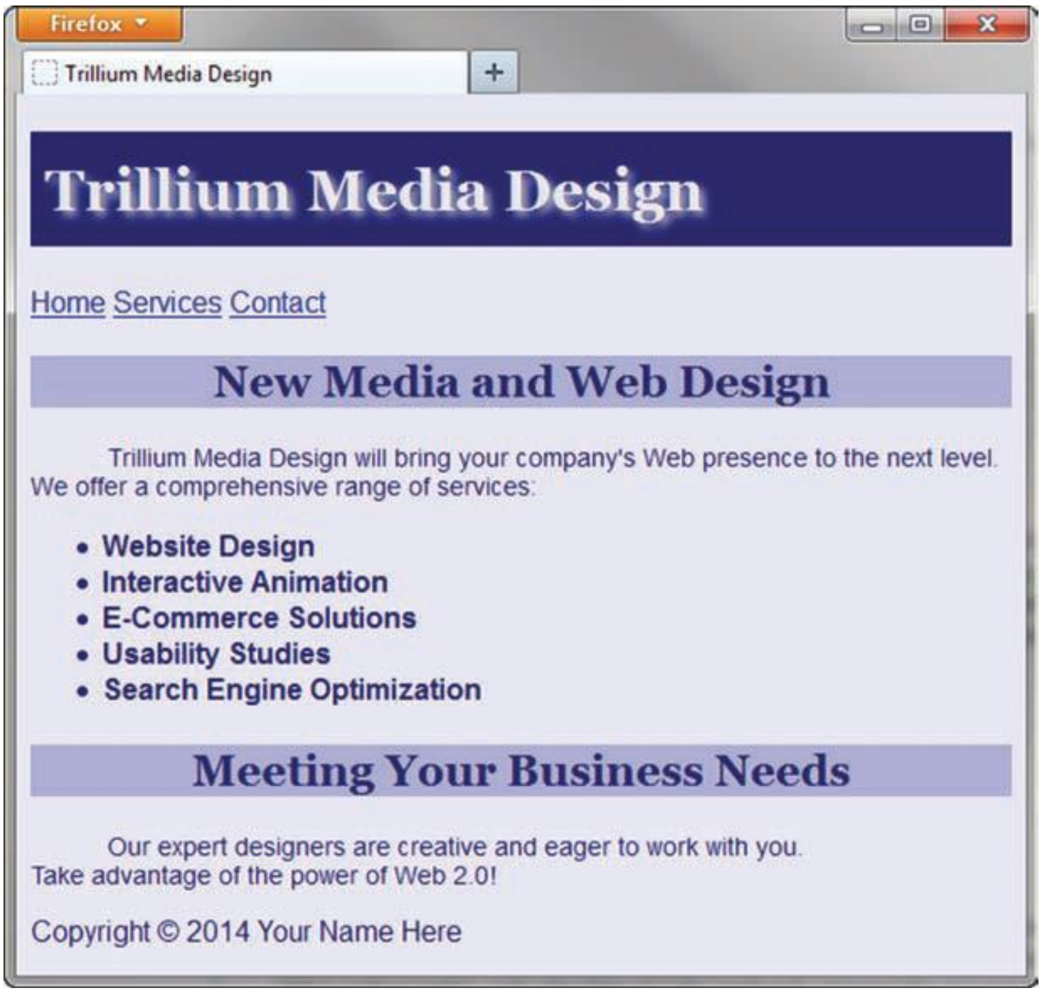

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Figure 9 CSS configures color and text properties on the web page

<u>CSS Class, id, and Descendant Selectors</u>

Class selector

Use a CSS class selector when you need to apply a CSS declaration to certain elements on a web page and not necessarily tie the style to a particular HTML element. When setting a style for a class, configure the class name as the selector. Place a dot, or period (.), in front of the class name in the stylesheet. The following code configures a class called feature in a style sheet with a foreground (text) color set to a medium red:

```
.feature { color: #C70000; }
```

- The styles set in the new class can be applied to any element you wish. You do this by using the class attribute, such as class="feature". Do not type the dot in front of the class value in the opening tag where the class is being applied. The following code will apply the feature class styles to a <li> element:

  <li class="feature">Usability Studies</li>
  <li class="feature">Search Engine Optimization</li>

The id Selector

Use a CSS id selector to identify and apply a CSS rule uniquely to a single area on a web page. Unlike a class selector which can be applied multiple times on a web page, an id may only be applied once per web page. When setting a style for an id, place a hash mark (#) in front of the id name in the style sheet. An id name may contain letters, numbers, hyphens, and underscores. Id names may not contain spaces. The following code will configure an id called main in a style sheet:

```
#main { color: #333333; }
```

The styles set in the main id can be applied to any element you wish by using the id attribute, id="main". Do not type the # in front of the id value in the opening tag. The following code will apply the main id styles to a div tag:

```
<div id="main">This sentence will be displayed using styles configured
in the main id.</div>
```

HANDS ON PRACTICE 3.4

- In this Hands-On Practice, you will modify the CSS and the HTML in the Trillium Technologies page to configure the navigation and page footer areas.

Configure the Navigation Area

- Using embedded2.html, add a nav class to the div element containing Home,Services and contacts.

  <div class=”nav”><a href="https://

- The navigation links would be more prominent if they were displayed in a larger and bolder font. Code a selector for the nav element that sets the font-size and font-weight properties.

```
nav { font-weight: bold;
      font-size: 1.25em; }
```

Configure the Content Area

- Create a class named feature that configures the text color to be a medium dark red (#C70000).

```
.feature { color: #C70000; }
```

- Modify the last two items in the unordered list. Add a class attribute to each opening li tag that associates the list item with the feature class as follows:

```
<li class="feature">Usability Studies</li>
<li class="feature">Search Engine Optimization</li>
```

Configure the Footer Area

- Add the footer class to the div element containing the copyrights

  <div class=”footer”>Copyright © 2012 Your Name Here</div>

- Code a selector for the footer element that sets the text color, font-size, and font-style properties

```
footer { color: #333333;
         font-size: .75em;
         font-style: italic; }
```

- Save your file as embedded3.html, and test it in a browser. Your page should look similar to the image shown in Figure 10

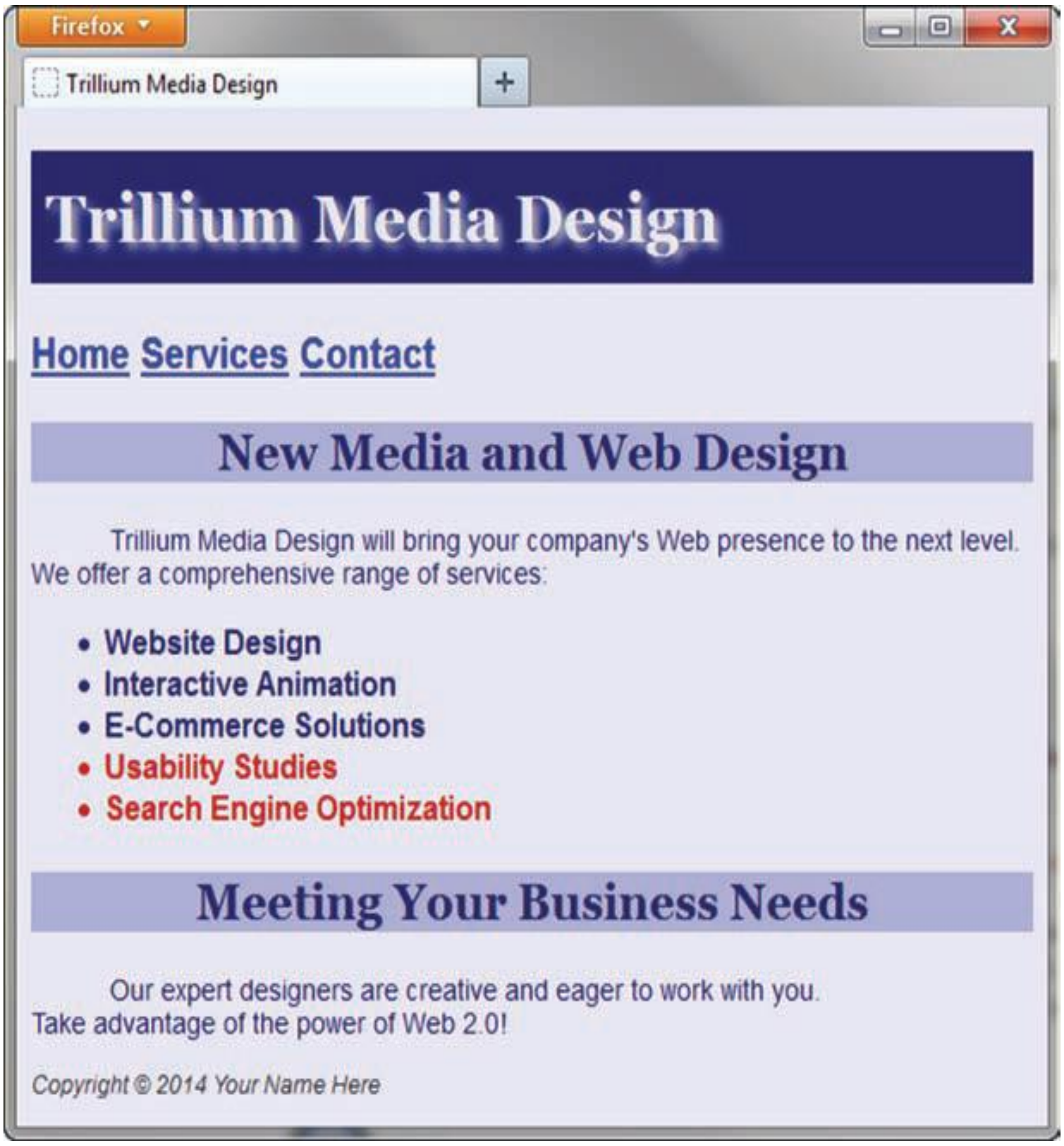

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Figure 10 Using classes and ids

The Descendant Selector

Use a CSS descendant selector when you want to specify an element within the context of its container (parent) element. Using descendant selectors can help you to reduce the number of different classes and ids but still allows you to configure CSS for specific areas on the web page.

SPAN ELEMENT

- Recall from Chapter 2 that the div element configures a section or division on a web page with empty space above and below.
- The div element is useful when you need to format a section that is physically separated from the rest of the web page, referred to as a block display.
- In contrast, the span element defines a section on a web page that is not physically separated from other areas; this formatting is referred to as inline display. Use the <span> tag if you need to format an area that is contained within another, such as within a <p>, <blockquote>, <li>, or <div> tag.

HANDS ON PRACTICE 3.5

You will experiment with the span element in this Hands-On Practice by configuring a new class to format the company name when it is displayed within the text on the page and using the span element to apply this class. Open the embedded3.html file in a text editor. Your web page will look similar to the one shown in Figure 11 after the changes are complete.

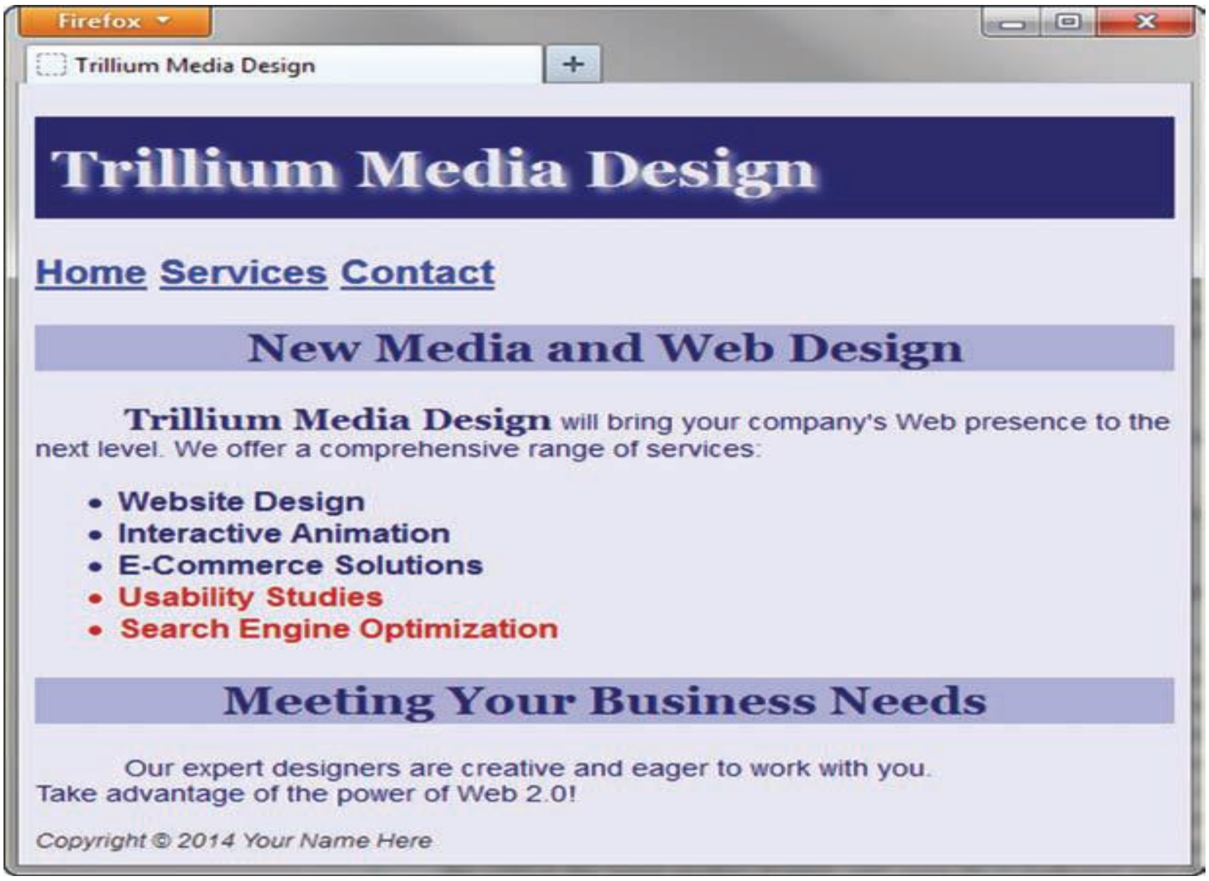

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Figure 11 This web page uses the span element

Configure the Company Name

- Create a new CSS rule that configures a class called company in bold, serif font, and 1.25em in size. The code follows:

```
.company { font-weight: bold;
           font-family: Georgia, "Times New Roman", serif;
           font-size: 1.25em; }
```

- Next, modify the beginning of the first paragraph of HTML to use the span element to apply the class as follows:

```
<p><span class="company">Trillium Media Design</span> will bring
```

- Save your file as embedded4.html, and test it in a browser. Your page should look similar to the one shown in Figure 11.

Using External Style Sheets

The flexibility and power of CSS are best utilized when the CSS is external to the web page document. An external style sheet is a text file with a .css file extension that contains CSS style rules. The external style sheet file is associated with a web page by using the link element. This approach provides a way for multiple web pages to be associated with the same external style sheet file. The external style sheet file does not contain any HTML tags; it contains only CSS style rules.

Link Element

The link element associates an external style sheet with a web page. It is placed in the head section of the page. The link element is a stand-alone, void tag. Three attributes are used with the link element: rel, href, and type.

• The value of the rel attribute is “stylesheet”.

• The value of the href attribute is the name of the style sheet file.

• The value of the type attribute is "text/css", which is the MIME type for CSS.

The type attribute is optional in HTML5 and required in XHTML.

Code the following in the head section of a web page to associate the document with the external style sheet named color.css:

```
<link rel="stylesheet" href="color.css">
```

HANDS ON PRACTICE 3.6

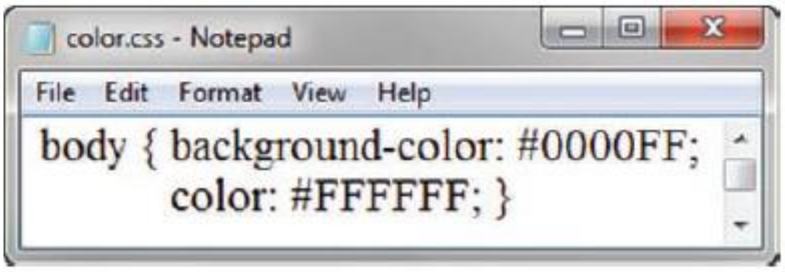
Let’s practice using external styles. First, you will create an external style sheet. Next, you will configure a web page to be associated with the external style sheet.

Create an External Style Sheet

- Launch a text editor, and type in the following style rules to set the background color of a page to blue and the text color to white. Save the file as color.css.

```
body { background-color: #0000FF;
       color: #FFFFFF; }
```

Figure 12 shows the external color.css style sheet displayed in Notepad. Notice that there is no HTML in this file. HTML tags are not coded within an external style sheet. Only CSS rules (selectors, properties, and values) are coded in an external style sheet.



```
body { background-color: #0000FF;
       color: #FFFFFF; }
```

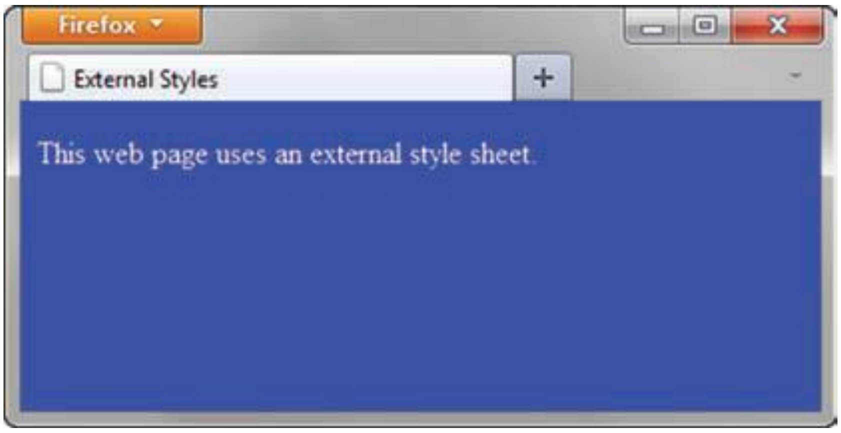
Figure 12 The external style sheet color.css

Configure the Web Page

- Open template.html
- Modify the title element, add a link tag to the head
- section, and add a paragraph to the body section as indicated by the following highlighted code:

```
<!DOCTYPE html>
<html lang="en">
<head>
<title>External Styles</title>
<meta charset="utf-8">
<link rel="stylesheet" href="color.css">
</head>
<body>
<p>This web page uses an external style sheet.</p>
</body>
</html>
```

- Save your file as external.html. Launch a browser, and test your page. It should look similar to the page shown in Figure 12.
- The color.css style sheet can be associated with any number of web pages. If you ever need to change the style of formatting, you need to change only a single file (color.css) instead of multiple files (all of the web pages). As mentioned earlier, this technique can boost productivity on a large site.



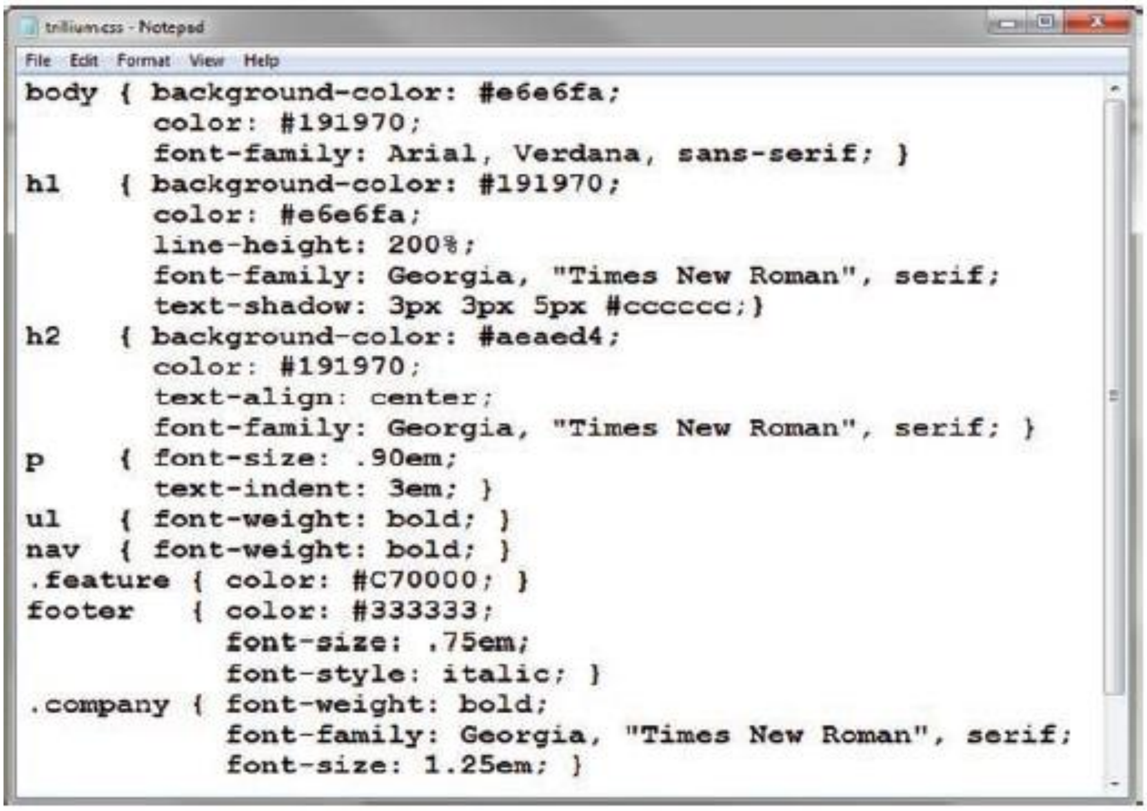
This web page uses an external style sheet.

Figure 13 This page is associated with an external style sheet

Hands-On Practice 3.7

- In this Hands-On Practice, you will continue to gain experience using external style sheets as you create the external style sheet file named trillium.css, modify the Trillium Technologies home page to use external styles instead of embedded styles, and associate a second web page with the trillium.css style sheet.

- Open embedded4.html and save the file as index.html.
- Select, copy and past the CSS rules (all the lines of code between, but not including, the opening and closing <style> tags).
- Create a new file and paste all the CSS rules inside the new file.
- Save the file as Trilllium.css
- Your new css file should be the same as the figure below



```
body { background-color: #e6e6fa;
       color: #191970;
       font-family: Arial, Verdana, sans-serif; }
h1   { background-color: #191970;
       color: #e6e6fa;
       line-height: 200%;
       font-family: Georgia, "Times New Roman", serif;
       text-shadow: 3px 3px 5px #cccccc;}
h2   { background-color: #aeaed4;
       color: #191970;
       text-align: center;
       font-family: Georgia, "Times New Roman", serif; }
p    { font-size: .90em;
       text-indent: 3em; }
ul   { font-weight: bold; }
nav  { font-weight: bold; }
.feature { color: #C70000; }
footer   { color: #333333;
           font-size: .75em;
           font-style: italic; }
.company { font-weight: bold;
           font-family: Georgia, "Times New Roman", serif;
           font-size: 1.25em; }
```

Figure 14 The external style sheet named trillium.css

- Next, edit the index.html file in a text editor. Delete the CSS code you just copied. Delete the closing </style> tag. Replace the opening <style> tag with a link element to associate the style sheet named trillium.css. The <link> tag code is as follows:

```
<link href="trillium.css" rel="stylesheet">
```

- Save the file, and test it in a browser. Your web page should look just like the one shown in Figure 11.
- Next open services.html and Code a <link> element to associate the
- services.html web page with the trillium.css external style sheet. Place the following code in the header section above the closing </head> tag

```
<link href="trillium.css" rel="stylesheet">
```

- Save your file, and test it in a browser. Your page should look similar to Figure 15—the CSS rules have been applied!

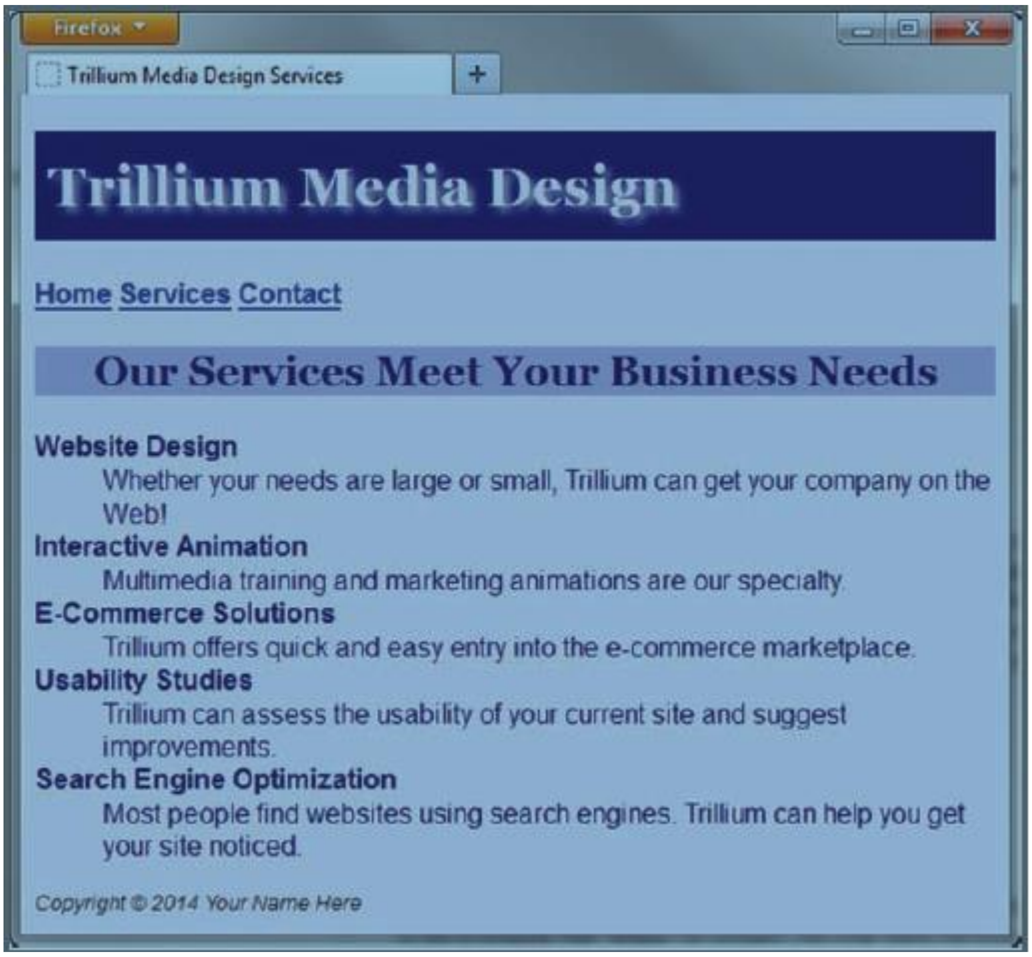


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Figure 15 The services.html page has been associated with trillium.css

Center HTML Elements with CSS

You learned how to center text on a web page earlier in this chapter—but what about centering the entire web page itself? A popular page layout design that is easy to accomplish with just a few lines of CSS is to center the entire contents of a web page within a browser viewport. The key is to configure a div element that contains, or “wraps,” the entire page content. The HTML follows:

```
<body>
<div id="wrapper">
... page content goes here ...
</div>
</body>
```

Hands-On Practice 3.8

- In this Hands-On Practice, you will code CSS properties to configure a centered page layout, using the files from Hands-On Practice 3.7 as a starting point. Create a new folder called trillium2.
- Copy the index.html, services.html, and trillium.css files to your trillium2 folder.
- Open the trillium.css file in a text editor.
- Create an id named wrapper. Add the margin-left, margin-right, and width style properties to the style rules as follows:

```
#wrapper { margin-left: auto;
           margin-right: auto;
           width: 80%; }
```

As you might expect, the margin-left and margin-right properties configure the space in the left and right margins, respectively. The margins can be set to 0, pixelunits, em units, percentages, or auto. When margin-left and margin-right are both set to auto, the browser calculates the amount of space available and divides it evenly between the left and right margins.

- Save the file. Open the index.html file in a text editor. Add the HTML code to configure a div element assigned to the id wrapper that “wraps,” or contains, the code within the body section. Save the file. When you test your index.html file in a browser, it should look similar to the page shown in Figure 16.

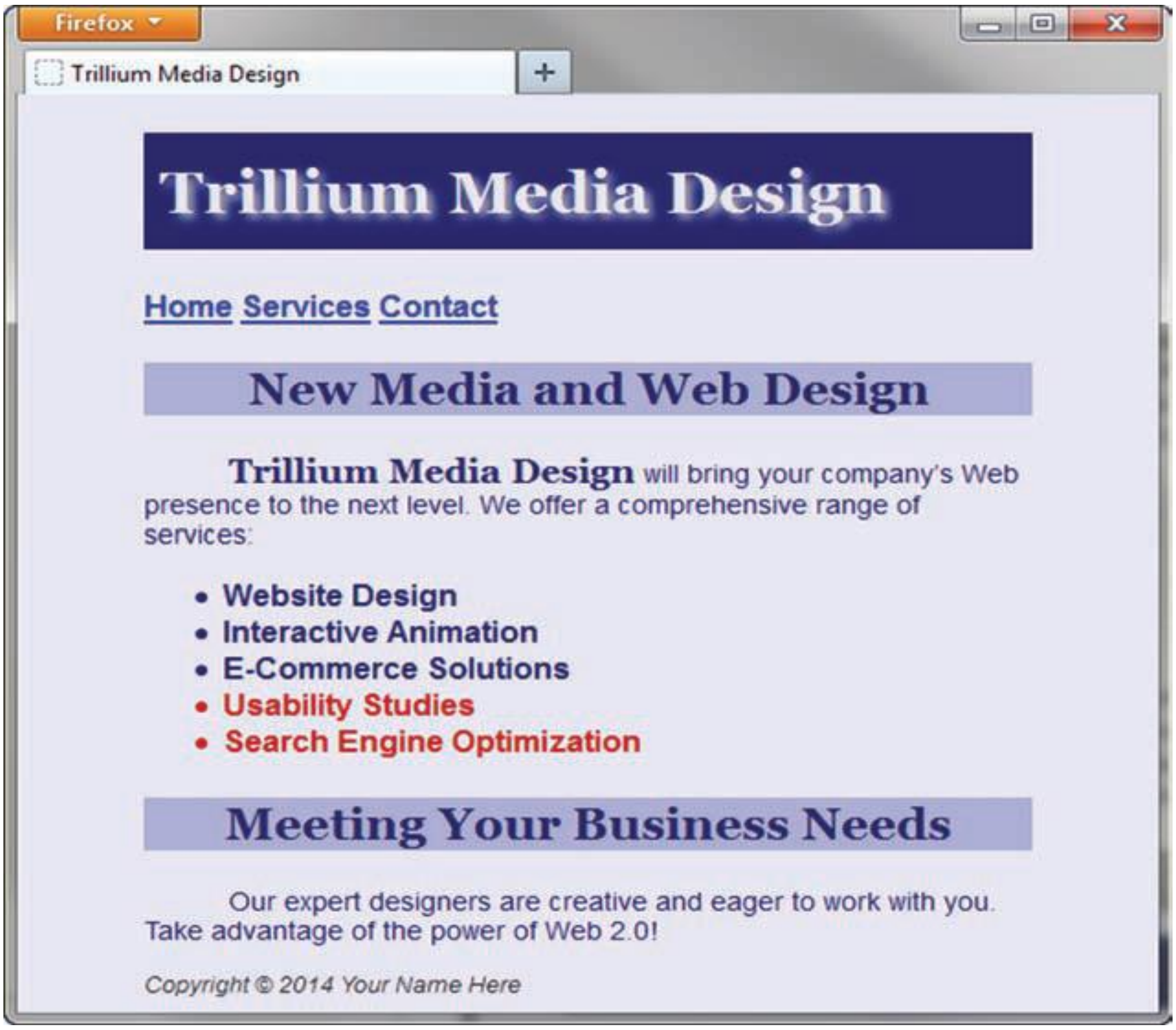

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Figure 16 The page content is centered within the browser viewport