

HTML

- Language used to define web pages
- What the server sends to the browser
- Browser reads HTML and renders the page
 - **May require downloading data from server (e.g., images)**

Creating Web Pages

- HTML - HyperText Markup Language
- HTML Standard
 - Developed by the World Wide Web Consortium (W3C)
 - <http://www.w3.org>
- Document is described through a series of commands and directives present in a text file
- HTML goal is to describe structure only. Presentation should be left to cascading style sheets
- When interpreted by an HTML **viewer** those commands determine the appearance of the page
- HTML documents are entirely ASCII text
- Commands are explicitly inserted
- HTML/CSS tutorial site
 - <http://www.w3schools.com/>

HTML

- HTML Validation
 - <http://validator.w3.org/>

HTML Fundamentals

- **Example:** BasicHTMLSkeleton.html
- Html documents rely on tags
 - Specifies a command or directive
 - It surrounds content and apply meaning to that content
 - `<title>This is the document title</title>`
 - General format `<elementName attributes>`
 - Most HTML elements have two tags (start tag and end tag)
 - Example: `<h1> text </h1>`
- An html document has two main parts
 - **Head** → provides all the information and and resources needed by the browser to render the page
 - It does not generate displayed contents
 - **Body** → contents of the page
- Let's validate our document
- Let's introduce an error and validate

Attributes

- An attribute extends or modifies a tag
- Attributes
 - Only appear in the start tag
 - You can have several attributes in one tag each separated by spaces
 - Order is immaterial
 - Some take values which are specified after an =
- General format
 - `<ELEM ATTR="attrValue">Displayed Text</ELEM>`
- Example:
``
- Boolean Attributes
 - Don't require a value
 - Represent true is present and false otherwise
 - Example: `<input type="checkbox" name="room" checked>`

<head>

- <head> tag may include lang attribute to define the human language
 - <html lang="en">
- Elements in head
 - <title> </title>
 - It is required
 - Search engines depend on it
 - Provide a meaningful name as it is bookmarked
 - <meta>
 - Document's metadata (e.g., keywords, description, encoding, etc.)
 - <link>
 - Specifies relationship between document and resource
 - <style>
 - To define CSS style in the document
 - <script>
 - To declare or load JavaScript

Nested Tags and Spaces

- Nested tags are possible but don't overlap sets of them
- Incorrect → `<em><strong>Message</em></strong>`
- Correct → `<em><strong>Message</strong></em>`
- Browser Processing
 - Multiple spaces are converted to one space.
 - John Mary Peter
 - John Mary Peter
- Line returns are ignored

Comments

- Comments
 - Represented by `<!-- -->` Note: (two sets of double -)
 - We can use comments to disable HTML

Frequently Used Tags

- Emphasis
 - `<em> text here </em>` **Text usually rendered in italics**
 - `<strong> text here </strong>` **Text usually rendered in bold**
- Super/Sub script
 - `<sub> text here </sub>`
 - `<sup> text here </sup>`
- Quotations
 - `<q> quote here </q>`
- Line Breaks
 - `<br />`
- Verbatim (text displayed exactly as it appears)
 - `<pre> text here </pre>`
 - You can have tags inside them
- **Example:** CommonTags.html

HTML Lists

- Unordered lists
 - `<ul> </ul>` identify the list
 - `<li> </li>` each list item
 - **Example:** Lists.html
- Ordered lists
 - `<ol></ol>` identify the list
 - `<li> </li>` each list item
 - **Example:** Lists.html
- Definition lists
 - `<dt></dt>` - term
 - `<dd></dd>` - description
- Lists can be nested
 - Notice where the text inside of main list appears
 - **Example:** Lists.html

HTML Image Inclusion

- `<img>` tag used for image inclusion
- `<img>` attributes
 - `src`
 - `width`
 - `height`
 - `alt`
- To reduce the image size without losing proportions specify either the width or height and the browser will compute the other
- Example: `Image.html`

HTML Links

- Link → Connection between web resources
- Links are created using the `<a>` tag
 - `<a href="http://www.cnn.com">CNN Page</a>`
 - Need to specify <http://>
 - **Example:** Links.html
- You can also link a page with another as follows:
 - `<a href="page.html">`
- You can create links to elements in the same document using the id attribute
- `<a>` can include a target attribute that indicates the destination where the document will be opened
 - **_self** (default), **_parent** (parent frame), **_top** (current window)
 - **_blank** (new window)
- We can replace the text with an image
- With the **download** attribute we can specify to the browser to download instead of opening the file

Character Entity References

- Special Characters (Character Entity References)
 - Copyright → ©
 - Registered Trademark → ®
 - & → &
 - < → <
 - > → >
 - Non break space →
 - Allow us to add single spaces
- List:
 - <http://dev.w3.org/html5/html-author/charref>
- **Example:** CharacterReferences.html

HTML Table

- To define a table us the `<table>` tag
 - By default borders are not visible
 - Using CSS to see borders
- Tags
 - `<tr> </tr>` → defines a row
 - `<td></td>` → defines a data element
 - `<th></th>` → defines a header data element
 - `<caption> </caption>`
 - Must be inserted immediate after the `<table>` tag
- **Example:** TableNoBorders.html
- **Example:** TableWithBorders.html