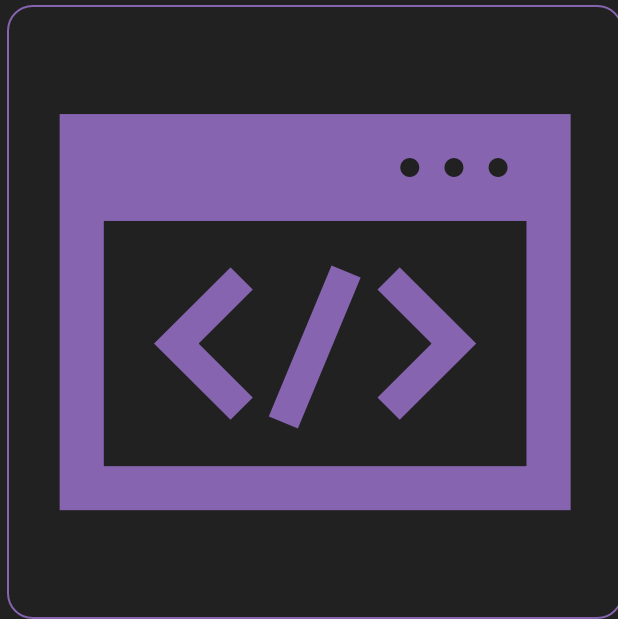# Web Design with HTML5 & CSS3

Chapter 3

Enhancing a Website with Links and Images

Looking Back
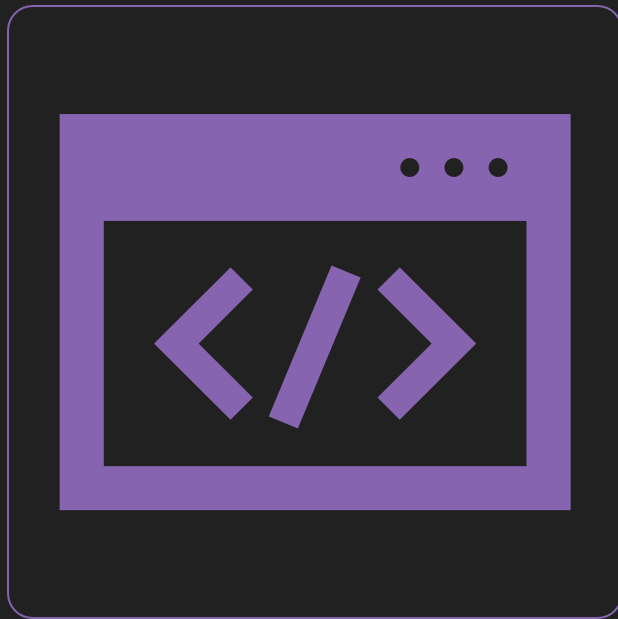
What are HTML5 Semantic Elements?

○ A tag that describes its meaning to both the browser and developer

What are examples of semantic elements?

○ <header>, <nav>, <main>, <section>, <article>, <footer>

Looking Back

What is the syntax for comments?

```
<!-- Place your comment here -->
```

Looking Back

What is the purpose of symbol entities?

○ Display a reserved HTML character on the webpage

What are examples of symbol entities?

Table 2–3 Common Symbol Entities			
Character	Description	Entity Name	Entity Number
©	Copyright symbol	©	©
®	Registered trademark	®	®
€	Euro	€	€
&	Ampersand	&	&
<	Less than	<	<
>	Greater than	>	>
	Nonbreaking space		

Looking Back

What is the website used to validate HTML documents?

- Validator.w3.org

How else can we validate HTML?

- Use a text editor with built in HTML validation

Chapter 3

Enhancing a Website with Links and Images

Chapter Objectives

- Describe types of hyperlinks
- Create relative links, absolute links, email links, and telephone links
- Describe image file formats
- Describe the image tag and its attributes
- Add images to a website
- Explain div elements and attributes

Chapter Objectives (continued)

- Use a div element to mark a page division
- Define the class attribute
- Describe and use HTML heading tags
- Describe the types of lists in an HTML document
- Create an unordered list and a description list
- Test and validate links on a webpage

Links

Allow users to navigate a website and move from one page to another

HTML links are hyperlinks

Can click on a link and jump to another document	Can be text, an image, or other webpage content

Anchor <a> element

- <a> and - start and end tags for hyperlinks
- Example: Home

- Link text
  - The visible part
  - Clicking on the link text will send you to the specified address
- href attribute specifies the destination address

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HTML Link Colors

- By default, a link will appear like this:
  - An unvisited link is <u>underlined</u> and blue
  - A visited link is <u>underlined</u> and purple
  - An active link is <u>underlined</u> and red
- You can change the default colors, by using CSS

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HTML Links – Target Attribute

- The target attribute specifies where to open the linked document:
  - _blank - Opens the linked document in a new window or tab
  - _self - Opens the linked document in the same window/tab as it was clicked (this is the default)
- The following opens the linked document in a new browser window/tab:

```
<a href="https://www.w3schools.com/" target="_blank">Visit W3Schools!</a>
```

HTML File Paths

- A file path describes the location of a file in a web site's folder structure

- File paths are of two types:
  - Absolute File Paths
  - Relative File Paths

Absolute File Paths

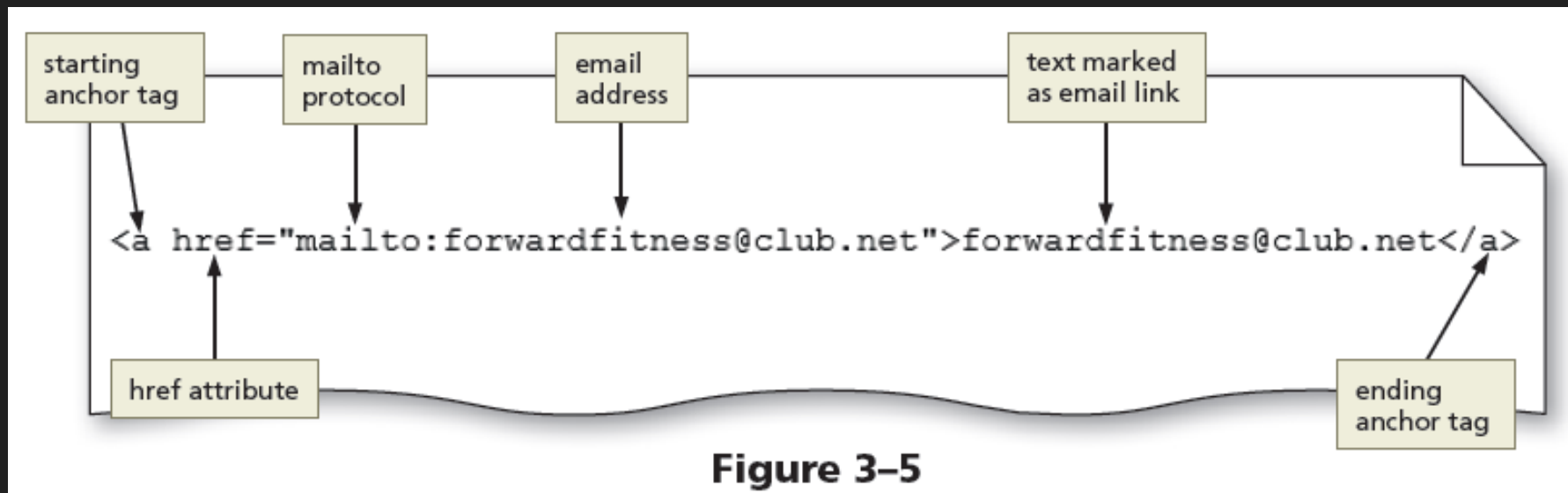○ An absolute file path is the full URL to an internet file:

```
<img src="https://www.w3schools.com/images/picture.jpg" alt="Mountain">
```

Relative File Paths

- Describes the path of the file relative to the location of the current web page file

- Does not require http://www...

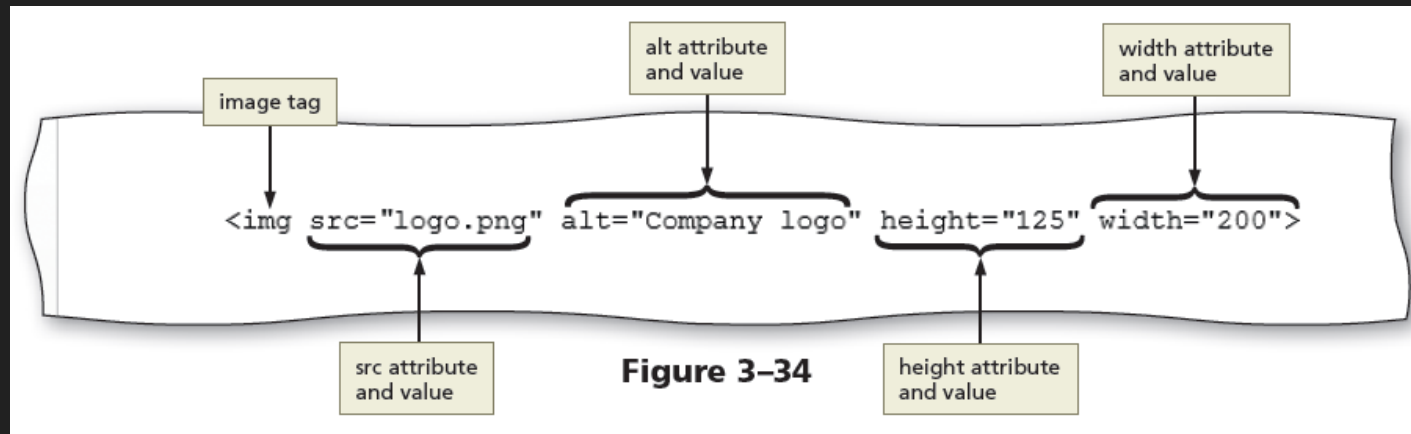| Path	Description
`<img src="picture.jpg">`	picture.jpg is located in the same folder as the current page
`<img src="images/picture.jpg">`	picture.jpg is located in the images folder in the current folder
`<img src="/images/picture.jpg">`	picture.jpg is located in the images folder at the root of the current web
`<img src="../picture.jpg">`	picture.jpg is located in the folder one level up from the current folder

Email link

- Links to an email address
- The *href* attribute includes "mailto:" and the email address
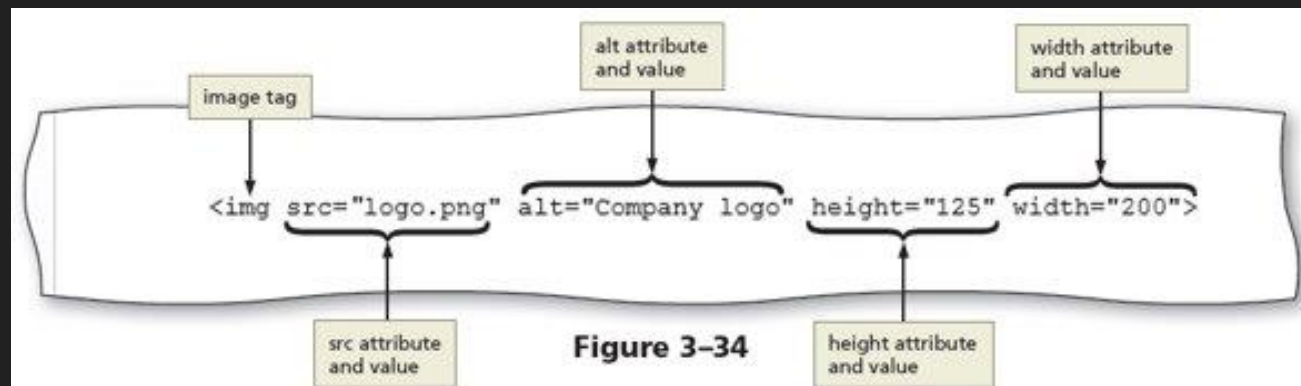

Figure 3–5

Add Images - <img> Tag

- Defines an image in an HTML page

- An empty tag

- Attributes:

  - src – Identifies the file name of the image to display

  - alt – Specifies alternate text to display when an image is being loaded

Figure 3–34

<img> Tag - Attributes

- Attributes:
  - Height – Defines the height of the image in pixels, which improves loading time
  - Width – Defines the width of the image in pixels, which improves loading time
  - Always specify both the height and width attributes for images
  - If height and width are set, the space required for the image is reserved when the page is loaded

alt attribute and value

width attribute and value

image tag

`<img src="logo.png" alt="Company logo" height="125" width="200">`

src attribute and value

Figure 3–34

height attribute and value

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Pixels

- Known as a picture element

- The smallest unit of a digital image or graphic that can be displayed and represented on a digital display

- Represented by a dot or square on a digital display

- Combined to form a complete image, video, text, or any visible item on the display

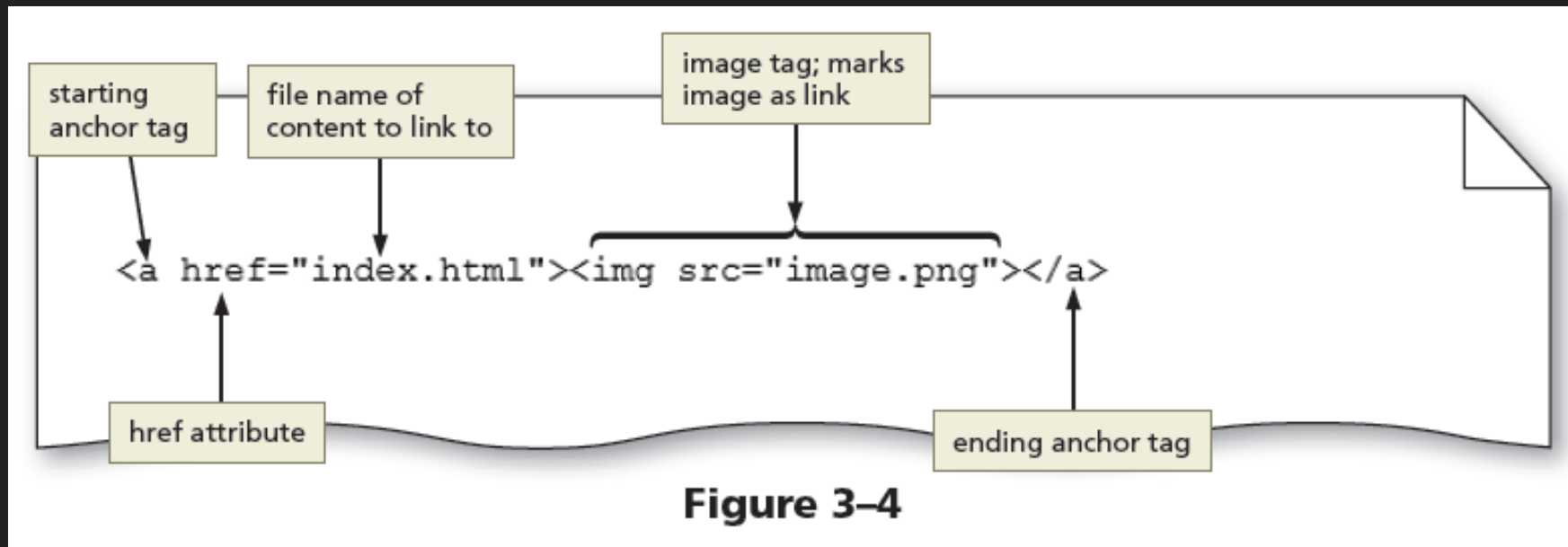- The quantity, size, and color (RGB) combination of pixels varies and is measured in terms of the display resolution

Image File Formats

Table 3-3 Choosing an Image File Format

Format	Pros	Cons	Use for
GIF	Small file size; supports transparency and animation	Limited to 256 colors	Line drawings; replaced by PNG file format
PNG	Small file size; supports transparency and more than a million colors	Does not support animation	Images that are not digital photos
JPG	Supports more than a million colors	Larger file size	Digital photos
SVG	Flexible; scalable; no files needed because graphics are created with code	Not supported by older browsers and not all modern browsers support it 100 percent	Shapes, lines, text, and gradients

<img> tag inside <a> tags

- Can include photos, drawings, diagrams, charts, and other graphics that convey visual information
- To link an image to another document, nest the <img> tag inside <a> tags

Figure 3–4

<div> Tag

- Defines a division or a section in an HTML document

- Often used as a container for other HTML elements

- Can use to style content with CSS or to perform tasks with JavaScript

  - A section in a document that will have a light blue background color:

```html
<div style="background-color:lightblue">
  <h3>This is a heading</h3>
  <p>This is a paragraph.</p>
</div>
```

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<div> Tag

- Example: Four div elements inside the <main> element
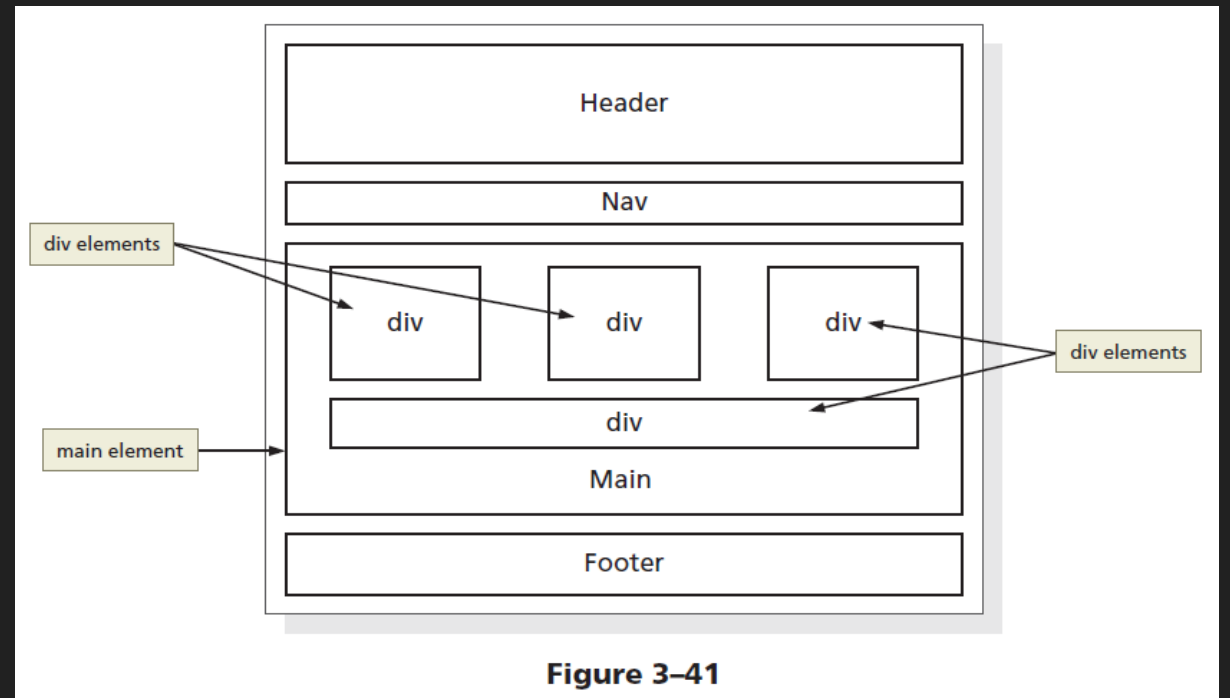
- Basically allows for custom semantic elements

Figure 3-41

id Attribute

- Specifies a unique id for an HTML element
- id name is case-sensitive
- Basically, an ID name is assigned to an element
- Cannot use the same ID name multiple times
- Each element can have only one ID

```html
<h1 id="mainFeature">Header 1</h1>
<p>A paragraph.</p>
<p id="important">Note that this is an important paragraph. </p>
```

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id Attribute Uses

- Two purposes:
  - Points to a style in a style sheet
  - Used by JavaScript
    - Can reference elements by the ID attribute name
    - Manipulate the element

id Attribute CSS

○ In CSS, to define an id style, enter hash (#) character, followed by the id name:

```
<style>
#myHeader {
    background-color: lightblue;
    color: black;
    padding: 40px;
    text-align: center;
}
</style>

<h1 id="myHeader">My Header</h1>
```

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id Attribute Examples

- id and CSS – This will work

```
<h1 id="mainFeature">Header 1</h1>
<p>A paragraph.</p>
<p id="important">Note that this is an important paragraph. </p>

<h2> Header 2</h2>
<p>A paragraph.</p>
<p id="important">Note that this is an important paragraph. </p>
```

Header 1

A paragraph.

Note that this is an important paragraph.

Header 2

A paragraph.

Note that this is an important paragraph.

- But, be aware of JavaScript
  - JavaScript will not access multiple id attributes with the same name

class Attribute Uses

○ Can be applied to more than one element on a webpage

○ Class name is case-sensitive

○ Mostly used to point to a class in a style sheet

```
<h1 class="intro">Header 1</h1>
<p>A paragraph.</p>
<p class="important">Note that this is an important paragraph. :)</p>

<h2> Header 2</h2>
<p>A paragraph.</p>
<p class="important">Note that this is an important paragraph. :)</p>
```

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class Attribute Example

- class attribute and CSS – works fine

```
<h1 class="intro">Header 1</h1>
<p>A paragraph.</p>
<p class="important">Note that this is an important paragraph. </p>

<h2> Header 2</h2>
<p>A paragraph.</p>
<p class="important">Note that this is an important paragraph. </p>
```

Header 1

A paragraph.

Note that this is an important paragraph.

Header 2

A paragraph.

Note that this is an important paragraph.

class Attributes

○ In CSS, to define a class style, enter period (.), followed by the name of the class

○ Use CSS to style all elements with the class name "city":

```
<style>
.city {
    background-color: tomato;
    color: white;
    padding: 10px;
}
</style>

<h2 class="city">London</h2>
<p>London is the capital of England.</p>

<h2 class="city">Paris</h2>
<p>Paris is the capital of France.</p>

<h2 class="city">Tokyo</h2>
<p>Tokyo is the capital of Japan.</p>
```

id vs class

Using id

```html
<h1 id="mainFeature">Header 1</h1>
<p>A paragraph.</p>
<p id="important">Note that this is an important paragraph. </p>

<h2> Header 2</h2>
<p>A paragraph.</p>
<p id="important">Note that this is an important paragraph. </p>
```

Using class

```html
<h1 class="intro">Header 1</h1>
<p>A paragraph.</p>
<p class="important">Note that this is an important paragraph. </p>

<h2> Header 2</h2>
<p>A paragraph.</p>
<p class="important">Note that this is an important paragraph. </p>
```

Result looks the same

Header 1

A paragraph.

Note that this is an important paragraph.

Header 2

A paragraph.

Note that this is an important paragraph.

But one is more reusable

Which to use - class or id

- An id name can be used by only one element
- A class name can be used by multiple elements

- We want to be writing reusable, expandable and sustainable templates

Heading <h1> to <h6> Tags

- The six different HTML headings:

  - <h1>This is heading 1</h1>
    <h2>This is heading 2</h2>
    <h3>This is heading 3</h3>
    <h4>This is heading 4</h4>
    <h5>This is heading 5</h5>
    <h6>This is heading 6</h6>

- Used to define HTML headings

  - <h1> defines the most important heading

  - <h6> defines the least important heading

HTML Lists

An Unordered List:

- Item
- Item
- Item
- Item

An Ordered List:

1. First item
2. Second item
3. Third item
4. Fourth item

Unordered List

- No specific sequence
- and tags define the start/end of the unordered list
- and tags define the start/end of each list item
- Disc, small black circles (•), by default

```
<h2>An unordered HTML list</h2>

<ul>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>
```

An unordered HTML list

- Coffee
- Tea
- Milk

Unordered List – Markers

- The CSS list-style-type property is used to define the style of the *list item marker*:

Value	Description
disc	Sets the list item marker to a bullet (default)
circle	Sets the list item marker to a circle
square	Sets the list item marker to a square
none	The list items will not be marked

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Unordered List - Disc

```html
<h2>Unordered List with Disc Bullets</h2>

<ul style="list-style-type:disc">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>
```

Unordered List with Disc Bullets

- Coffee
- Tea
- Milk

Unordered List - Circle

```html
<h2>Unordered List with Circle Bullets</h2>

<ul style="list-style-type:circle">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>
```

Unordered List with Circle Bullets

- Coffee
- Tea
- Milk

Unordered List - Square

```
<h2>Unordered List with Square Bullets</h2>

<ul style="list-style-type:square">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>
```

Unordered List with Square Bullets

- Coffee
- Tea
- Milk

Unordered List - None

```
<h2>Unordered List without Bullets</h2>

<ul style="list-style-type:none">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>
```

Unordered List without Bullets

Coffee
Tea
Milk

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Ordered List

○ Displays information using numbers or letters

○ and tags define the start/end of the *ordered list*

○ and tags define the start/end of each *list item*

○ *Numbers* (1, 2, 3) by default

```
<h2>An ordered HTML list</h2>

<ol>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
```

An ordered HTML list

1. Coffee
2. Tea
3. Milk

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Ordered List – Type Attribute

○ The type attribute of the <ol> tag, defines the type of the list marker:

Type	Description
type="1"	The list items will be numbered with numbers (default)
type="A"	The list items will be numbered with uppercase letters
type="a"	The list items will be numbered with lowercase letters
type="I"	The list items will be numbered with uppercase roman numbers
type="i"	The list items will be numbered with lowercase roman numbers

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ol type="1" (Numbers)

```html
<h2>Ordered List with Numbers</h2>

<ol type="1">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
```

Ordered List with Numbers

1. Coffee
2. Tea
3. Milk

ol type="A" (Uppercase Letters)

```html
<h2>Ordered List with Letters</h2>

<ol type="A">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
```

Ordered List with Letters

A. Coffee
B. Tea
C. Milk

ol type="a" (Lowercase Letters)

```html
<h2>Ordered List with Lowercase Letters</h2>

<ol type="a">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
```

Ordered List with Lowercase Letters

a. Coffee
b. Tea
c. Milk

ol type="I"
Uppercase Roman Numbers

```
<h2>Ordered List with Roman Numbers</h2>

<ol type="I">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
```

Ordered List with Roman Numbers

   I. Coffee
  II. Tea
III. Milk

ol type="i" Lowercase Roman Numbers

```html
<h2>Ordered List with Lowercase Roman Numbers</h2>

<ol type="i">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
```

Ordered List with Lowercase Roman Numbers

   i. Coffee
  ii. Tea
 iii. Milk

Adding Headings and Lists

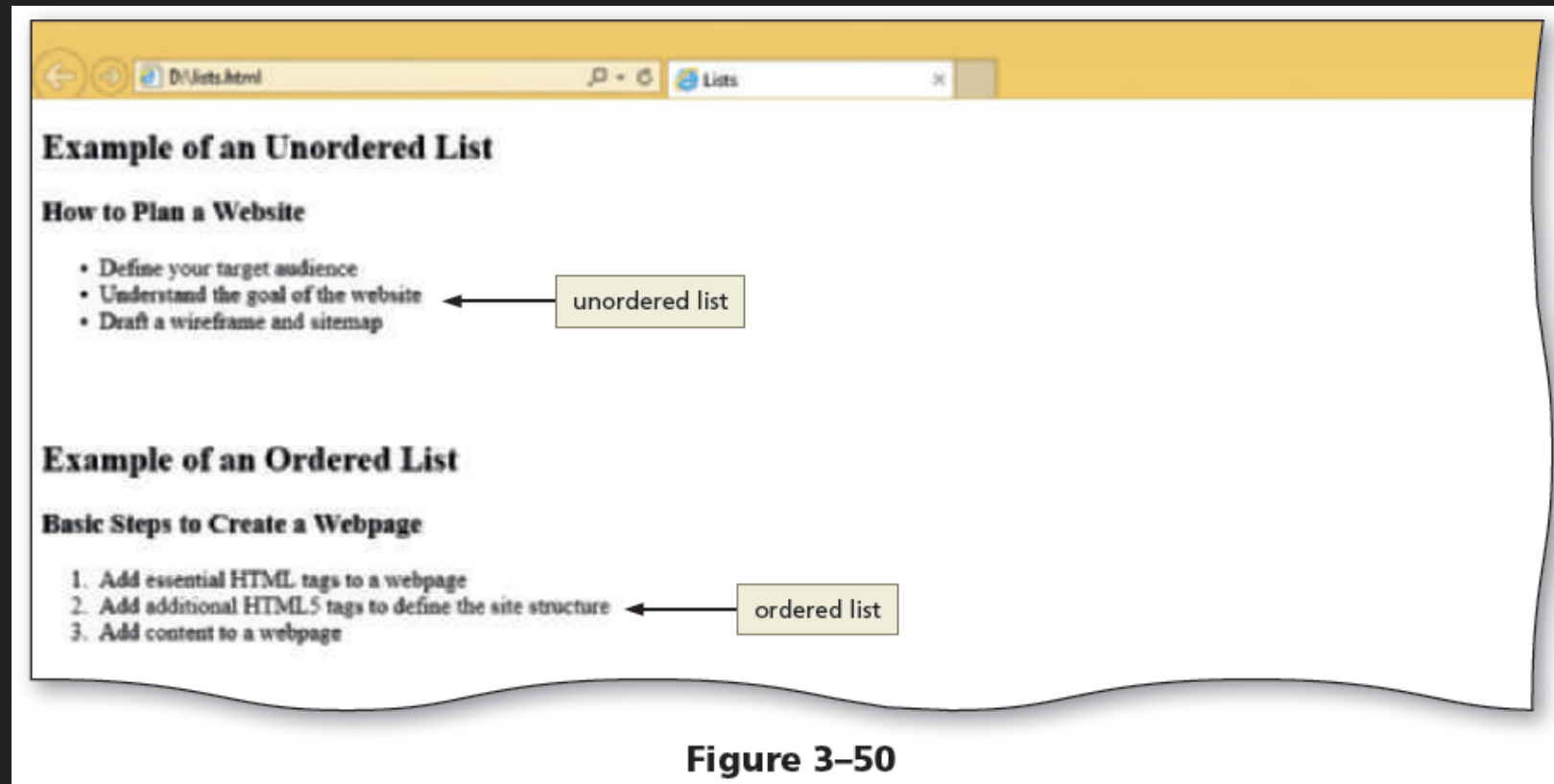- ○ Figure 3-50 shows a webpage with headings and an unordered and an ordered list

Figure 3–50

Next Week

The term project begins!