5

Cascading Style Sheets™ (CSS)

OBJECTIVES

In this chapter you will learn:

- To control the appearance of a website by creating style sheets.
- To use a style sheet to give all the pages of a website the same look and feel.
- To use the class attribute to apply styles.
- To specify the precise font, size, color and other properties of displayed text.
- To specify element backgrounds and colors.
- To understand the box model and how to control margins, borders and padding.
- To use style sheets to separate presentation from content.

Outline

5.1 Introduction

- **Cascading Style Sheets (CSS)**

  - **Used to specify the presentation of elements separately from the structure of the document**

- **CSS validator**

  ```
  jigsaw.w3.org/css-validator/
  ```

5.2 Inline Styles

- **Inline style**
  - declare a style for an individual element by using the `style` attribute in the element's start tag
- **Each CSS property is followed by a colon and the value of the attribute**
  - Multiple property declarations are separated by a semicolon
- `color` **property sets text color**
  - Color names and hexadecimal codes may be used as the value

Fig. 5.1 | Using inline styles (Part 1 of 2).

```
1   <?xml version = "1.0" encoding = "utf-8"?>
2   <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
3       "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
4
5   <!-- Fig. 5.1: inline.html -->
6   <!-- Using inline styles -->
7   <html xmlns = "http://www.w3.org/1999/xhtml">
8       <head>
9           <title>Inline Styles</title>
10      </head>
11      <body>
12          <p>This text does not have any style applied to it.</p>
13
14          <!-- The style attribute allows you to declare -->
15          <!-- inline styles. Separate multiple style properties -->
16          <!-- with a semicolon. -->
17          <p style = "font-size: 20pt">This text has the
18              <em>font-size</em> style applied to it, making it
19          </p>
20
21          <p style = "font-size: 20pt; color: #6666ff">
22          This text has the <em>font-size</em> and
23          <em>color</em> styles applied to it, making it
24          20pt. and light blue.</p>
25      </body>
26  </html>
```

Style attribute

Sets the paragraph's font size
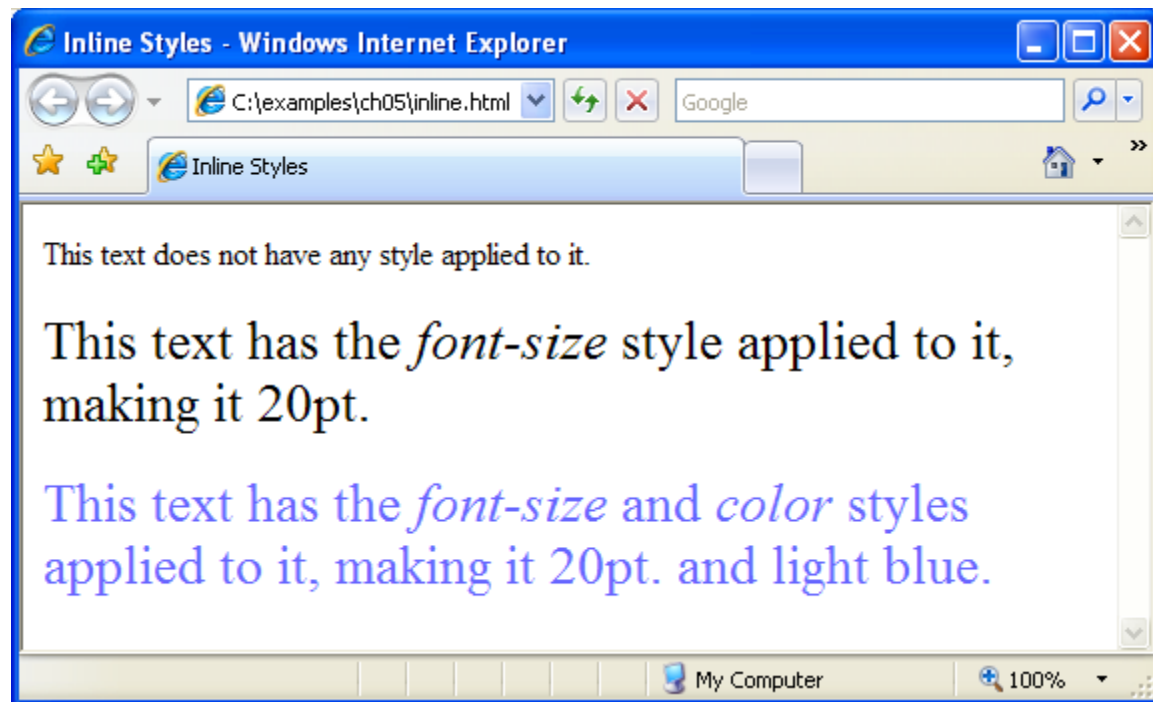
Sets the paragraph's color to light blue

Fig. 5.1 | Using inline styles (Part 2 of 2).

5.3 Embedded Style Sheets

- Styles that are placed in a `style` element use selectors to apply style elements throughout the entire document

- `style` element attribute `type` specifies the MIME type (the specific encoding format) of the style sheet. Style sheets use `text/css`

- Each rule body in a style sheet begins and ends with a curly brace (`{` and `}`).

5.3 Embedded Style Sheets (Cont.)

- **Style-class declarations are preceded by a period and are applied to elements of the specific class**
  - **The class attribute applies a style class to an element**
- **CSS rules in a style sheet use the same format as inline styles:**
  - **The property is followed by a colon (:) and the value of that property**
  - **Multiple properties are separated by semicolons (;)**

5.3 Embedded Style Sheets (Cont.)

- `font-weight` property specifies the "boldness" of text. Possible values are:
  - `bold`
  - `normal` (the default)
  - `bolder` (bolder than bold text)
  - `lighter` (lighter than normal text)
  - Boldness also can be specified with multiples of 100, from 100 to 900 (e.g., 100, 200, …, 900). Text specified as normal is equivalent to 400, and bold text is equivalent to 700

5.3 Embedded Style Sheets (Cont.)

- `background-color` attribute specifies the background color of the element
- `font-family` attribute names a specific font that should be displayed
  - Generic font families allow authors to specify a type of font instead of a specific font, in case a browser does not support a specific font
- `font-size` property specifies the size used to render the font

```xml
1  <?xml version = "1.0" encoding = "utf-8"?>
2  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
3     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
4
5  <!-- Fig. 5.2: embedded.html -->
6  <!-- Embedded style sheets. -->
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>Style Sheets</title>
10
11       <!-- this begins the style sheet section -->
12       <style type = "text/css">
13          em        { font-weight: bold;
14                      color: black }
15          h1        { font-family: tahoma, helvetica, sans-
16          p         { font-size: 12pt;
17                      font-family: arial, sans-serif }
18          .special { color: #6666ff }
19       </style>
20    </head>
21    <body>
22       <!-- this class attribute applies the .special style -->
23       <h1 class = "special">Deitel &amp; Associates, Inc.</h1>
24
25       <p>Deitel &amp; Associates, Inc. is an internationally
26       recognized corporate training and publishing organization
27       specializing in programming languages, Internet/World
28       Wide Web technology and object technology education.
29       The company provides courses on Java, C++, Visual Basic,
30       C#, C, Internet and World Wide Web programming, Object
31       Technology, and more.</p>
```

Style sheet begins

Sets the MIME type to `text/css`

Sets the properties for all elements in the document within `em` tags

Sets the properties for all `h1` elements in the document

Sets the properties for all `p` elements in the document

Creates a `special` class

Style sheet ends

Fig. 5.2 | Embedded style sheets (Part 1 of 2).

```
32
33        <h1>Clients</h1>
34        <p class = "special"> The company's clients include many
35        <em>Fortune 1000 companies</em>, government agencies,
36        branches of the military and business organizations.
37        Through its publishing partnership with Prentice Hall,
38        Deitel &amp; Associates, Inc. publishes leading-edge
39        programming textbooks, professional books, interactive
40        web-based multimedia Cyber Classrooms, satellite
41        courses and World Wide Web courses.</p>
42     </body>
43  </html>
```

The special class is applied to this p element

Fig. 5.2 | Embedded style sheets (part 2 of 2).

Deitel & Associates, Inc. is an internationally recognized corporate training and publishing organization specializing in programming languages, Internet/World Wide Web technology and object technology education. The company provides courses on Java, C++, Visual Basic, C#, C, Internet and World Wide Web programming, Object Technology, and more.

Clients

The company's clients include many **Fortune 1000 companies**, government agencies, branches of the military and business organizations. Through its publishing partnership with Prentice Hall, Deitel & Associates, Inc. publishes leading-edge programming textbooks, professional books, interactive web-based multimedia Cyber Classrooms, satellite courses and DVD and web-based video courses.

5.4 Conflicting Styles (Cont.)

- **`text-decoration`** property applies decorations to text in an element
    - `underline`
    - `overline`
    - `line-through`
    - `blink`

5.4 Conflicting Styles (Cont.)

- **Pseudoclasses give the author access to content not specifically declared in the document**

- **Pseudoclasses are separated by a colon (with no surrounding spaces) from the name of the element to which they are applied**

- **`hover` pseudoclass is activated when the user moves the mouse cursor over an element**

5.4 Conflicting Styles (Cont.)

- **To apply rules to multiple elements, separate the elements with commas in the style sheet**

- **To apply rules to only a certain type of element that is a child of another type, separate the element names with spaces**

5.4 Conflicting Styles (Cont.)

- **Relative length measurements:**
  - `px` (pixels – size varies depending on screen resolution)
  - `em` (usually the height of a font's uppercase M)
  - `ex` (usually the height of a font's lowercase x)
  - Percentages (of the font's default size)
- **Absolute-length measurements (units that do not vary in size):**
  - in (inches)
  - cm (centimeters)
  - mm (millimeters)
  - pt (points; 1 pt = 1/72 in)
  - pc (picas; 1 pc = 12 pt)

```
1  <?xml version = "1.0" encoding = "utf-8"?>
2  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
3     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
4
5  <!-- Fig. 5.3: advanced.html -->
6  <!-- Inheritance in style sheets. -->
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>More Styles</title>
10       <style type = "text/css">
11          body      { font-family: arial, helvetica, sans-serif }
12          a.nodec   { text-decoration: none }
13          a:hover   { text-decoration: underline }
14          li em     { font-weight: bold }
15          h1, em    { text-decoration: underline }
16          ul        { margin-left: 20px }
17          ul ul     { font-size: .8em }
18       </style>
19    </head>
20    <body>
21       <h1>Shopping list for Monday:</h1>
22
```

Fig. 5.3 | Inheritance in style sheets (Part 1 of 3).

Defines the class nodec that can only be used by anchor elements

Sets the properties for the hover pseudoclass for the a element, which is activated when the user moves the cursor over an anchor element

All em elements that are children of li elements set to bold

Applies underline style to all h1 and em elements

```
23        <ul>
24            <li>Milk</li>
25            <li>Bread
26                <ul>
27                    <li>White bread</li>
28                    <li>Rye bread</li>
29                    <li>Whole wheat bread</li>
30                </ul>
31            </li>
32            <li>Rice</li>
33            <li>Potatoes</li>
34            <li>Pizza <em>with mushrooms</em></li>
35        </ul>
36
37        <p><em>Go to the</em>
38            <a class = "nodec" href = "http://www.deitel.com">
39                Grocery store</a>
40        </p>
41    </body>
42 </html>
```
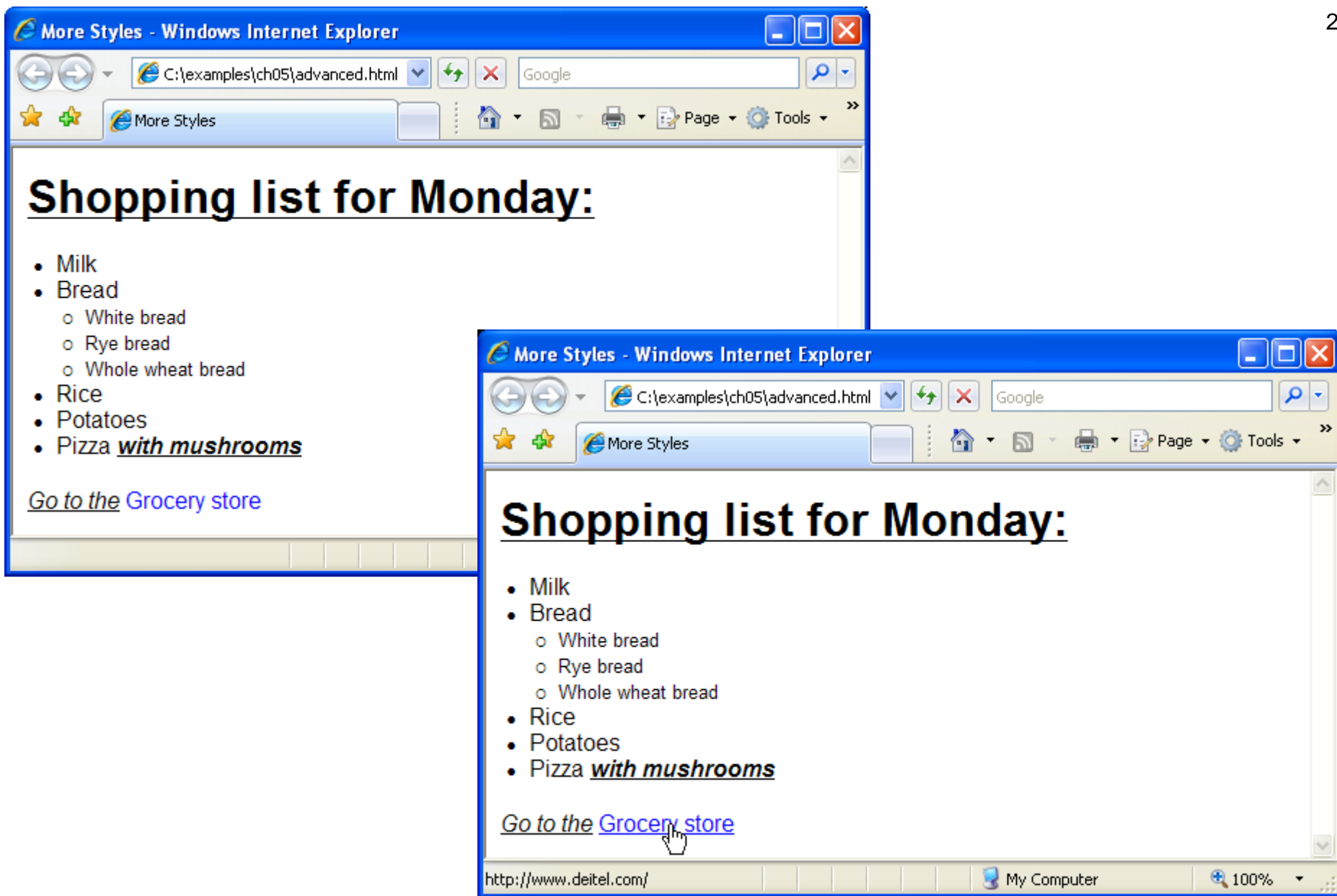
Fig. 5.3 | Inheritance in style sheets (Part 2 of 3).

Fig. 5.3 | Inheritance in style sheets (Part 3 of 3).

5.5 Linking External Style Sheets

- **External style sheets are separate documents that contain only CSS rules**

- **Help create a uniform look for a website**
  - separate pages can all use the same styles
  - Modifying a single style-sheet file makes changes to styles across an entire website
  - External style sheets separate content from presentation, allowing for more consistent look-and-feel, more efficient development, and better performance.

5.5 Linking External Style Sheets (Cont.)

- `link` element
  - Uses `rel` attribute to specify a relationship between two documents
  - `rel` attribute declares the linked document to be a stylesheet for the document
- `type` attribute specifies the MIME type of the related document
- `href` attribute provides the URL for the document containing the style sheet

```
1  /* Fig. 5.4: styles.css */
2  /* External stylesheet */
3
4  body     { font-family: arial, helvetica, sans-serif }
5
6  a.nodec  { text-decoration: none }
7
8  a:hover  { text-decoration: underline }
9
10 li em    { font-weight: bold }
11
12 h1, em   { text-decoration: underline }
13
14 ul       { margin-left: 20px }
15
16 ul ul    { font-size: .8em; }
```

Fig. 5.4 | External style sheet.

```xml
1  <?xml version = "1.0" encoding = "utf-8"?>
2  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
3      "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
4
5  <!-- Fig. 5.6: external.html -->
6  <!-- Linking an external style sheet. -->
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>Linking External Style Sheets</title>
10       <link rel = "stylesheet" type = "text/css"
11          href = "styles.css" />
12    </head>
13    <body>
14       <h1>Shopping list for <em>Monday</em>:</h1>
15
16       <ul>
17          <li>Milk</li>
18          <li>Bread
19             <ul>
20                <li>White bread</li>
21                <li>Rye bread</li>
22                <li>Whole wheat bread</li>
23             </ul>
24          </li>
25          <li>Rice</li>
26          <li>Potatoes</li>
27          <li>Pizza <em>with mushrooms</em></li>
28       </ul>
29
```

Fig. 5.5 | Linking an external style sheet (Part 1 of 2).

The linked document is declared to be the current one's stylesheet

The linked document's MIME type is `text/css`
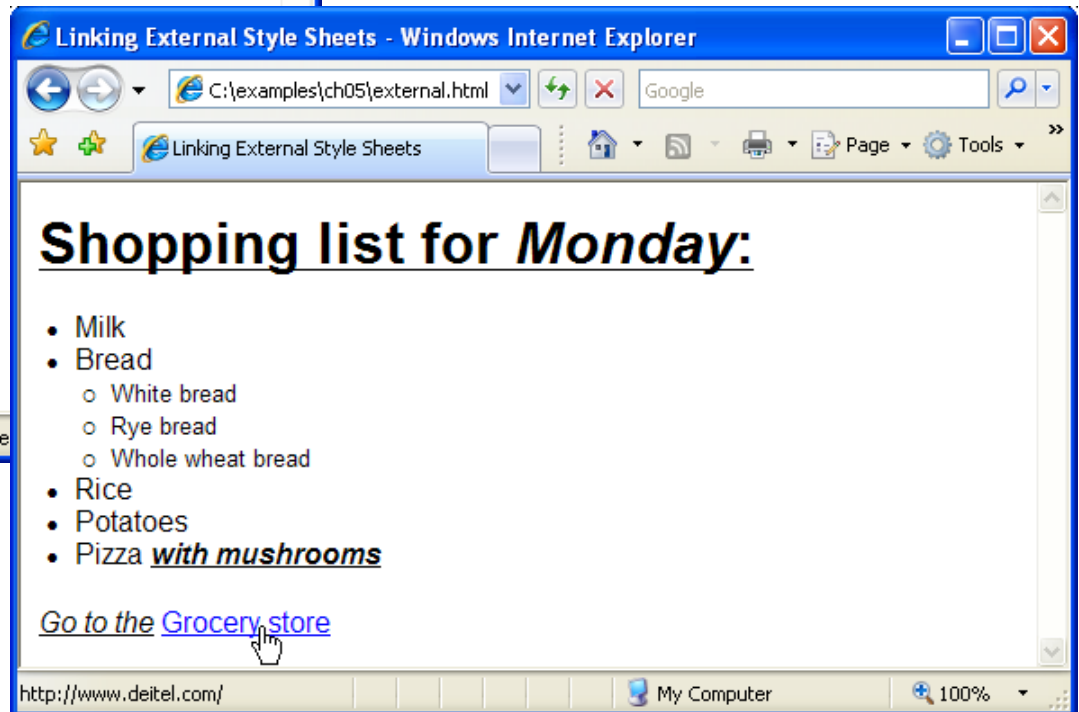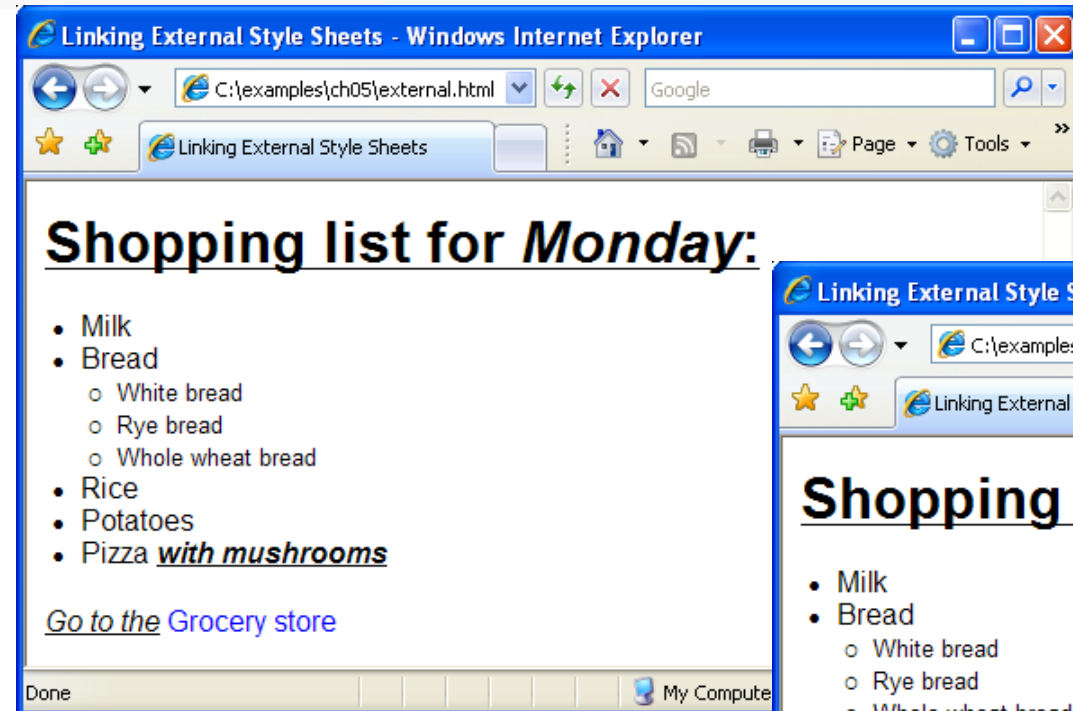
The linked document's URL is `styles.css`

```
30        <p><em>Go to the</em>
31           <a class = "nodec" href = "http://www.deitel.com">
32                 Grocery store</a>
33        </p>
34     </body>
35 </html>
```

Fig. 5.5 |
Linking an
external
style sheet
(Part 2 of 2).

Performance Tip 5.1

Reusing external style sheets reduces load time and bandwidth usage on a server, since the style sheet can be downloaded once, stored by the web browser, and applied to all pages on a website.

5.6 Positioning Elements

- CSS `position` property
    - Allows absolute positioning, which provides greater control over where on a page elements reside
    - Normally, elements are positioned on the page in the order that they appear in the XHTML document
    - Specifying an element's position as absolute removes it from the normal flow of elements on the page and positions it according to distance from the top, left, right or bottom margin of its parent element

5.6 Positioning Elements (Cont.)

- **The *z*-index property allows a developer to layer overlapping elements**

- **Elements that have higher *z*-index values are displayed in front of elements with lower *z*-index values**

```
1  <?xml version = "1.0" encoding = "utf-8"?>
2  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
3     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
4
5  <!-- Fig. 5.6: positioning.html -->
6  <!-- Absolute positioning of elements. -->
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>Absolute Positioning</title>
10       <style type = "text/css">
11          .bgimg   { position: absolute;
12                     top: 0px;
13                     left: 0px;
14                     z-index: 1 }
15          .fgimg   { position: absolute;
16                     top: 25px;
17                     left: 100px;
18                     z-index: 2 }
19          .text    { position: absolute;
20                     top: 25px;
21                     left: 100px;
22                     z-index: 3;
23                     font-size: 20pt;
24                     font-family: tahoma, geneva, sans-serif }
25       </style>
26    </head>
27    <body>
28       <p><img src = "bgimg.gif" class = "bgimg"
29          alt = "First positioned image" /></p>
30
```

Fig. 5.6 | Absolute positioning of elements (Part 1 of 2).

Class that sets an element's absolute position at the top left of the containing element

Lowest z-index, so this element is behind all the others

Set element's position 25px from the top and 100 from the left

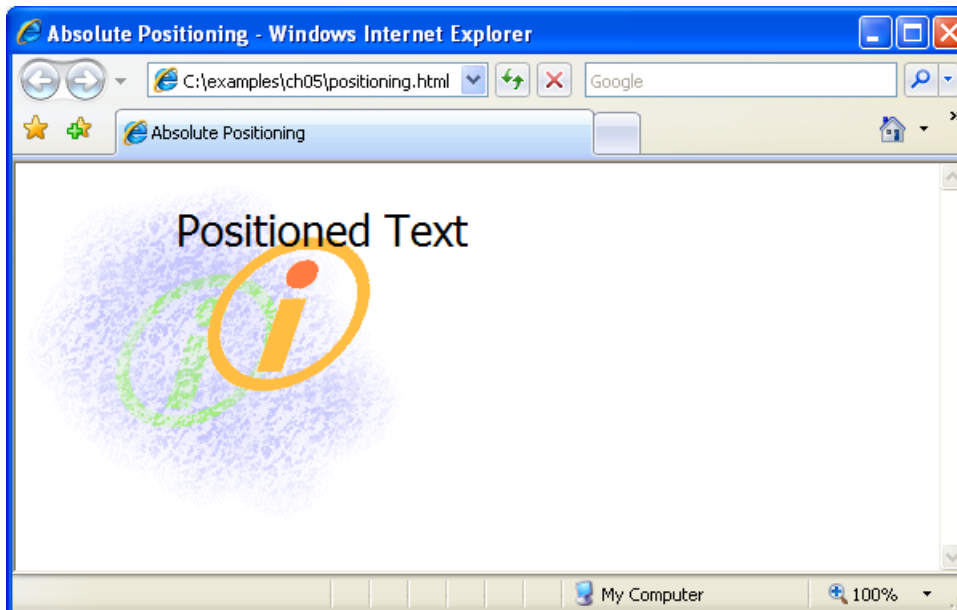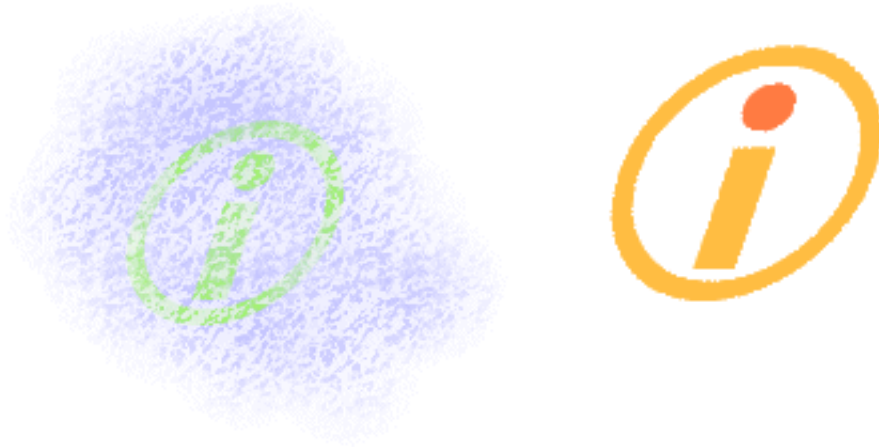This element will appear on top of the first one, since it has a higher z-index

This element will appear on top of all others, since it has the highest z-index

```
31        <p><img src = "fgimg.gif" class = "fgimg"
32           alt = "Second positioned image" /></p>
33
34        <p class = "text">Positioned Text</p>
35     </body>
36 </html>
```

Fig. 5.6 |
Absolute
positioning
of elements
(Part 2 of 2).

5.6 Positioning Elements (Cont.)

- **Relative positioning keeps elements in the general flow on the page and offsets them by the specified top, left, right or bottom value**

```
1  <?xml version = "1.0" encoding = "utf-8"?>
2  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
3     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
4
5  <!-- Fig. 5.7: positioning2.html -->
6  <!-- Relative positioning of elements. -->
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>Relative Positioning</title>
10       <style type = "text/css">
11          p              { font-size: 1.3em;
12                           font-family: verdana, arial, sans-serif }
13          span           { color: red;
14                           font-size: .6em;
15                           height: 1em }
16          .super       { position: relative;
17                           top: -1ex }
18          .sub         { position: relative;
19                           bottom: -1ex }
20          .shiftleft   { position: relative;
21                           left: -1ex }
22          .shiftright  { position: relative;
23                           right: -1ex }
24       </style>
25    </head>
26    <body>
27       <p>The text at the end of this sentence
28       <span class = "super">is in superscript</span>.</p>
29
```

Positions element 5 ex upwards

Positions element 1 ex downwards

Positions element 1 ex to the left

Positions element 1 ex to the right

Apply the `super` class to this `span` element

Fig. 5.7 |
Relative
positioning
of elements
(Part 1 of 2).

```
30        <p>The text at the end of this sentence
31        <span class = "sub">is in subscript</span>.</p>
32
33        <p>The text at the end of this sentence
34        <span class = "shiftleft">is shifted left</span>.</p>
35
36        <p>The text at the end of this sentence
37        <span class = "shiftright">is shifted right</span>.</p>
38     </body>
39 </html>
```
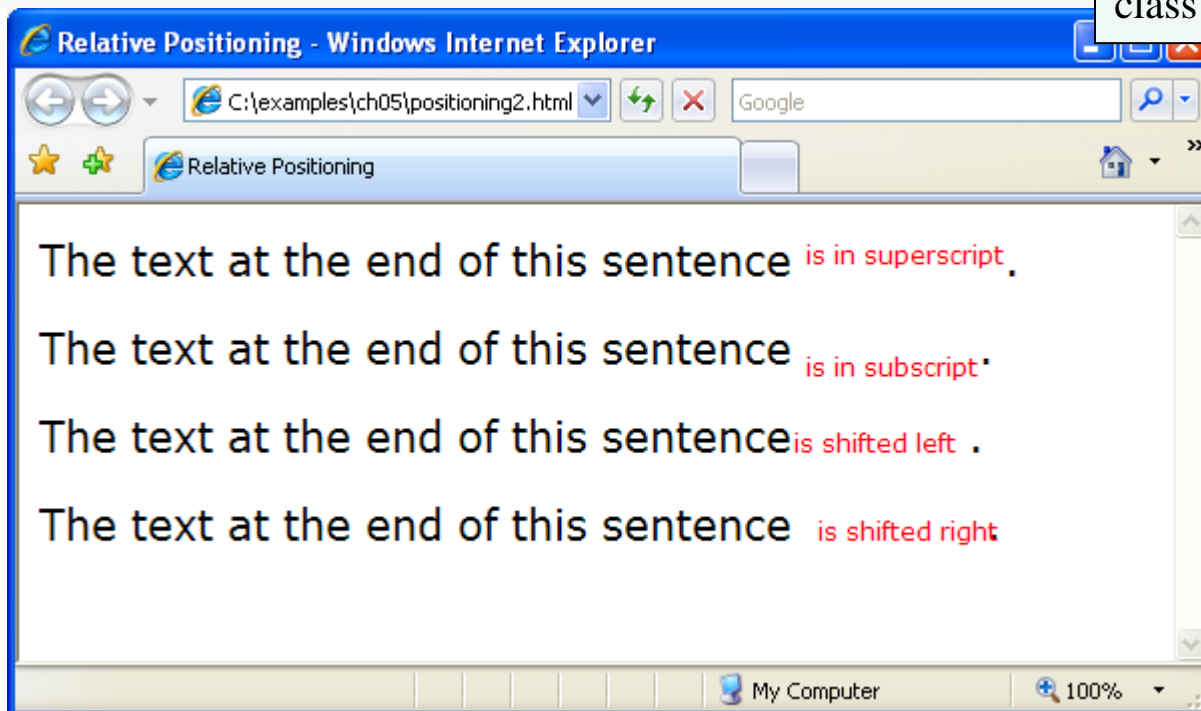
Apply the `sub` class to this `span` element

Apply the `shiftleft` class to this `span` element

Apply the `shiftright` class to this `span` element

5.7 Backgrounds

- **CSS can control the backgrounds of block-level elements by adding:**
  - **Colors**
  - **Images**

5.7 Backgrounds (Cont.)

- **Property `background-image`**
  - Specifies the URL of the image, in the format url(fileLocation)

- **Property `background-position`**
  - Places the image on the page using the values `top`, `bottom`, `center`, `left` and `right` individually or in combination for vertical and horizontal positioning. You can also position by using lengths

5.7 Backgrounds (Cont.)

- `background-repeat` property controls the tiling of the background image
  - Setting the tiling to `no-repeat` displays one copy of the background image on screen
  - Setting to `repeat` (the default) tiles the image vertically and horizontally
  - Setting to repeat-x tiles the image only horizontally
  - Setting to repeat-y tile the image only vertically

5.7 Backgrounds (Cont.)

- **Property setting**

  `background-attachment: fixed`

  – **fixes the image in the position specified by background-position. Scrolling the browser window will not move the image from its set position. The default value, scroll, moves the image as the user scrolls the window**

5.7 Backgrounds (Cont.)

- **`text-indent` property indents the first line of text in the element by the specified amount**

- **`font-style` property allows you to set text to `none`, `italic` or `oblique`**

```
1   <?xml version = "1.0" encoding = "utf-8"?>
2   <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
3       "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
4
5   <!-- Fig. 5.8: background.html -->
6   <!-- Adding background images and indentation. -->
7   <html xmlns = "http://www.w3.org/1999/xhtml">
8       <head>
9           <title>Background Images</title>
10          <style type = "text/css">
11              body  { background-image: url(logo.gif);
12                      background-position: bottom right;
13                      background-repeat: no-repeat;
14                      background-attachment: fixed;
15                      background-color: #eeeeee }
16          p     { font-size: 18pt;
17                  color: #1144AA;
18                  text-indent: 1em;
19                  font-family: arial, sans-serif; }
20          .dark { font-weight: bold }
21          </style>
22      </head>
```

Fig. 5.8 | Adding background images and indentation (Part 1 of 2).

Inserts the image at `logo.gif` as the background

Places the image at the bottom right of the page

Displays only one copy of the image

Keeps the image in place when the user scrolls in the browser window

Fills the remainder of the window with a light gray background

Indents the first line of text in the element by 1 em

```
23    <body>
24        <p>
25        This example uses the background-image,
26        background-position and background-attachment
27        styles to place the <span class = "dark">Deitel
28        &amp; Associates, Inc.</span> logo in the bottom,
29        right corner of the page. Notice how the logo
30        stays in the proper position when you resize the
31        browser window. The background-color fills in where
32        there is no image.
33        </p>
34    </body>
35 </html>
```

Fig. 5.8 | Adding background images and indentation (Part 2 of 2).
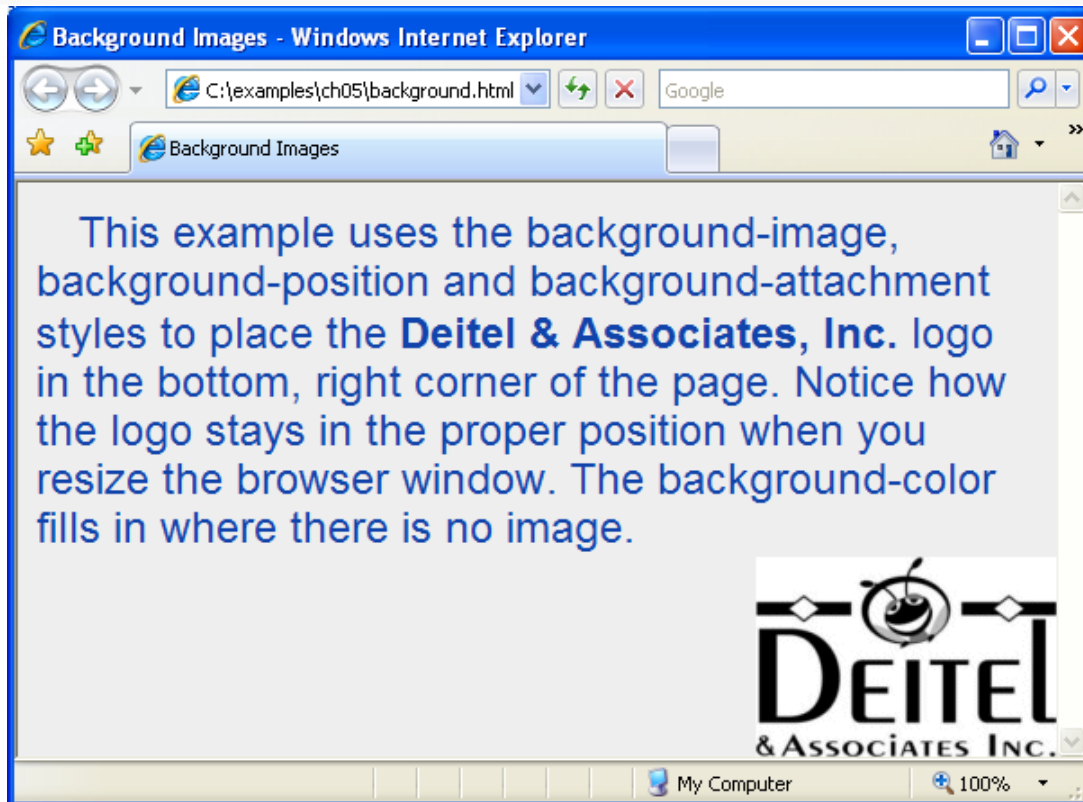
5.8 Element Dimensions

- **Dimensions of elements on a page can be set with CSS by using properties `height` and `width`**
  - Their values can be relative or absolute
- **Text in an element can be centered using `text-align: center`; other values for the text-align property are `left` and `right`**

5.8 Element Dimensions (Cont.)

- **Problem with setting both vertical and horizontal dimensions of an element**
  - **Content might sometimes exceed the set boundaries, in which case the element must be made large enough for all the content to fit**
  - **Can set the `overflow` property to `scroll`, which adds scroll bars if the text overflows the boundaries set for it**

```
1   <?xml version = "1.0" encoding = "utf-8"?>
2   <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
3       "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
4
5   <!-- Fig. 5.9: width.html -->
6   <!-- Element dimensions and text alignment. -->
7   <html xmlns = "http://www.w3.org/1999/xhtml">
8      <head>
9         <title>Box Dimensions</title>
10        <style type = "text/css">
11           div { background-color: #aaccff;
12                 margin-bottom: .5em;
13                 font-family: arial, helvetica, sans-serif }
14        </style>
15     </head>
16     <body>
17        <div style = "width: 20%">Here is some
18        text that goes in a box which is
19        set to stretch across twenty percent
20        of the width of the screen.</div>
21
22        <div style = "width: 80%; text-align: center">
23        Here is some CENTERED text that goes in a box
24        which is set to stretch across eighty percent of
25        the width of the screen.</div>
26
```

Fig. 5.9 | Element dimensions and text alignment (Part 1 of 2).

Sets the width of the element to 20% of the browser's screen's size

Sets the width of the element to 80% of the browser's screen's size and centers it
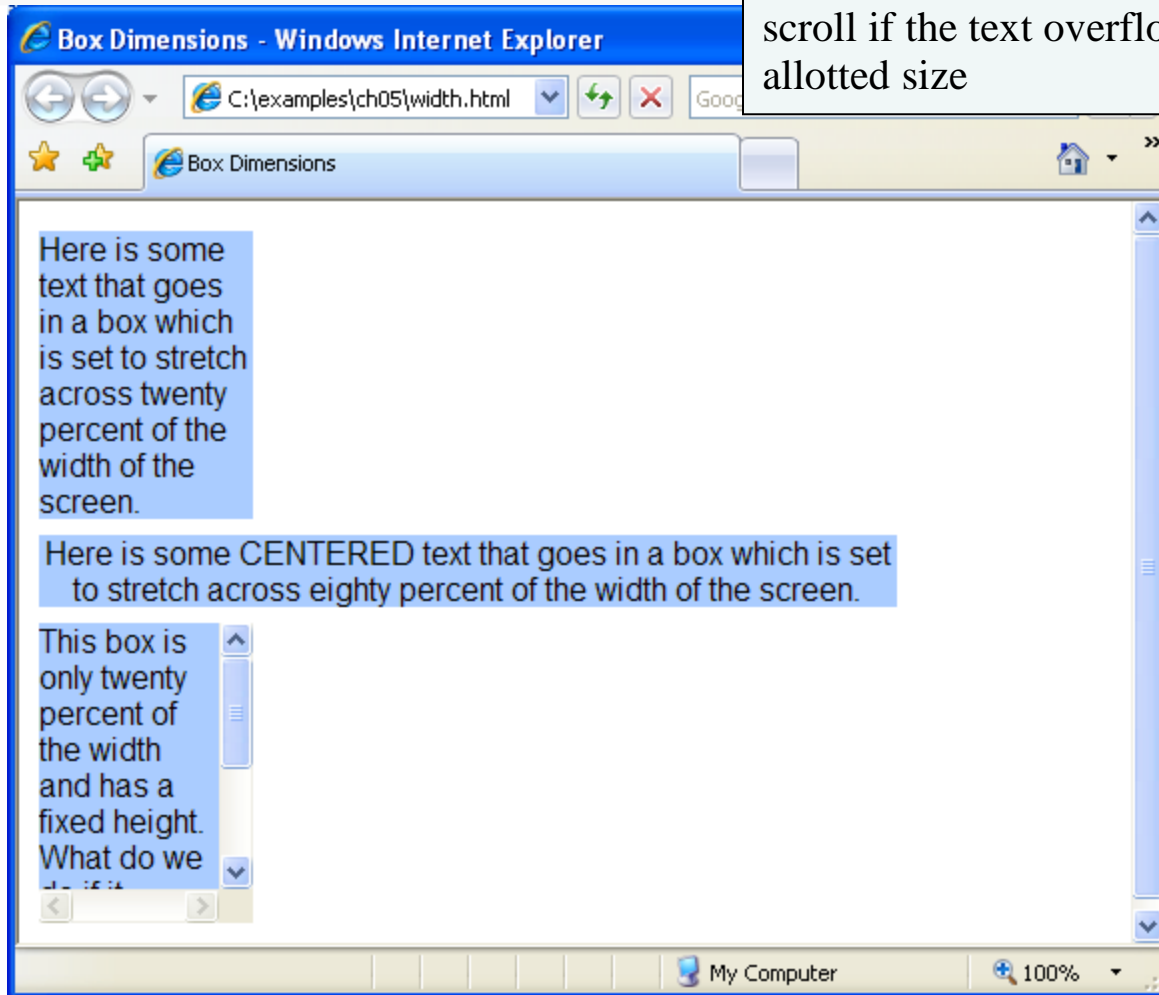
```
27    <div style = "width: 20%; height: 150px; overflow: scroll">
28        This box is only twenty percent of
29        the width and has a fixed height.
30        What do we do if it overflows? Set the
31        overflow property to scroll!</div>
32    </body>
33 </html>
```

Sets the width of the element to 20% of the browser's screen's size, the height to 150 px, and allows the element to scroll if the text overflows the allotted size

Fig. 5.9 | Element dimensions and text alignment (Part 2 of 2).

Box Dimensions - Windows Internet Explorer

C:\examples\ch05\width.html

Box Dimensions

Here is some text that goes in a box which is set to stretch across twenty percent of the width of the screen.

Here is some CENTERED text that goes in a box which is set to stretch across eighty percent of the width of the screen.

This box is only twenty percent of the width and has a fixed height. What do we do if it

My Computer   100%

5.9 Box Model and Text Flow

- **Block-level XHTML elements have a virtual box drawn around them based on the box model**
- **When the browser renders using the box model, each element is surrounded by:**
  - **Padding**
    - **The padding property determines the distance between the content inside an element and the edge of the element**
    - **Padding be set for each side of the box by using `padding-top`, `padding-right`, `padding-left` and `padding-bottom`**
  - **Margin**
    - **Determines the distance between the element's edge and any outside text**
    - **Margins for individual sides of an element can be specified by using `margin-top`, `margin-right`, `margin-left` and `margin-bottom`**
  - **Border**

5.9 Box Model and Text Flow (Cont.)

- **The border is controlled using the properties:**
  - `border-width`
    - May be set to any of the CSS lengths or to the predefined value of `thin`, `medium` or `thick`
  - `border-color`
    - Sets the color used for the border
  - `border-style`
    - Options are: `none`, `hidden`, `dotted`, `dashed`, `solid`, `double`, `groove`, `ridge`, `inset` and `outset`
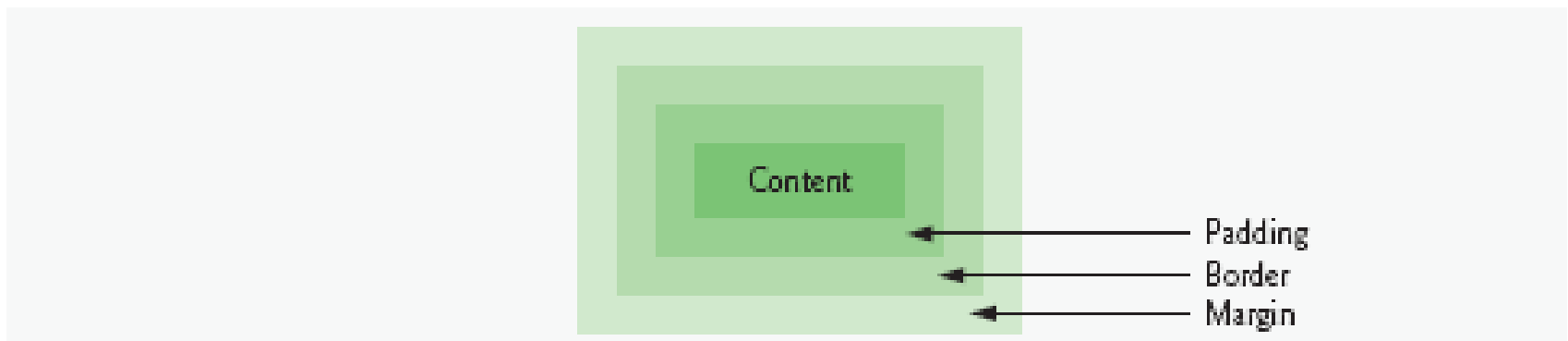
Fig. 5.10 | Box model for block-level elements.

```
1  <?xml version = "1.0" encoding = "utf-8"?>
2  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
3     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
4
5  <!-- Fig. 5.11: borders.html -->
6  <!-- Borders of block-level elements. -->
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>Borders</title>
10       <style type = "text/css">
11          div      { text-align: center;
12                       width: 50%;
13                       position: relative;
14                       left: 25%;
15                       border-width: 4px }
16          .medium { border-width: medium }
17          .thin    { border-width: thin }
18          .solid  { border-style: solid }
19          .double { border-style: double }
20          .groove { border-style: groove }
21          .inset  { border-style: inset }
22          .outset { border-style: outset }
23          .dashed { border-style: dashed }
24          .red     { border-color: red }
25          .blue    { border-color: blue }
26       </style>
27    </head>
```

Fig. 5.11 | Borders of block-level elements (Part 1 of 2).

Defines several border classes

```
28    <body>
29       <div class = "solid">Solid border</div><hr />
30       <div class = "double">Double border</div><hr />
31       <div class = "groove">Groove border</div><hr />
32       <div class = "inset">Inset border</div><hr />
33       <div class = "dashed">Dashed border</div><hr />
34       <div class = "thin red solid">Thin Red Solid border</div><hr />
35       <div class = "medium blue outset">Medium Blue Outset border</div>
36    </body>
37 </html>
```
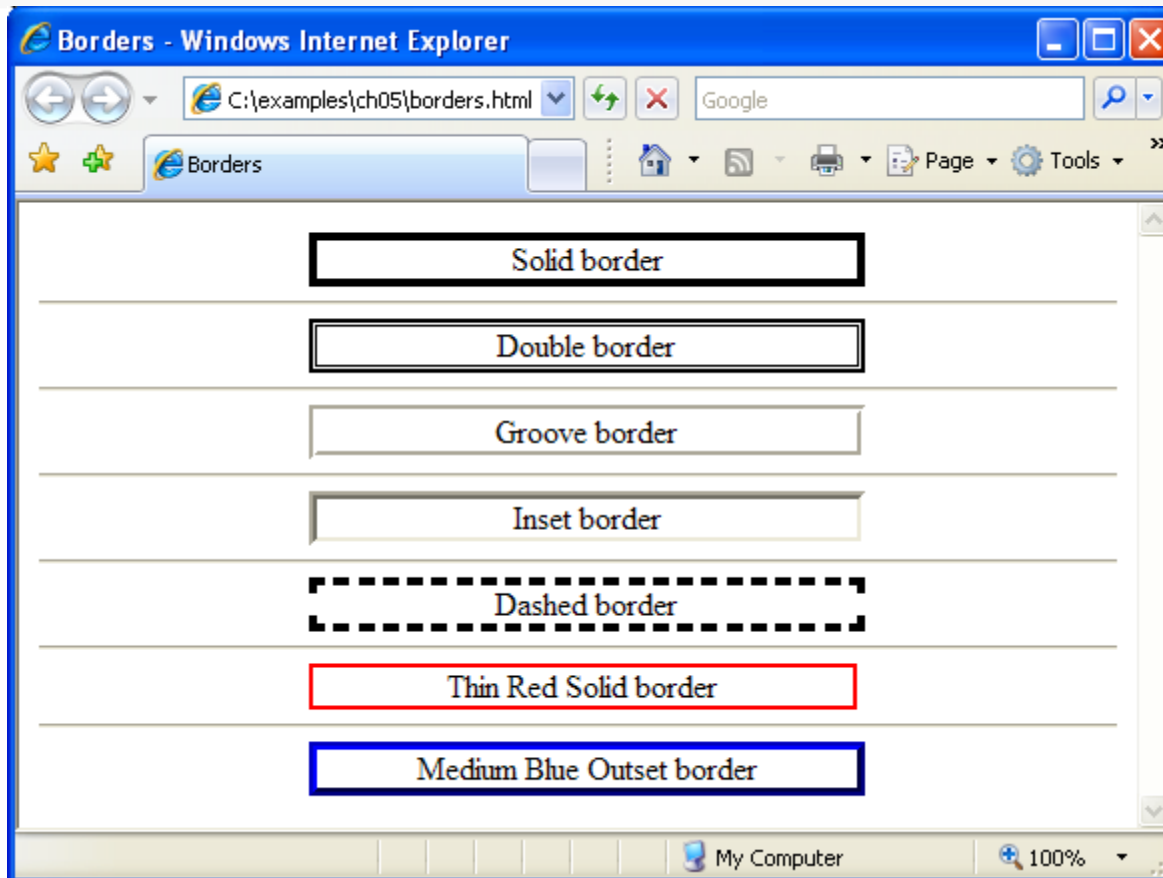
Applies several classes to the same element

Fig. 5.11 | Borders of block-level elements (Part 2 of 2).

5.11 Building a CSS Drop-Down Menu

- `:hover` pseudoclass
  - used to apply styles to an element when the mouse cursor is over it

- `display` property
  - allows a programmer to decide if an element is displayed as a block element, inline element, or is not rendered at all (`none`)

```
1   <?xml version = "1.0" encoding = "utf-8"?>
2   <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
3      "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
4
5   <!-- Fig. 5.14: dropdown.html -->
6   <!-- CSS drop-down menu. -->
7   <html xmlns = "http://www.w3.org/1999/xhtml">
8      <head>
9         <title>
10           Drop-Down Menu
11        </title>
12        <style type = "text/css">
13           body              { font-family: arial, sans-serif }
14           div.menu          { font-weight: bold;
15                                color: white;
16                                border: 2px solid #225599;
17                                text-align: center;
18                                width: 10em;
19                                background-color: #225599 }
20        div.menu:hover a   { display: block }
21        div.menu a         { display: none;
22                                border-top: 2px solid #225599;
23                                background-color: white;
24                                width: 10em;
25                                text-decoration: none;
26                                color: black }
27        div.menu a:hover  { background-color: #dfeeff }
28        </style>
29     </head>
30     <body>
```

Fig. 5.14 | CSS drop-down menu (Part 1 of 2).

Sets anchor elements in a menu `div` to be displayed as block-level when the menu is moused-over

Prevents the browser from rendering the links inside the menu `div`

Sets anchor elements in a menu `div` to have a light-blue background when they are moused-over

```
31          <div class = "menu">Menu
32              <a href = "#">Home</a>
33              <a href = "#">News</a>
34              <a href = "#">Articles</a>
35              <a href = "#">Blog</a>
36              <a href = "#">Contact</a>
37          </div>
38      </body>
39  </html>
```

Fig. 5.14 | CSS drop-down menu (Part 2 of 2).
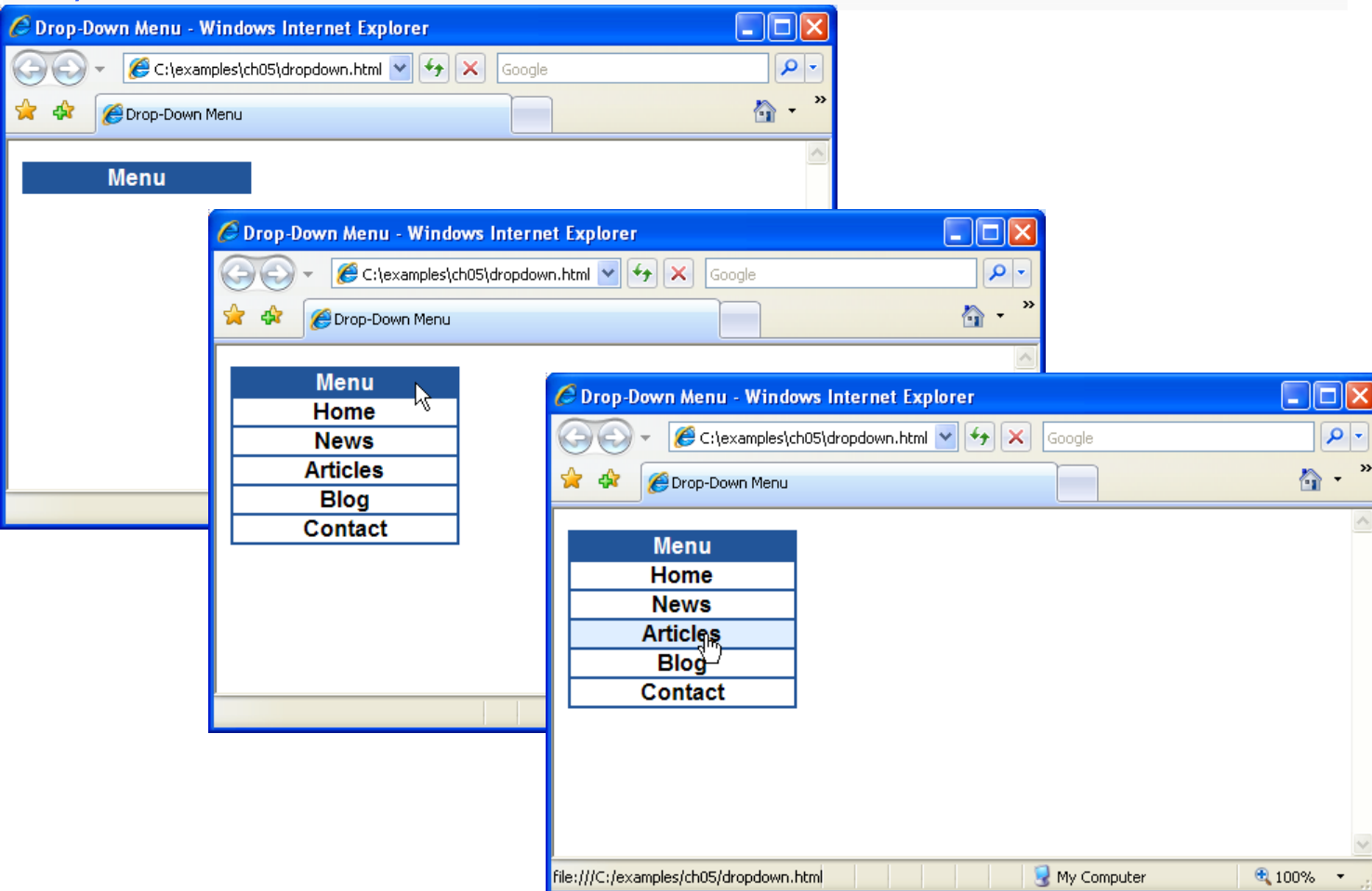
5.12 User Style Sheets

- **Users can define their own user style sheets to format pages based on their preferences**

- **Absolute font size measurements override user style sheets, while relative font sizes will yield to a user-defined style**

- **User style sheets are not linked to a document; rather, they are set in the browser's options**
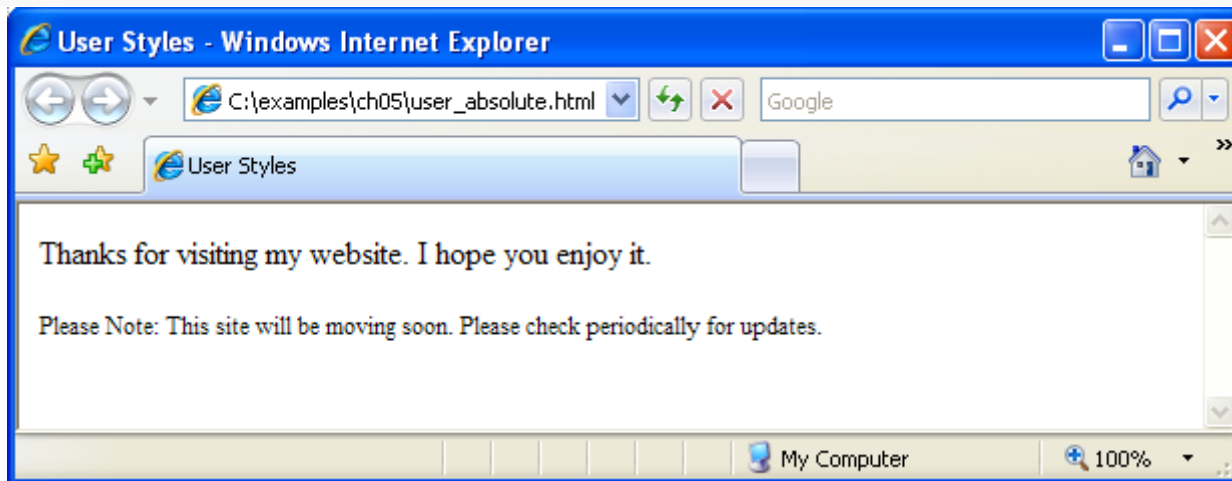
```
1  <?xml version = "1.0" encoding = "utf-8"?>
2  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
3     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
4
5  <!-- Fig. 5.15: user_absolute.html -->
6  <!-- pt measurement for text size. -->
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>User Styles</title>
10       <style type = "text/css">
11          .note { font-size: 9pt }
12       </style>
13    </head>
14    <body>
15       <p>Thanks for visiting my website. I hope you enjoy it.
16       </p><p class = "note">Please Note: This site will be
17       moving soon. Please check periodically for updates.</p>
18    </body>
19 </html>
```

Fig. 5.15 | pt measurement for text size.

A class defined by the author with absolute measurements: a font-size of 9 pt

User Styles - Windows Internet Explorer

C:\examples\ch05\user_absolute.html

Thanks for visiting my website. I hope you enjoy it.

Please Note: This site will be moving soon. Please check periodically for updates.

```
1  /* Fig. 5.16: userstyles.css */
2  /* A user stylesheet */
3  body      { font-size: 20pt;
4             color: yellow;
5             background-color: #000080 }
```

A different font-size of 20 pt is defined by the user for all body elements
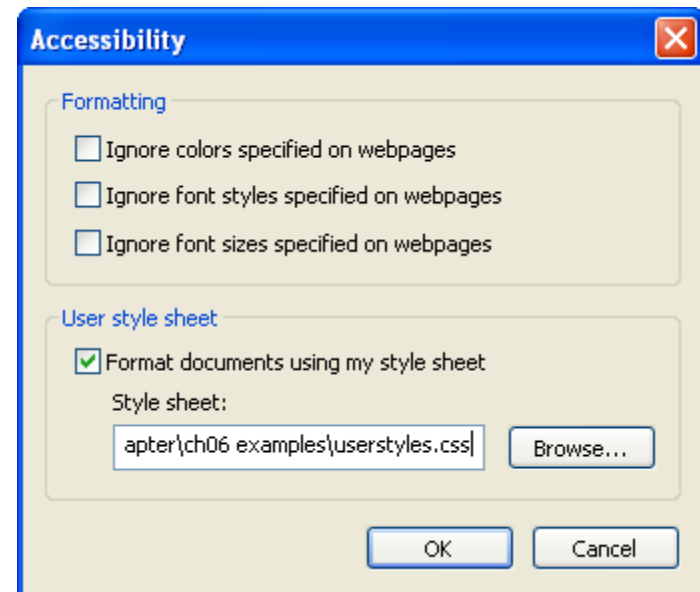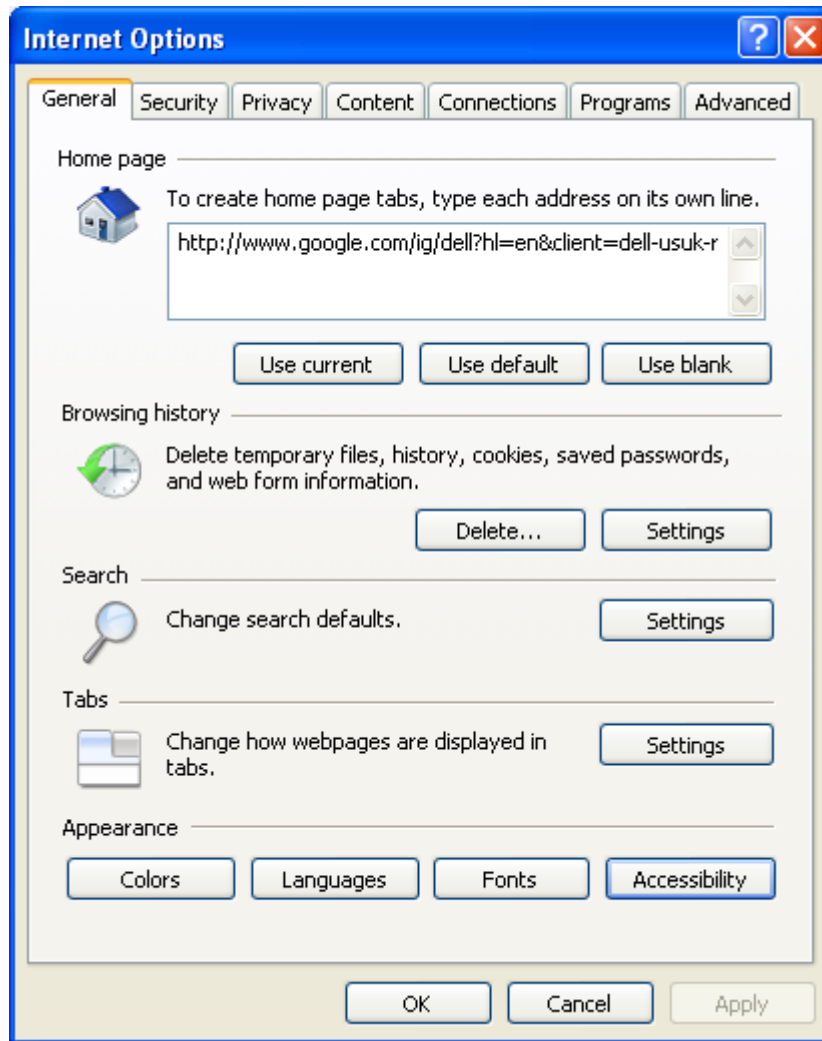
Fig. 5.16 | User style sheet.

◀ ▶

Fig. 5.17 | User style sheet in Internet Explorer 7.

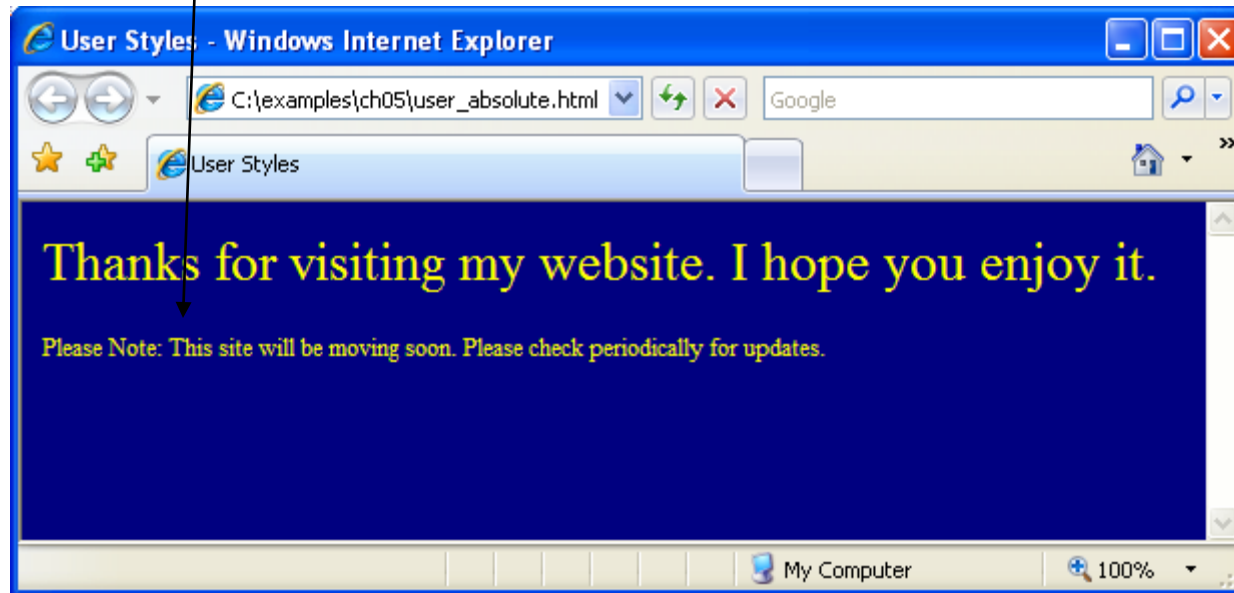The author's style has higher precedence than the user's, so the font is 9 pt

```
1  <?xml version = "1.0" encoding = "utf-8"?>
2  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
3      "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
4
5  <!-- Fig. 5.19: user_relative.html -->
6  <!-- em measurement for text size. -->
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>User Styles</title>
10       <style type = "text/css">
11          .note { font-size: .75em }
12       </style>
13    </head>
14    <body>
15       <p>Thanks for visiting my website. I hope you enjoy it.
16       </p><p class = "note">Please Note: This site will be
17       moving soon. Please check periodically for updates.</p>
18    </body>
19 </html>
```
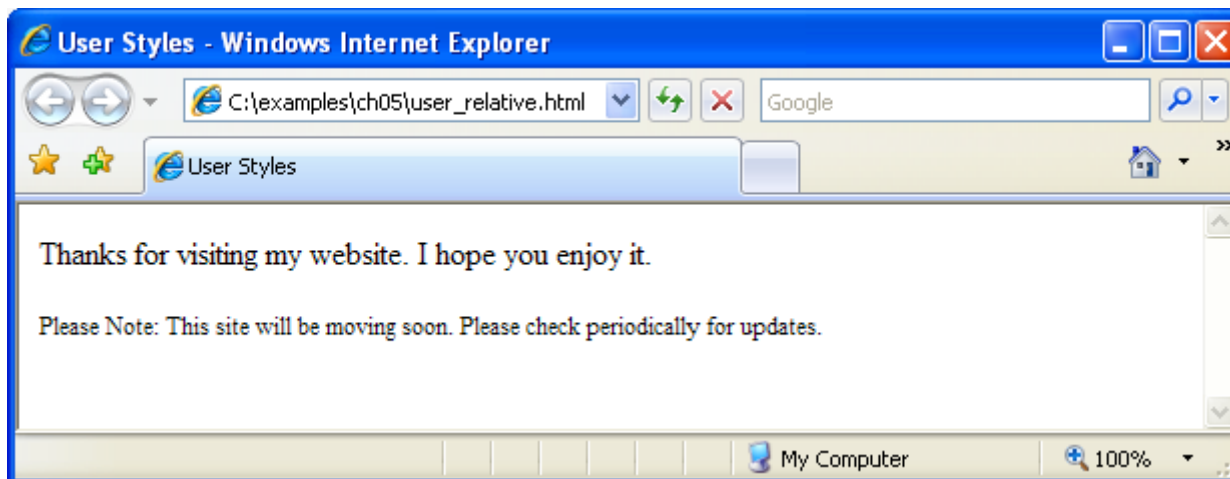
Fig. 5.19 | em measurement for text size.

A relative measurement of .75 em is used by the author for the font size

User Styles - Windows Internet Explorer

C:\examples\ch05\user_relative.html   Google

User Styles

Thanks for visiting my website. I hope you enjoy it.

Please Note: This site will be moving soon. Please check periodically for updates.

My Computer   100%

The user style sheet is considered, so the font-size is 15 pt (.75 em for 20 pt)
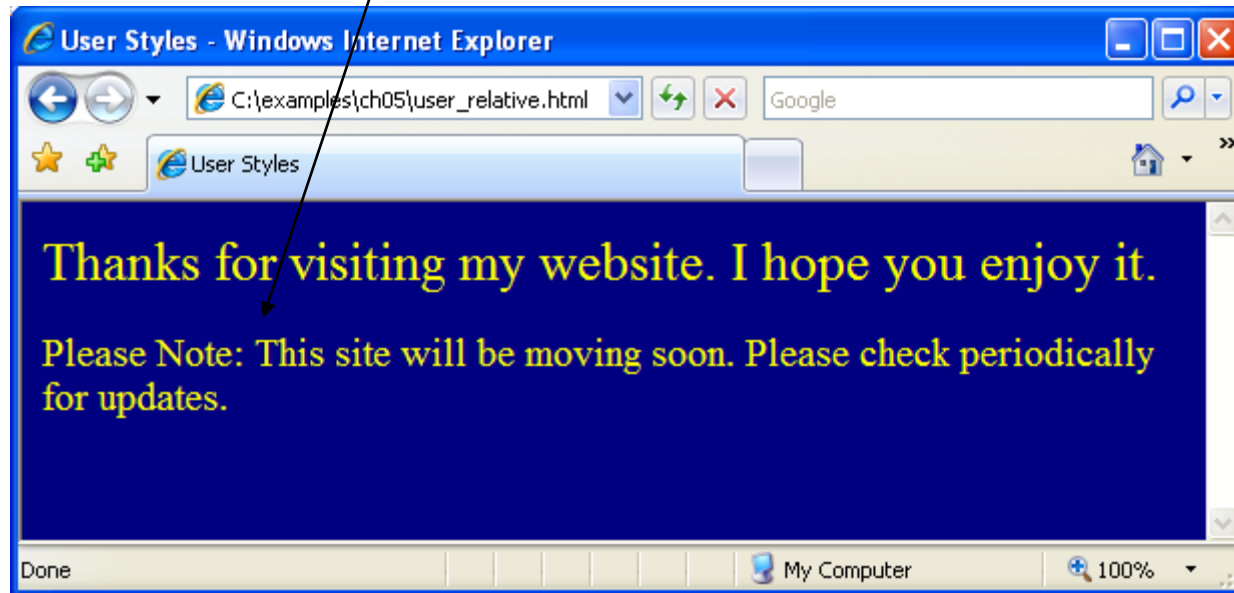

Fig. 5.20 | User style sheet applied with `em` measurement.

5.13 CSS 3

- **While CSS 2 is the current W3C Recommendation, CSS 3 is in development, and some browsers are beginning to implement some of the new features that will be in the CSS 3 specification**

- **CSS 3 will introduce new features related to borders, backgrounds, text effects, layout, and more**