Web Tech Technologies

HTML + CSS

Topics

- HTML
- CSS

HTML

- Hypertext Markup Language
  - Describes structure of a web page
  - Contains *elements*
    - Elements describe how to render content
    - Elements are enclosed in Tags
  - *Tags* surround and describe content
    - Start tag – Text in angle brackets (i.e. <body>)
    - End tag – Text with leading slash in angle brackets (i.e. </body>)
    - Tags must be properly nested!
  - *Attributes* contained inside tags refine the operation of the tag
    - Format is: <tagname attr1=value, attr2=value…>

A brief history of HTML

- In 1989, Tim Berners-Lee wrote a memo proposing an Internet-based hypertext system
  - Berners-Lee specified HTML and wrote the browser and server software in late 1990 and released it in 1991 (it had 18 elements/tags)
  - HTML 2.0 was published as RFC 1866 in 1995 https://tools.ietf.org/html/rfc1866
    - A Request for Comments (RFC) is a publication from the Internet Society (ISOC)
      - The Internet Society (ISOC) is an American nonprofit organization founded in 1992 to provide leadership in Internet-related standards, education, access, and policy.

A brief history of HTML

- HTML 3.2 was published as a W3C Recommendation in January 1997
  - The World Wide Web Consortium (W3C) is the international standards organization for the World Wide Web, founded in 1994 by Tim Berners-Lee after he left the European Organization for Nuclear Research (CERN).
    - It was founded at the Massachusetts Institute of Technology Laboratory for Computer Science (MIT/LCS) with support from the European Commission and the Defense Advanced Research Projects Agency (DARPA)
- HTML 4.0 was published as a W3C Recommendation in December 1997
- HTML 4.01 was published in 2001
- HTML 5 was published as a W3C Recommendation in 2014

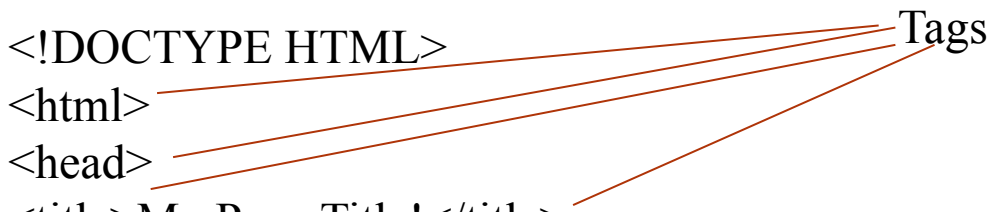
A brief history of HTML

- XHTML is a separate language that began as a reformulation of HTML 4.01 using XML 1.0.
  - XHTML 1.0 was published as a W3C Recommendation on January 26, 2000
  - It is no longer being developed as a separate standard.

HTML 5

- HTML5 was first released in on 22 January 2008, with a major update and "W3C Recommendation" status in October 2014
  - The current specification is known as the **HTML Living Standard** and is maintained by a consortium of the major browser vendors (Apple, Google, Mozilla, and Microsoft), the Web Hypertext Application Technology Working Group (WHATWG)
    - On 28 May 2019, the W3C announced that WHATWG would be the sole publisher of the HTML and DOM standards

HTML – Simple HTML web page




```
<!DOCTYPE HTML>
<html>
<head>
<title>My Page Title!</title>
</head>
<body>

<h1>Introduction</h1>
<p>This is a simple HTML web page. The content here is part of
a ‘paragraph’. Web browser will lay out this text and introduce
line breaks so the text fits nicely in the browser window.</p>

</body>
</html>
```

HTML – Basic Tags

- <html></html> - Surround entire document
- <head></head> - Surround header material (titles, css info, etc.)
- <body></body> - Contains the main content of the page
- - Hold a single paragraph that the browser will typeset.
- <h1></h1>, <h2></h2>, … - Hold a heading line that is used to mark sections of a document for the reader

HTML – More basic tags

- Links – These mark a hyperlink around link text. When click by user, browser loads the page in the HREF attribute.
  - Format <A HREF="url target">Text for link</A>
    - Only 'Text for link' will show up on page.
  - Target attribute, indicates which window/tab should be used for the linked page
    - **target="_self"** – Default. Place the content in the current tab
    - **target="_blank"** – Place the content in a newly created tab

HTML – More basic tags

- <IMG> - Will display an image
  - Image file must be in a popular graphics format (gif, jpg, png, etc)
  - Format :

<IMG src="url for image file" width=#, height=#, alt="Text to display">

HTML – More on Links

- *href* attribute
  - This can be any URI or local file
    - URI should include protocol, server, and path
  - Local file can be specified with an absolute or relative path
- Content can be text OR an image. Ex:

```
<A HREF=http://target.com/path/file.html>
        <IMG src="small_pic.jpg">
</A>
```

- *title* attribute
  - Used to provide descriptive text.
  - Text is displayed when cursor is hovered over link

HTML – More on Links

- Links can target 'bookmarks' created with the *id* attribute on a tag
- Will scroll to the section marked with the named id

some_web_page.html:

…
<h2 id="MoreStyles">
…

Inner link:
<A HREF="#MoreStyles">Go to MoreStyles section"</A>

From another_web_page.html:

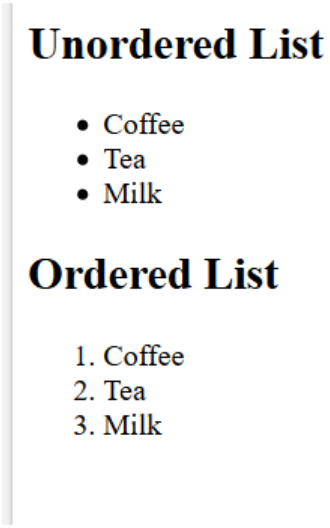
…
<A HREF=http://someserver.com/some_web_page.html#MoreStyles>See info on Styles</A>

HTML - Lists

- Supports:
  - <UL></UL> - Unordered List
  - <OL></OL> - Ordered List
    - <LI></LI> - Encloses a single list item

HTML – Example: Lists

```
<!DOCTYPE html>
<html>
<body>

<h2>Unordered List</h2>

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

<h2>Ordered List</h2>

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

</body>
</html>
```



HTML – Adding styles to lists

- UL takes a style attribute to customize the list
  - list-style-type
    - circle
    - square
    - disc
    - none

HTML – Example: Styled lists

```
<!DOCTYPE html>
<html>
<body>
<h2>Unordered List with Disc Bullets</h2>
<ul style="list-style-type:disc;">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>
</body>
</html>
```

Unordered List with Disc Bullets

- Coffee
- Tea
- Milk

```
<!DOCTYPE html>
<html>
<body>
<h2>Unordered List with Square Bullets</h2>
<ul style="list-style-type:square;">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>
</body>
</html>
```

Unordered List with Square Bullets

- Coffee
- Tea
- Milk

HTML – Formatting Tags

- **** - Bold text
- **** - Important text (similar to bold)
- **<i><i>** - Italic text
- **** - Emphasized text (similar to Italic)
- **<mark></mark>** - Marked text
- **<small><small>** - Small text
- **<del></del>** - Deleted text (stroked text)
- **<ins></ins>** - Inserted text
- **** - Subscript text
- **** - Superscript text

HTML – Example: Formatting Tags

```
<!DOCTYPE html>
<html>
<body>

<p>This text is normal.</p>
<p><b>This text is bold.</b></p>
<p><i>This text is italic.</i></p>
<p><em>This text is emphasized.</em></p>
<p><strong>This text is strong.</strong></p>
<p><mark>This text is marked.</mark></p>
<p><small>This text is small.</small></p>
<p><del>This text is deleted.</del></p>
<p><ins>This text is inserted.</ins></p>
<p>This text is <sup>superscripted.</sup></p>
<p>This text is <sub>subscripted.</sub></p>

</body>
</html>
```

This text is normal.

This text is bold.

This text is italic.

This text is emphasized.

This text is strong.

This text is marked.

This text is small.

~~This text is deleted.~~

This text is inserted.

This text is superscripted.

This text is subscripted.

HTML - Comments

- Comments are contained in '<!-- -->
- Example:

<!–This is a comment and does not affect rendering of the page at all -->

HTML - Styles

- Style information can be included in tags with the 'style=' attribute
- Format : <tag style="attr1:value1; attr2:value2"> text text text </tag>
  - attr1 and attr2 are style property names
  - value1 and value2 are values to attach to the properties
- Most common style attributes:
  - **background-color** for background color
  - **color** for text colors
  - **font-family** for text fonts
  - **font-size** for text sizes
  - **text-align** for text alignment

Paragraph text.

- Using CSS (Cascading Style Sheets) is actually much easier and less error prone

HTML – Tables

- HTML Supports creating tables
  - Tags:
    - <table></table> - Encloses the entire contents of the table
    - <tr></tr> - These bracket a 'row' of data cells
    - <th></th> - These tags support a row used specifically for column headings
    - <td></td> - These tags go around data for a specific cell
    - <caption> - This defines a table caption

HTML – Example: Tables

```
<html>
<body>

<h2>Basic HTML Table</h2>

<table style="width:100%">
  <tr>
    <th>Firstname</th>
    <th>Lastname</th>
    <th>Age</th>
  </tr>

  <tr>
    <td>Jill</td>
    <td>Smith</td>
    <td>50</td>
  </tr>

  <tr>
    <td>Eve</td>
    <td>Jackson</td>
    <td>94</td>
  </tr>

  <tr>
    <td>John</td>
    <td>Doe</td>
    <td>80</td>
  </tr>
</table>

</body>
</html>
```

Basic HTML Table

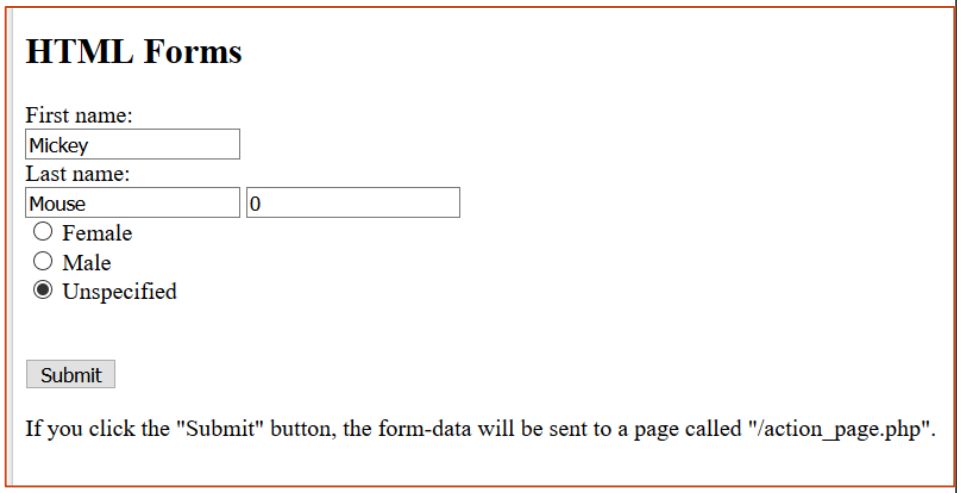
Firstname	Lastname	Age
Jill	Smith	50
Eve	Jackson	94
John	Doe	80

HTML – Forms

- Forms can be used to collect data and respond to queries
- Tags:
  - **<form></form>** - This encases the entire form
  - Forms contain a number of input elements as well as text fields
  - There is at least one input to indicate when to submit a form to the back end.
- Form tag attributes
  - **action=** - This indicates the script on the server to run when the submit action is selected
  - **method=** - This indicates what 'HTTP method' to use (i.e. "GET", "PUT", "POST", etc)
- Input Tags within a form:
  - **<input></input>** This encloses input fields of various types based on attributes in the tag

HTML – Example: Forms

```
<!DOCTYPE html>
<html>
<body>

<h2>HTML Forms</h2>

<form action="/action_page.php">
  First name:<br>
  <input type="text" name="firstname" value="Mickey">
  <br>
  Last name:<br>
  <input type="text" name="lastname" value="Mouse">
  <input type="text" name="age" value="0"><br>
  <input type="radio" name="gender"> Female<br>
  <input type="radio" name="gender"> Male<br>
  <input type="radio" name="gender"> Unspecified<br>
  <br><br>
  <input type="submit" value="Submit">
</form>

<p>If you click the "Submit" button, the form-data will be sent to a page called "/action_page.php".</p>

</body>
</html>
```



HTML – Miscellaneous Tags

- **<pre></pre>** - Pre-formatted text Browser will render content as it is written in the html file.
- **
** - Add a line break here. There is no </br>
- **<hr>** - Add a 'horizontal rule' (horizontal line). There is no </hr>

CSS

- CSS = Cascading Style Sheets
- Greatly simplifies styling HTML
- Easy to keep consistent styling
- Instructions are written as a ***rule-set***

A brief history of CSS

- CSS was first proposed by Håkon Wium Lie on October 10, 1994, and W3C CSS Recommendation (CSS1) was released in 1996.
- CSS level 2 specification was developed by the W3C and published as a recommendation in May 1998.
- CSS2.1 as finally published as a W3C Recommendation on 7 June 2011.

A brief history of CSS

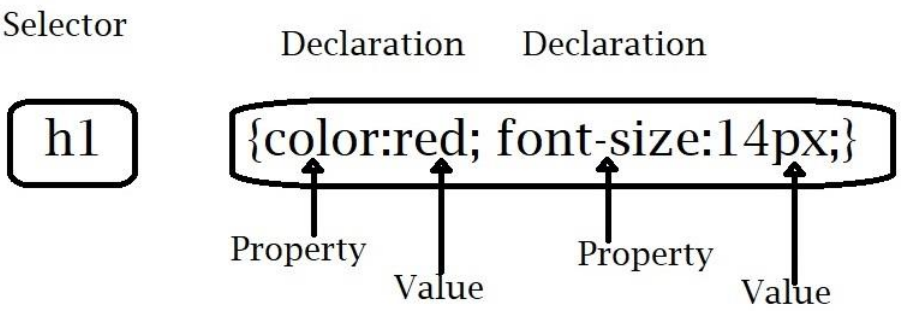
- CSS 3 is divided into several separate documents called "modules" and its notes are posted on W3C:
  - css3-background CSS Backgrounds and Borders Module Level 3 Candidate Rec. Oct 2017
  - css3-box CSS basic box model Working Draft Jul 2018
  - css-cascade-3 CSS Cascading and Inheritance Level 3 Candidate Rec. May 2016
  - css3-color CSS Color Module Level 3 Recommendation Jun 2018
  - css3-content CSS3 Generated and Replaced Content Module Working Draft Jun 2016
  - css-fonts-3 CSS Fonts Module Level 3 Recommendation Sep 2018
  - css3-gcpm CSS Generated Content for Paged Media Module Working Draft May 2014
  - css3-layout CSS Template Layout Module Note Mar 2015
  - css3-mediaqueries Media Queries Recommendation Jun 2012
  - mediaqueries-4 Media Queries Level 4 Candidate Rec. Sep 2017
  - css3-multicol Multi-column Layout Module Level 1 Working Draft May 2018
  - css3-page CSS Paged Media Module Level 3 Working Draft Mar 2013
  - selectors-3 Selectors Level 3 Recommendation Nov 2018
  - selectors-4 Selectors Level 4 Working Draft Feb 2018
  - css3-ui CSS Basic User Interface Module Level 3 (CSS3 UI) Recommendation Jun 2018

A brief history of CSS

- There is no single, integrated CSS 4 specification
  - The CSS Working Group sometimes publishes "Snapshots", a collection of whole modules and parts of other drafts that are considered stable enough to be implemented by browser developers in 2007, 2010, 2015, 2017,and 2018.

CSS rule-sets

- CSS rule-sets have the following format:



  - Selectors indicate the tag or other element
  - Property/value pairs give the attribute to define and the value of the attribute
  - Property/value pairs are separated with a semicolon ;

CSS - Selectors

- Selectors can be
  - A tag name (i.e. <p>) – This will apply to all tags of that type in the document
  - An id (<h2 id="foo">) – The style will apply to ANY tag with the named id.
  - A class (<p class="LargeRed">) The style will apply to ANY element with the named class)

CSS – Examples: Selectors

```
p {
        text-align: center;
        color: blue;
}
```

Applies to all paragraphs in the document

```
#C4 {
         text-align: left;
         color: red;
       }
```

Applies to any tag marked with *id="C4"*

```
.center {
         text-align: center;
         color: green;
         }
```

Applies to any tag marked with *class="center"*

CSS – Selector Grouping

- Selectors for elements with the same style can be grouped and use a common style description

```
h1, h2, p {
  text-align: center;
  color: red;
}
```

CSS – Placement of CSS Information

- CSS style information can be put in one of three places:
  - External sheet
    - Can be used for an entire website
    - Each .html file must reference same sheet
  - Internal sheet
    - Can be used to consistently style 1 html page
  - Inline styles

CSS – External Style Sheets

my_site_style.css:

```
body {
  background-color: lightblue;
}

h1 {
  color: navy;
  margin-left: 20px;
}
```

Separate file holding style information

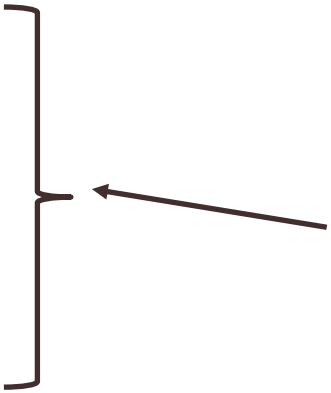
a_web_page.html:

```
<html>
<head>
<link rel="stylesheet" type="text/css" href="my_site_style.css">
</head>
<body>
…
</body>
</html>
```

References the file with style information

CSS – Internal Style Sheets

```
<html>
<head>
<style>
body {
  background-color: linen;
}

h1 {
  color: maroon;
  margin-left: 40px;
}
</style>
</head>
<body>
…
</body>
</html>
```



All style information enclosed in <style> tag within the <head> of an html document

CSS – Local Inline styles

- Style info can be placed inside any tag (as has been seen earlier)
- Ex: <h1 style="color:red; text-size:14px;">

CSS – Cascading Order

- With a mix of internal, external, and inline style information, the styles will be applied by building a 'virtual' style sheet considering each style specification in the following priority order:
  - Inline style (inside an HTML element)
  - External and internal style sheets (in the head section using order of links/style sections in the head)
  - More specific selectors are selected
    - For example, if we have a style for <p> and a style for id1, then the style of <p id=id1> will be the style of id1

CSS – Style Attributes

- Colors
- Backgrounds
- Borders
- Margins
- Padding
- Height/Width

CSS - Colors

- Colors can be specified as:
  - A color name like ‘red’, ‘lightblue’, etc
    - HTML supports 140 standard color names
  - A hex value : #ff0000, #000066, etc.
    - Rgb values
    - 2 hex ‘nibbles’ per color giving ranges of 0-255 for each
  - An RGB value like: rgb(255,0,0)
    - Same as hex values but with decimal numbers
- Example:
  - h1 {color:green;}
  - p {color: red;}

CSS – Backgrounds

- Elements can have different backgrounds
  - Colors
  - Images

CSS – Background Color

- Attribute: background-color
- Value: description of colors
  - h1 {background-color: green;}
  - div {background-color: #777700;}
    - div is just used to divide the page into subsections - no other structural effect on the page

CSS – Background Images

- Attribute: background-image
- Value is usually a URL of a graphic file
- Example:
  - body {background-image: URL("mountain.jpg")}
- Images can be positioned within an element
  - Attribute: background-position:
  - Value: (horizontal and vertical positioning (left, center, right, bottom, center, top))
  - Example:

```
<!—place image starting in the upper right corner of the page's body -->
body {background-image: URL("mountain.jpg"); background-position: right top}
```

CSS – Background Images

- Images can be repeated if two small to cover an area
  - Attribute: background-repeat
  - Values:
    - **repeat-x** – repeat horizontally across area
    - **repeat-y** – repeat vertically down area
    - **no-repeat** – do not repeat image
- Images can scroll with page:
  - Background-attachment:scroll
- Can specify all attributes using '**background**:'
  - Values for background must be in this order:
    - background-color
    - background-image
    - background-repeat
    - background-attachment
    - background-position
  - Example:

body {background: URL("mountain.jpg") repeat-x scroll right top}

CSS - Borders

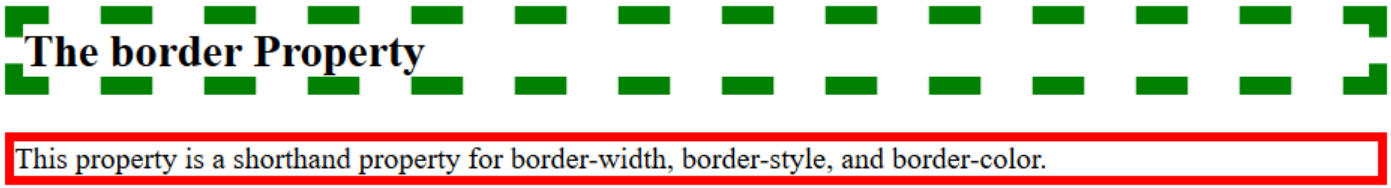
- CSS allows specification of the style, width and color of element borders
- Attributes:
  - **border-style** : style keyword – includes dotted, dashed, solid, double, groove, ridge, inset, outset, none, hidden}
    - One value – Applies to all 4 sides
    - Two values – 1st applies to top and bottom, 2nd applies to left and right
    - Three values – 1st applies to top, 2nd applies to left and right, 3rd applies to bottom
    - Four values – Values applied as top, right, bottom, left
  - **border-width :**
    - Value can be specified in **pt, px, cm, em**
    - Value can use one of 3 keywords: **thin, medium, thick**
  - **border-color**
    - Values: See Colors earlier in this talk

CSS - Borders

- Shorthands:
  - **border-left-style, border-right-style, border-top-style, border-bottom-style**
  - Same for **border-x-width and border-x-color**
  - **border**: handles all 3 attributes in order:
    - width
    - style (required)
    - color
  - Example:
    - h1 {border: 5px solid orange}

CSS - Borders

```
<!DOCTYPE html>
<html>
<head>
<style>
h2 { border: 10px dashed green;}
p { border: 5px solid red;}
</style>
</head>
<body>
<h2>The border Property</h2>
<p>This property is a shorthand property for border-width, border-style, and
border-color.</p>
</body>
</html>
```

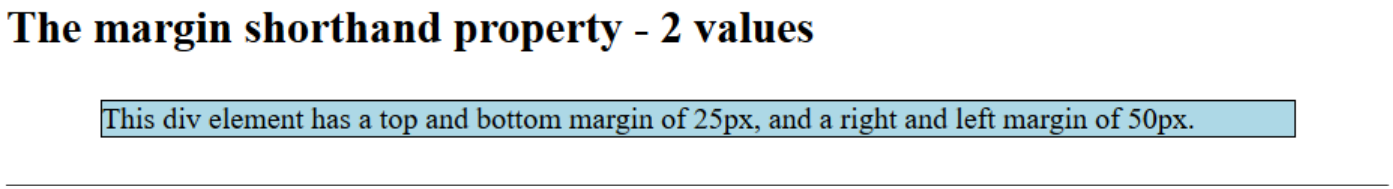


CSS - Margins

- Attribute: **margin**
- Margin gives spacing outside the 'border' of an element
- Similar to **border**, margin has separate attributes for left, top, bottom, and right sides
- Values:
  - **auto** – browser calculates margin
  - A length in px, pt, cm, etc
  - % - margin is a percentage of the width of the containing element
  - **Inherit –** Margin is inherited from parent element
- **margin** can also have 4, 3, 2, or 1 value(s). Application pattern similar to **border**.

CSS – Example: Margin

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
  border: 1px solid black;
  margin: 25px 50px;
  background-color: lightblue;
}
</style>
</head>
<body>
<h2>The margin shorthand property - 2 values</h2>
<div>This div element has a top and bottom margin of 25px, and a right and left margin of 50px.</div>
<hr>
</body>
</html>
```

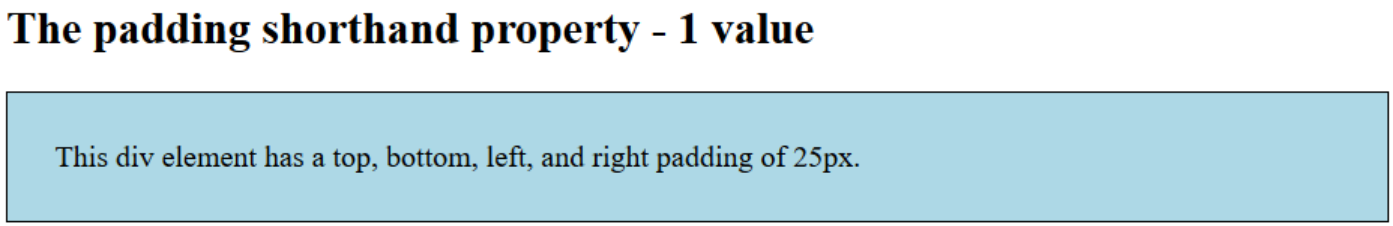


CSS - Padding

- Padding generates space around an element but within its border
- Attributes: padding, padding-left, padding-top, padding-bottom, padding-right
- Values:
  - Length – A length value in pt, px, cm, em, etc
  - % - A percentage of the width of the element
  - **inherit** – The padding is inherited from parent element

CSS – Example: Padding

```
<!DOCTYPE html>
<html>
<head>
<style>
div {  border: 1px solid black;
       padding: 25px;
       background-color: lightblue; }
</style>
</head>
<body>
<h2>The padding shorthand property - 1 value</h2>
<div>This div element has a top, bottom, left, and right padding of 25px.</div>
</body>
</html>
```

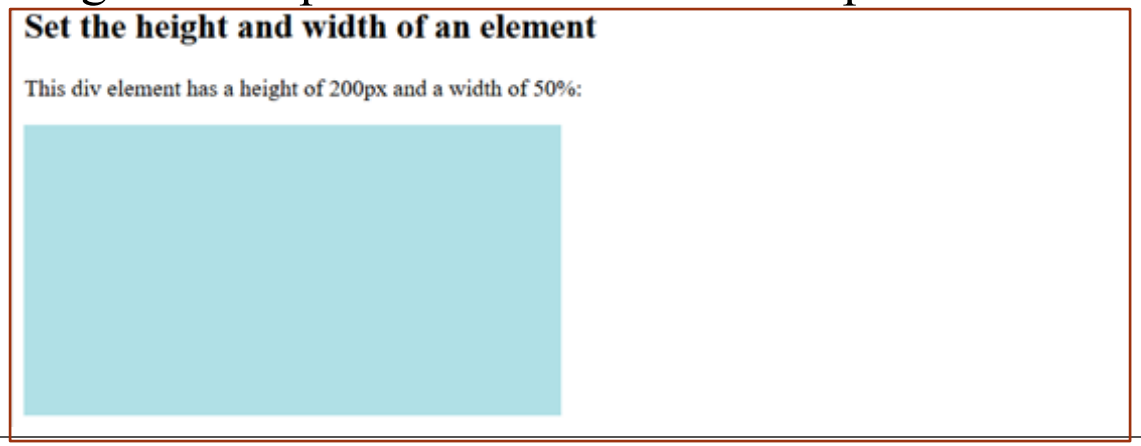


CSS – Height/Width

- These attributes give the height and width of an element
- Default value is **auto** which lets the browser figure out the best size
- Values can be specified as:
  - A length – in pt, px, cm, etc.
  - A percentage of the containing block

CSS – Example: Height/Width

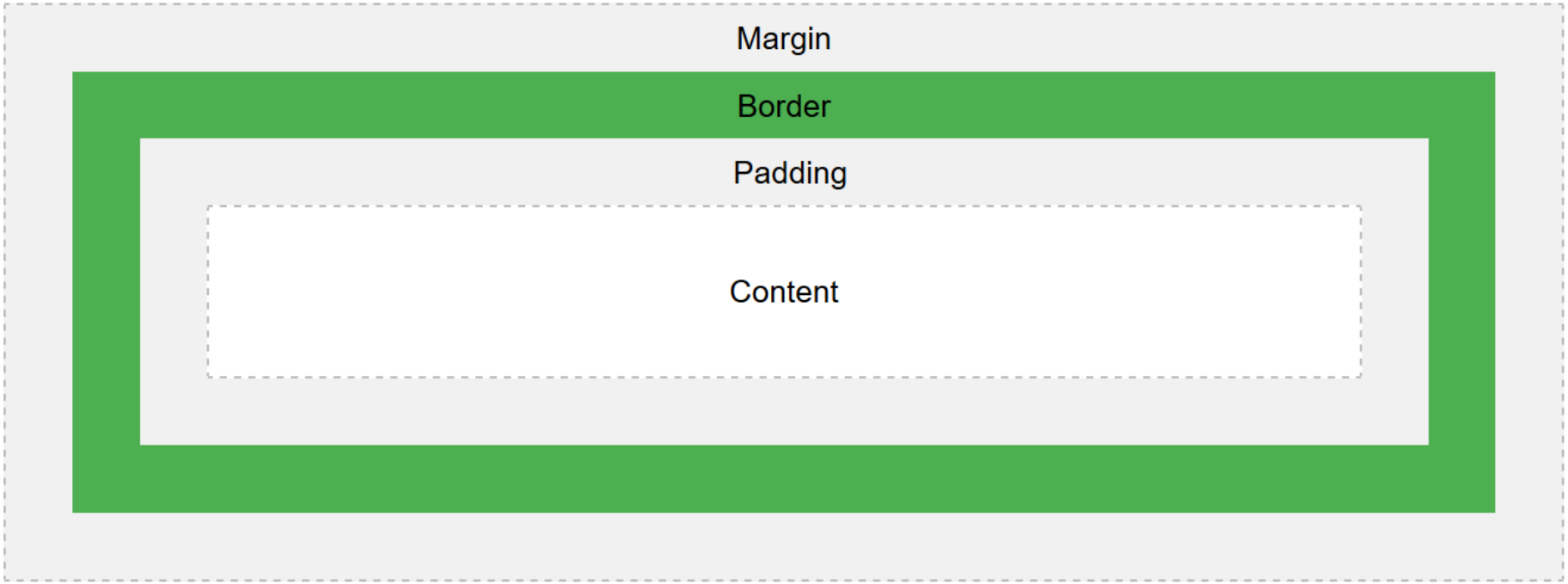
```
<!DOCTYPE html>
<html>
<head>
<style>
div {  height: 200px;
  width: 50%;
  background-color: powderblue; }
</style>
</head>
<body>
<h2>Set the height and width of an element</h2>
<p>This div element has a height of 200px and a width of 50%:</p>
<div></div>
</body>
</html>
```



CSS – The Box Model

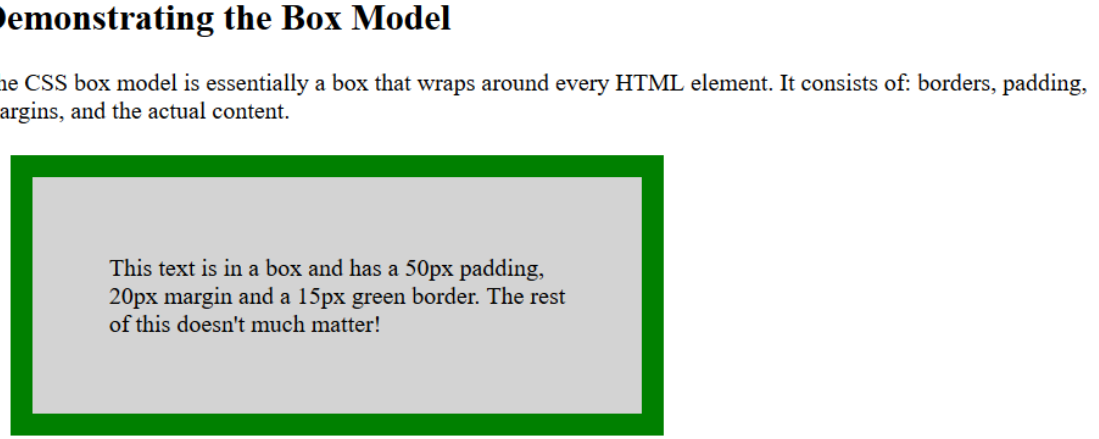
- CSS Box Model refers to the layout of an element including margin, borders, padding, and content
  - **Content:** The content of the element
  - **Padding**: area around the content and within the border. Padding is transparent
  - **Border**: A border that surrounds the element and padding
  - **Margin**: Area outside the border. Margin is transparent.

CSS – Box Model



CSS – Example: Box Model

```
<!DOCTYPE html>
<html>
<head>
<style>
div { background-color: lightgrey;
  width: 300px;
  border: 15px solid green;
  padding: 50px;
  margin: 20px;  }
</style>
</head>
<body>
<h2>Demonstrating the Box Model</h2>
<p>The CSS box model is essentially a box that wraps around every HTML element. It consists of: borders, padding, margins, and the actual content.</p>
<div>This text is in a box and has a 50px padding, 20px margin and a 15px green border. The rest of this doesn't much matter!</div>
</body>
</html>
```



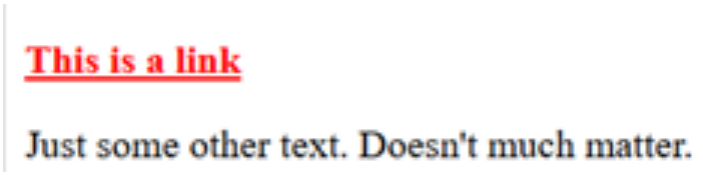
CSS – Styles for Links

- Links can be styled using any CSS attributes (color, background-color, text-decoration, font-family, font-size, background, etc)
- *Links can have different styling based on their 'state'. 4 states are:*
  - :**link** – An unvisited link
  - :**visited** – A link that has been visited
  - :**hover** – A link when the cursor os hovering over it
  - :**active** – A link when the left mouse button is depressed over it
- *Ordering is important! If all 4 states have styles*
  - **hover** must be after **link** and **visited**
  - **active** must follow **hover**

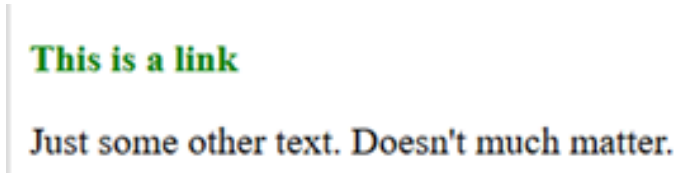
CSS – Example: Link Styles

```
<!DOCTYPE html>
<html>
<head>
<style>
a:link {  text-decoration: none; }
a:visited { text-decoration: none;  color: green; }
a:hover {  text-decoration: underline; color: red; }
a:active {  text-decoration: underline;  color: hotpink; }
</style>
</head>
<body>
<p><b><a href="default.asp" target="_blank">This is a link</a></b></p>
<p>Misc other text</p>
</body>
</html>
```

When left button depressed on link



After visiting link



CSS – Styles for Lists

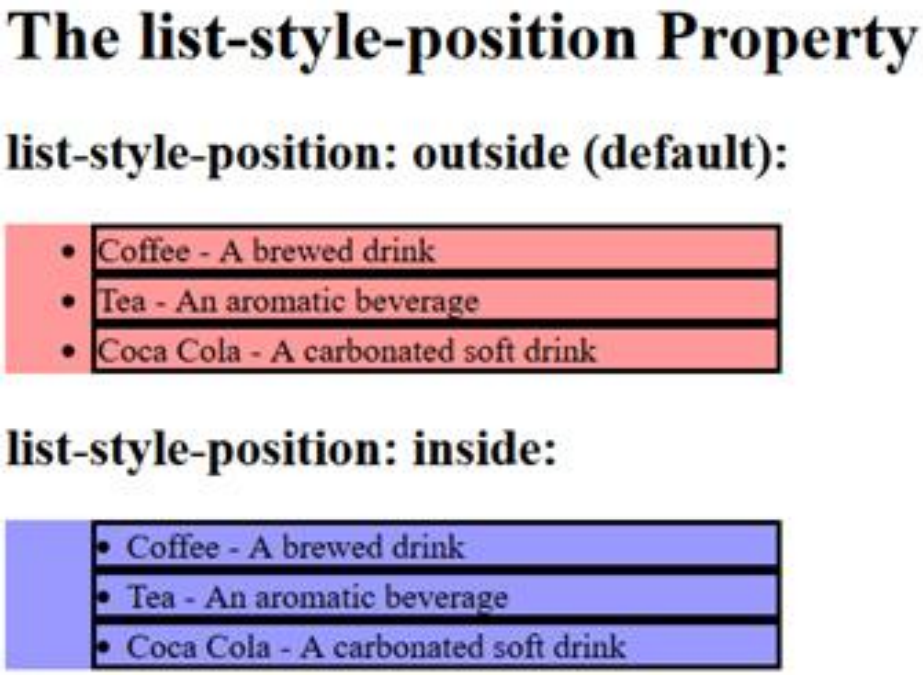
- *Unordered list: list-style-type*
  - Circle
  - Square
  - Disc
- *Ordered list: list-style-type*
  - Upper-roman
  - Lower-roman
  - Upper-alpha
  - Lower-alpha
  - Other: https://www.w3schools.com/cssref/pr_list-style-type.asp

CSS – Styles for Lists

- *Attribute: list-style-position (shorthand attribute: list-style)*
  - Inside – bullet or marker is pulled in with text (so inside border)
  - Outside – bullet or marker is left outside element's border (out-hanging)

CSS – Example: Styles for Lists

```
<!DOCTYPE html>
<html>
<head>
<style>
li {border: solid;}
ul.a {  list-style-position: outside; background: #ff9999; }
ul.b {  list-style-position: inside; background: #9999ff;  }
</style>
</head>
<body>
<h1>The list-style-position Property</h1>
<h2>list-style-position: outside (default):</h2>
<ul class="a">
  <li>Coffee - A brewed drink</li>
  <li>Tea - An aromatic beverage </li>
  <li>Coca Cola - A carbonated soft drink</li>
</ul>
<h2>list-style-position: inside:</h2>
<ul class="b">
  <li>Coffee - A brewed drink</li>
  <li>Tea - An aromatic beverage </li>
  <li>Coca Cola - A carbonated soft drink</li>
</ul>
</body>
</html>
```



CSS – Styles for Tables

- Various table elements can take on properties like border, padding, text-align, width, height and others
  - border
  - width
  - text-align
  - border-collapse

border-collapse: separate (default):

Firstname	Lastname
Peter	Griffin
Lois	Griffin

border-collapse: collapse:

Firstname	Lastname
Peter	Griffin
Lois	Griffin

CSS – Example: Table Styling

```
<!DOCTYPE html>
<html>
<head>
<style>
table, td, th {
  border: 1px solid black;
}
table {
  border-collapse: collapse;
  width: 100%;
}
th {
  text-align: center;
}
</style>
</head>
<body>
<h2>The text-align Property</h2>
<p>This property sets the horizontal alignment (like left, right, or center) of the content in th or td:</p>
<table>
  <tr>
  <th>Firstname</th>
  <th>Lastname</th>
  <th>Savings</th>
  </tr>
<tr>
  <td>Peter</td>
  <td>Griffin</td>
  <td>$100</td>
  </tr>
  <tr>
  <td>Lois</td>
  <td>Griffin</td>
  <td>$150</td>
  </tr>
  <tr>
  <td>Joe</td>
  <td>Swanson</td>
  <td>$300</td>
  </tr>
  <tr>
  <td>Cleveland</td>
  <td>Brown</td>
  <td>$250</td>
</tr>
</table>
</body>
</html>
```

The text-align Property

This property sets the horizontal alignment (like left, right, or center) of the content in th or td:

Firstname	Lastname	Savings
Peter	Griffin	$100
Lois	Griffin	$150
Joe	Swanson	$300
Cleveland	Brown	$250

Summary

- **HTML** – Hyper Text Markup Language
  - Used to describe most web page content
  - Static – no 'execution' semantics
- ***CSS*** – *Cascading Style Sheets*
  - Help customize look and feel of web pages
  - Numerous ways to address elements and groups of elements
  - Varied properties to produce rich styling
- *Next Lecture:*
  - JavaScript