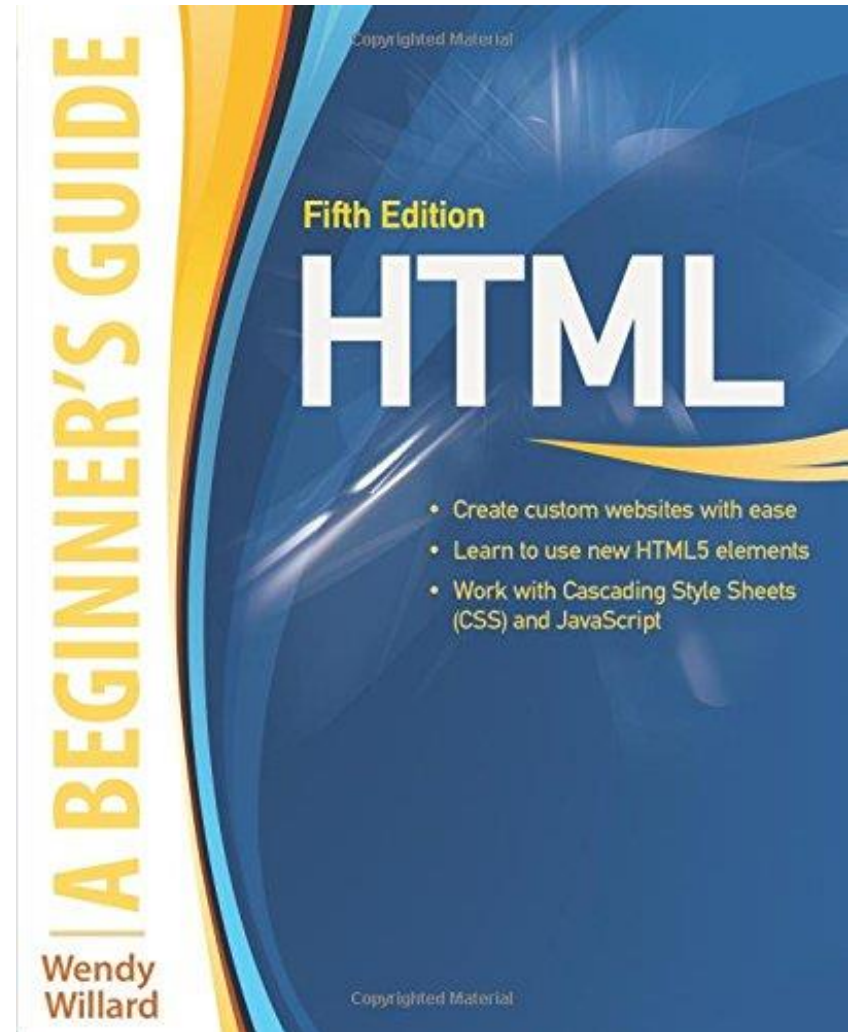# ACS-1809-051
Web Design and Development

Chapter 5

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A BEGINNER'S GUIDE

Fifth Edition

HTML

- Create custom websites with ease
- Learn to use new HTML5 elements
- Work with Cascading Style Sheets (CSS) and JavaScript

Wendy Willard

Page Structure

- Organize Sections of Text

- Format Paragraphs and Page Elements

Identifying Natural Divisions

- It is normal for a web page to have natural divisions such as navigation, header, body, and footer.
  - Here we divide these divisions with the <div> tag

```
<body>
  <div id="header">
    Header content goes here.
  </div>
</body>
```

Another Example

```
<body>
    <div id="header">
        Header content goes here.
    </div>
    <div id="bodyCopy">
        Body copy goes here.
    </div>
    <div id="footer">
        Footer content goes here.
    </div>
</body>
```

Container Elements in HTML 5

- They are new, from HTML 5
  - \<section>
    - Usually a chapter -- part of a database
    - Can also be general information of a website
      - Contact us, company history, About us, etc
    - Not intended for reproduction
  - \<header>
    - Hold a header of a section – title, sub title, …
  - \<footer>
    - Hold a footer of a section – contact, copyright, …
  - \<aside>
    - Group tangentially related content, pull-quotes, biographical information, …
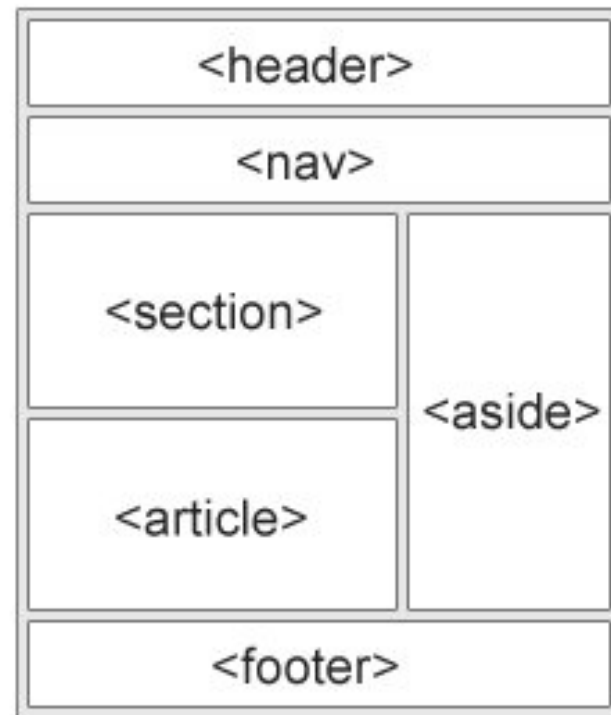
Container Elements in HTML 5

- <nav>
  - Hold the important navigational elements
- <article>
  - Hold content available for syndication
  - The information contained here can be reproductive on other websites
- <div>
  - Hold generic section of content -- good for applying styles
    - Use this if the content is not intended to be stored in a database

- A nice summary here:
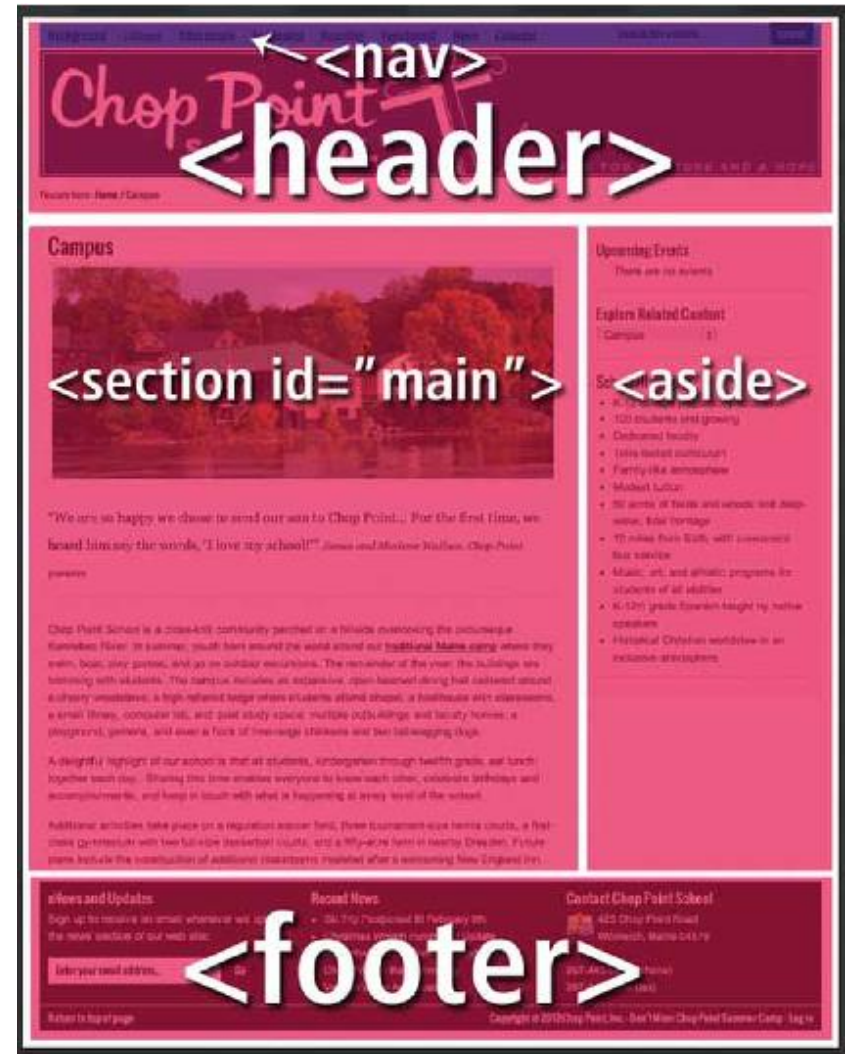 http://www.w3schools.com/html/html5_semantic_elements.asp

Container Elements in HTML 5

HTML5 offers new semantic elements to define different parts of a web page:

- <article>
- <aside>
- <details>
- <figcaption>
- <figure>
- <footer>
- <header>
- <main>
- <mark>
- <nav>
- <section>
- <summary>
- <time>

| <header> |
| <nav> |

| <section> | <aside> |
| <article> | |

| <footer> |

Container Elements in HTML 5 - Example

Container Elements in HTML 5

- Combined use of these containers
  - these elements can be nested inside one another
    - Example
      - suppose you were creating an online book. You might place each chapter in the book inside section elements, and then put the entire book in an article element for syndication.

      <article>
        <header>Book Title</header>
        <section>Chapter 1</section>
        <section>Chapter 2</section>
      </article>

Element + ID

- id attribute (like social insurance number for people)
  - Perfect for identifying div container
    - If your page contains multiple such containers
  - In HTML page:

    \<div id="headline1"\> … \</div\>

    \<section id="bodyCopy"\> … \</section\>

  - Then in the style sheet:

    #headline1 {border: 1px;}

    #bodyCopy { font-family: Arial; font-size: 12pt;}

  - The **#** is use to identify the id
  - Do not use spaces in id names

Element + CLASS

- Similar to "id", "class" can be use to make multiple sections for the same style definitions
  - <div class="normalchapter"> … </div>
  - In the style definition you must put a period (.) before the name of the class
    - Just like you put the hash mark (#) before the name of the id

.normalchapter {color: white;} – for class

Just like #intro {color: blue} – for id

Element + CLASS and ID

```
<head>
    <style type="text/css">
     #introCopy {background-color : #cccccc;}
     .highlight  {background-color : #ffcc66;}
    </style>
  </head>
  <body>
   <div id="introCopy">
    <p>Paragraph 1</p>
    <p>Paragraph 2</p>
   </div>
   <p>Paragraph <span class="highlight">3</span></p>
   <p>Paragraph 4</p>
  </body>
```

- "#" is for id and "." is for class (like "highlight") here
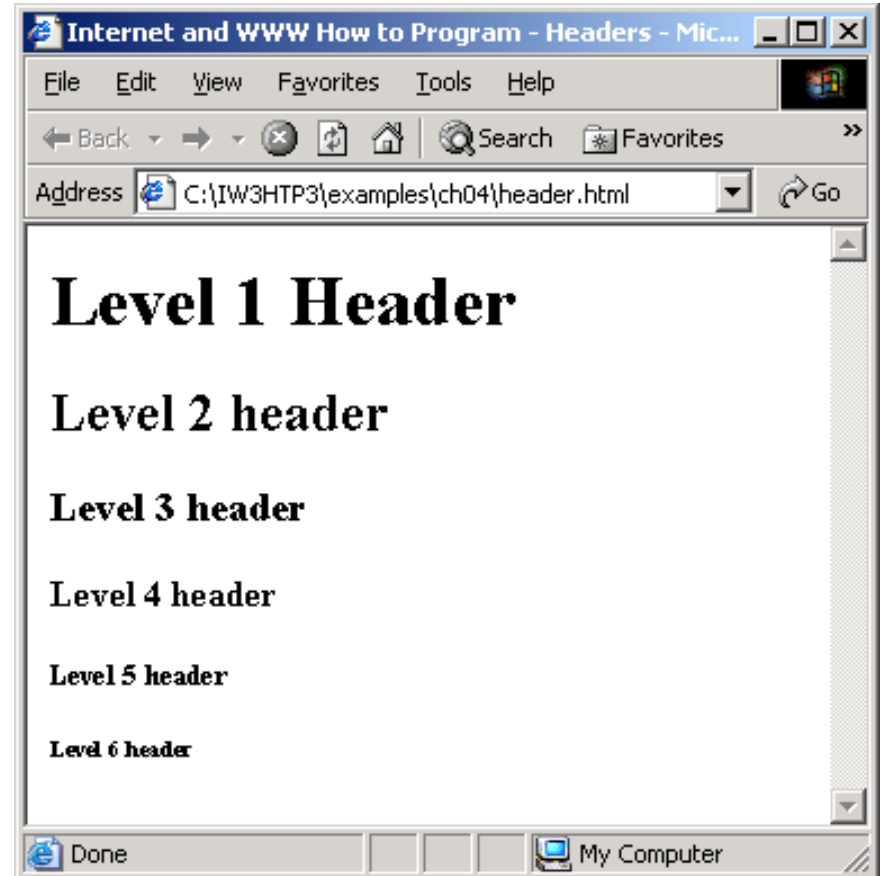- can be used to mark a single word

Headings

- Instead of changing the font size and weight to different values for different level of headings, you can format the text using the predefined tags <h1> down to <h6> to specify a part of text as heading with different level of importance.

  - Next slide will show you the different heading.

The first level of importance 24 points

text-text-text-text-text-text-text-text-text-text-text-text-text text-text-text-text-text-text-text-text-text-text-text …

The second level of importance

text-text-text-text-text-text-text-text-text-text-text-text-text text-text-text-text-text-text-text-text-text-text-text …

The third level of importance

text-text-text-text-text-text-text-text-text-text-text-text-text text-text-text-text-text-text-text-text-text-text-text …

The 6th level of importance 8-9 points

Example (Headings) – HTML Code

<h1> The first level of importance </h1>

text-text-text-text-text-text-text-text-text-text-text-text-text text-text-text-text-text-text-text-text-text-text-text ...

<h2> The second level of importance </h2>

text-text-text-text-text-text-text-text-text-text-text-text-text text-text-text-text-text-text-text-text-text-text-text ...

<h3> The third level of importance </h3>

text-text-text-text-text-text-text-text-text-text-text-text-text text-text-text-text-text-text-text-text-text-text-text ...

:

HTML Header Elements

Six headers (header elements): h1 through h6

```
<body>
    <h1>Level 1 Header</h1>
    <h2>Level 2 header</h2>
    <h3>Level 3 header</h3>
    <h4>Level 4 header</h4>
    <h5>Level 5 header</h5>
    <h6>Level 6 header</h6>
</body>
```


Example: Headers elements h1 trough h6: header.html

Style headings with CSS

- For example, changing the alignment of heading type h3 to right alignment:

  - Changing the alignment with an inline style
    <h3 style="text-align: right;">

  - Changing all the level three headings on your page:

    <style type="text/css">
        h3 {text-align: right;}
    </style>

Paragraph Breaks

<p>Jack and Jill went up a hill</p>

<p>to fetch a pail of water</p>

<p>Jack fell down and broke his crown</p>

<p>And Jill came tumbling after</p>

Paragraph Breaks

- Even though the *p* tag is most often used to contain paragraphs of text, usually it doesn't automatically indent them.
    - There is no regular HTML tag to indent, and also tab key won't work in HTML code.
        - Instead, you could use nonbreaking space character entity ( ) several times to indent your paragraphs.

Paragraph Breaks

<p>   Jack and Jill went up a hill to fetch a pail of water. Jack fell down and broke his crown and Jill came tumbling after.</p>

<p>   Marry had a little lamb, its fleece was white as snow.</p>

PragraphBreaks2.html

Indenting with CSS

- A more efficient way to indent the first line is to use the text-indent property in your style sheet.

  – Example: indent the first line 25 pixels from the left edge of the paragraph.

<p style="text-indent: 25px;">This is the first sentence in my paragraph... </p>   ←Inline

#bodyCopy {text-indent: 25px;}   ←Internal

  – On a web page, a blank line to indicate a new paragraph might be more helpful to readability than the indention

Line Breaks

-
  - The effect is just like hitting the "Return" or "Enter" key

  <p>Jack and Jill went up a hill

     to fetch a pail of water

     Jack fell down and broke his crown

     And Jill came tumbling after

  </p>

Preformat

- This is the only case in which pressing "enter" key in your page creates breaks in the browser view.
  - <pre> renders text in the browser exactly as you type it.
    - Usually displays text in a monospaced font like Courier.
    - The output isn't guaranteed to remain as you envisioned and depends on how browser interprets them (e.g. tab)

Preformat

- *pre* tag can be quite useful for displaying code examples or even creative illustrations

```
<pre>
    This text will display exactly as I type it. Watch this:
      x  |  o  |  o
      ----------------
      x  |  x  |
      ----------------
      o  |     |  x
</pre>
```

Preformat.html

Quotation Blocks and Text Boxes

- The *blockquote* tag is used for a long quotation or note that might otherwise get lost within a paragraph of text.
  - It indents the entire selection on both the right and the left, and also adds a blank line above and bellow.
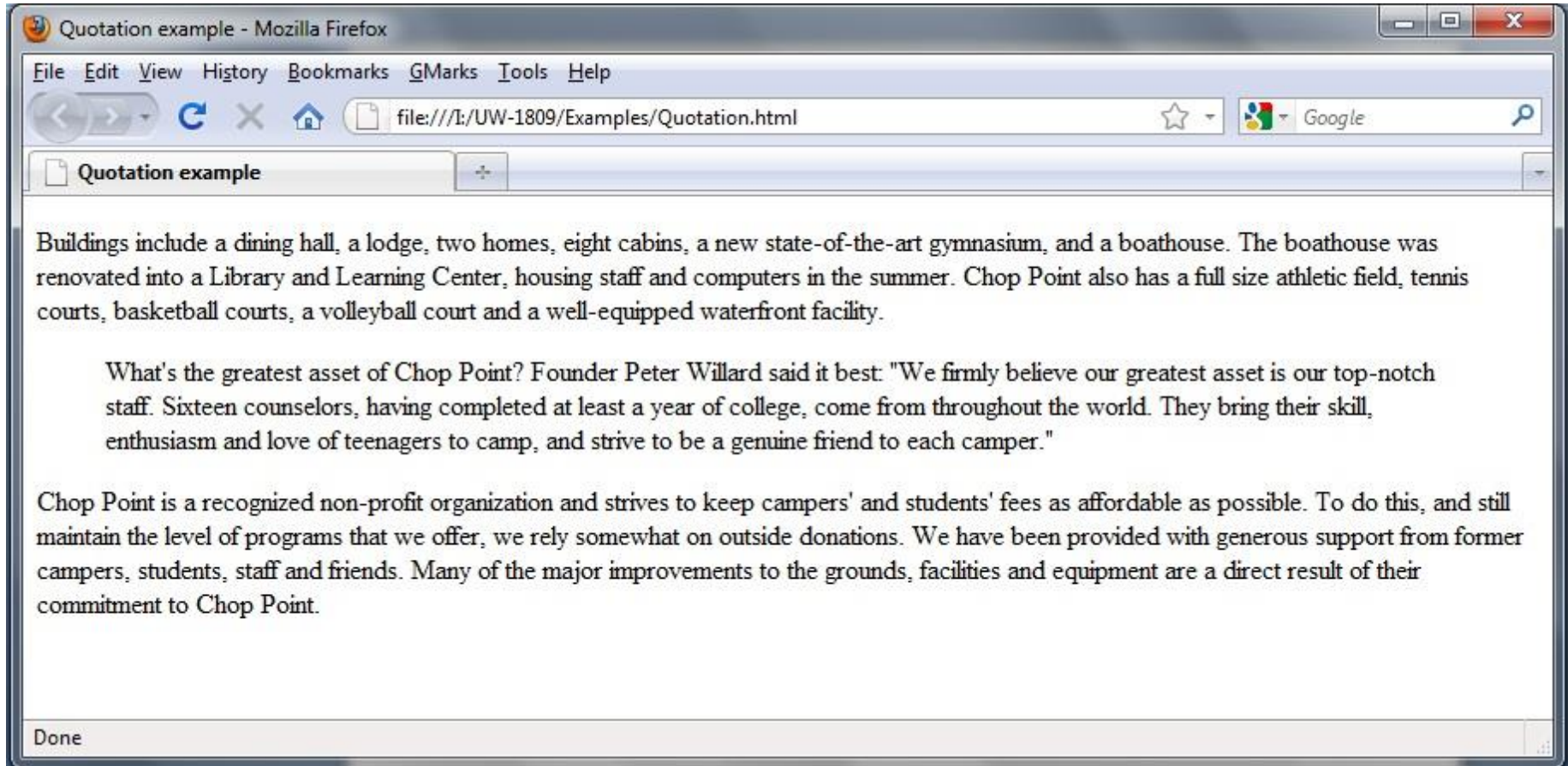
THE UNIVERSITY OF
WINNIPEG

<p>Buildings include a dining hall, a lodge, two homes, eight cabins, a new state-of-the-art gymnasium, and a boathouse. The boathouse was renovated into a Library and Learning Center, housing staff and computers in the summer. Chop Point also has a full size athletic field, tennis courts, basketball courts, a volleyball court and a well-equipped waterfront facility.</p>

<blockquote>What's the greatest asset of Chop Point? Founder Peter Willard said it best: "We firmly believe our greatest asset is our top-notch staff. Sixteen counselors, having completed at least a year of college, come from throughout the world. They bring their skill, enthusiasm and love of teenagers to camp, and strive to be a genuine friend to each camper."</blockquote>

<p>Chop Point is a recognized non-profit organization and strives to keep campers' and students' fees as affordable as possible. To do this, and still maintain the level of programs that we offer, we rely somewhat on outside donations. We have been provided with generous support from former campers, students, staff and friends. Many of the major improvements to the grounds, facilities and equipment are a direct result of their commitment to Chop Point.</p>
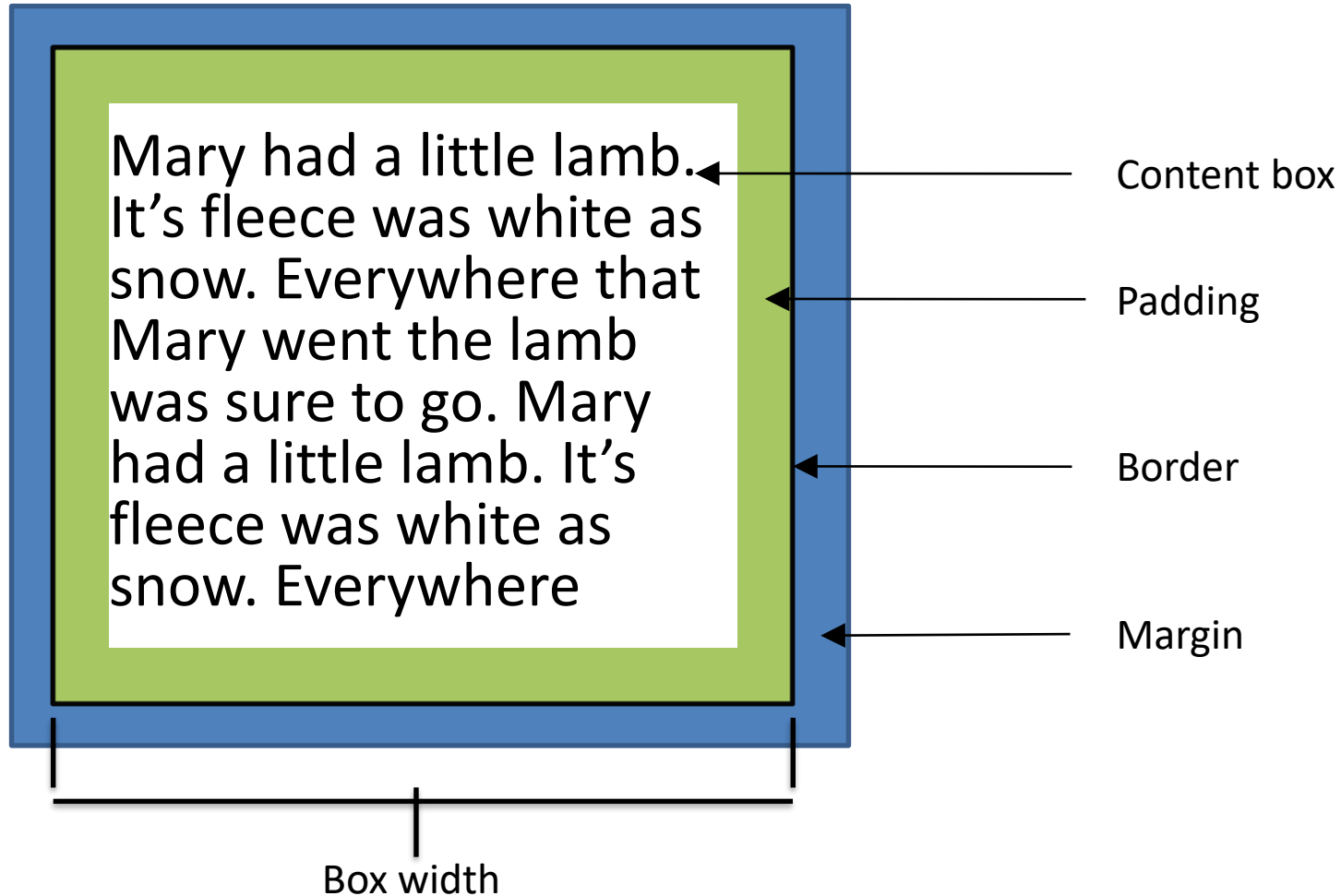
Quotation.html

DISCOVER · ACHIEVE · BELONG

Box Properties

- Each element is contained in a box
  - So we can adjust the box properties to format the content in the box
    - Box-sizing
      - Border-box: borders and paddings are within the height and width values
      - Content-box: borders and paddings are not included inside the height and width values – the default setting

Box Properties

Mary had a little lamb. It's fleece was white as snow. Everywhere that Mary went the lamb was sure to go. Mary had a little lamb. It's fleece was white as snow. Everywhere

Content box

Padding

Border

Margin

Box width

Height and Width

– This becomes important if you want specifically define the position of the element on the page

• Otherwise you can skip them

– They are defined with a unit of measurement

• px (pixels)

• cm (centimeters)

• % (% of the container box)

Nav{box-sizing: border-box;

width: 100%;

height: 20%;}

CSS Margin and Padding

- To achieve a specific amount of indentation, as well as control the blank space above and below, you can use CSS's *margin* and *padding* properties in your style sheet.

  - As mentioned before actually every element on a web page is contained within a box of some sort, or at least it's considered a box in coding standard.

Setting the Padding Size

- To set padding on a side, use:
  - padding-top
  - padding-right
  - padding-bottom
  - padding-left
  - You can use the padding properties in a style sheet to give the content a buffer zone of white space on one, two, or all four sides.

CSS Margin & Padding

- Example:

```
blockquote {
        box-sizing: border-box;
        padding-bottom :  25 px;
        padding-top :  25 px;
        padding-right :  25 px;
        padding-left :  25 px;  }
```

Padding

- If you specify a certain amount of padding, (like padding-right :25 px), those 25 pixels are subtracted from the total width of the border box

- Example : if your box is 200 px wide by 200 px tall, and you make a 25 px padding on all four sides, how many pixels are you left with? – 150 px wide by 150 px tall

Margin

- The margin property affects the buffer space outside the box boundaries, so it won't subtract space from the overall size of the border box

  - Imagine a photo frame …

- p {margin-bottom : 25 px;

    margin-top : 25 px;

    margin-right : 25 px;

    margin-left : 25 px;}

Example - Margin

<p>Buildings include a dining hall, a lodge, two homes, eight cabins, a new state-of-the-art gymnasium, and a boathouse. The boathouse was renovated into a Library and Learning Center, housing staff and computers in the summer. Chop Point also has a full size athletic field, tennis courts, basketball courts, a volleyball court and a well-equipped waterfront facility.</p>

<div id="MarginTest">

<p>What's the greatest asset of Chop Point? Founder Peter Willard said it best: "We firmly believe our greatest asset is our top-notch staff. Sixteen counsellors, having completed at least a year of college, come from throughout the world. They bring their skill, enthusiasm and love of teenagers to camp, and strive to be a genuine friend to each camper."</p>

</div>

<p>Chop Point is a recognized non-profit organization and strives to keep campers' and students' fees as affordable as possible. To do this, and still maintain the level of programs that we offer, we rely somewhat on outside donations. We have been provided with generous support from former campers, students, staff and friends. Many of the major improvements to the grounds, facilities and equipment are a direct result of their commitment to Chop Point.</p>

Controlling the Margins

- To set margins on a side, use

  margin-top

  margin-right

  margin-bottom

  margin-left

- To set margins on all sides

  {margin: 25px;}

- To set margins on all sides in different size

  {margin: 20px 15px 25px 10px;}

  - The values are given clockwise, starting with the top

- To set margins differently on vertical and horizontal sides

  {margin: 20px 10px;}

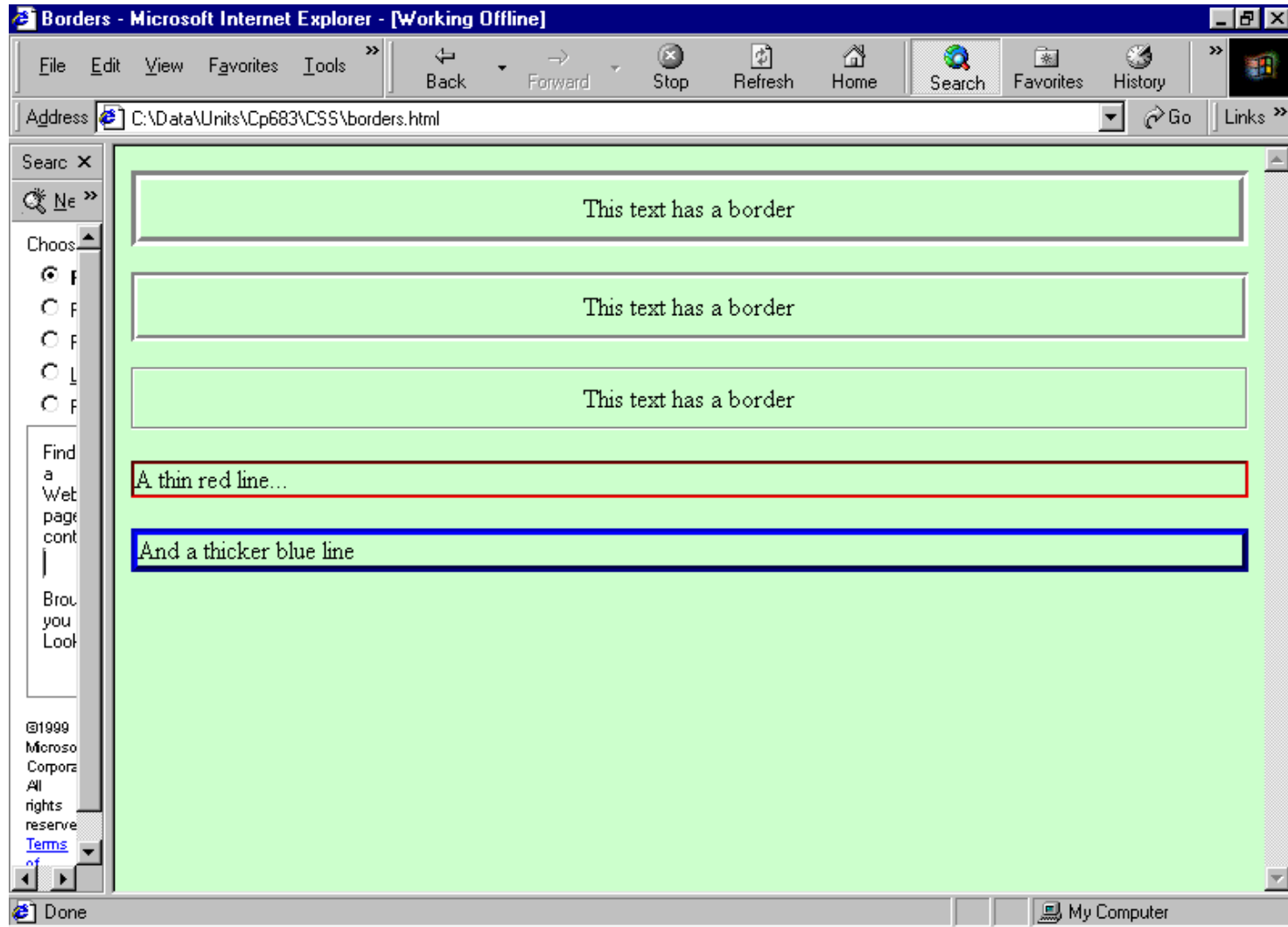 - Top/bottom, then left/right

Border

- Border can be set in three ways:
  - border-width
    - # of px, thin, medium, or thick
  - border-style
    - None, dotted, dashed, solid, double, groove, ridge, inset, or outset
  - border-color
    - Color code, as we learned before

Formatting the Border

- To set borders on a side, use:
  - border-top
  - border-bottom
  - border-left
  - border-right
- To set border color, use :
  - border-color
- To set border style, use:
  - border-style
- To set the border with all above properties, use:
  - border:*width_value style color*

Borders

Border Properties

Sample Properties and Values	Description	Possible Values
border-bottom-width: thick border-left-width: 4px border-right-width: 6px border-top-width: thin border-width: medium	Controls sizes of an element's borders, individually (any of the first four shown) or as a whole (border-width).	Can use length units or keywords (thin, medium, or thick).
border-color: #ffffff, #cccccc, #999999, #666666	Specifies the border's color.	Can use between one and four color values.
border-style: double	Specifies the border's style.	Can use none, dotted, dashed, solid, double, groove, ridge, inset, or outset.
border-bottom-left-radius: 10px border-radius: 25px	Controls the shape of the border's corners, individually or as a whole, to make them rounded or square (default).	Can use length units or percentages.

Table 5-3   Style Sheet Properties Used to Control Borders and Rules

Alignment

- The text can be aligned to left (will be ragged in the right side)-text-text-text

- The text can be aligned to right (will be ragged in the left side)-text-text-text

- The text can be *justified* in which case it will continue to both margins

- Normal default alignment depends on the default language of the browser

Set the alignment using style sheet

- *text-align* property
- text-align: value (right, left, center, justify)

  <p style="text-align: right;"> .... text .... </p>

  <p style="text-align: center;"> .... text .... </p>

  <p style="text-align: justify;"> ... text ... </p>

Set the alignment using style sheet

<div id ="CampDescription">

    <p>Paragraph1</p>

    <p>Paragraph2</p>

    <p>Paragraph3</p>

</div>

In style definition:

#CampDescription {text-align: justify;}

 -- here "#" is necessary, as the selector is not a normal tag but the name of a division.

Questions?