**HTML Essential Training, Part 2 - Eric Le**

***Formatting Page Content - QA***

**1) [Critical Thinking] What’s the difference between the <b> tag and the <strong> tag?**

The bold tag is a purely visual tag that provides no semantic value, while the strong tag *does*. This means that tools like screen readers capable of vocal inflexions can emphasize text contained within the strong tag, while reading bold-tag-contents as plain text.

**2) What is the character entity for the copyright symbol?**

*&copy;* or *&COPY;*

**3) What is the default behavior of HTML when it encounters more than one space?**

Ignore all whitespaces immediately following the first space.

**4) What is the character entity for a non breaking space?**

&nbsp;

**5) Which attribute of the img tag holds (finds) the actual image?**

The source (src) attribute.

**6) [Critical Thinking] What is the exact syntax for an img tag that references an image named *rose.jpg* in a sub-folder named *images*? (include an appropriate *alt* attribute).**

<img src=”/images/rose.jpg” alt=”Picture of a rose” height=”height\_in\_pixels” width=”width\_in\_pixels”>

***Structuring Content - QA***

**7) What is meant by the term *semantics*?**

Semantics denotes meaning of or relating to language or logic. In the context of HTML, semantics refers to HTML’s ability to logically structure documents to illustrate the meaning of content and the relationships between groups of content.

**8) The author names 4 sectioning elements. *Name 2*.**

header elements *<h1>...<h6>* and *<article>*

**9) Which element does the author choose to wrap most of the content?**

The author primarily uses the ***<section>*** element.

**10) What is the purpose of the *nav* element?**

To group links that are used for navigating a given website.

**11) [Critical Thinking] Why would you have more than one nav element?**

You might use multiple nav elements if you have multiple navigation bars/menus, or submenus with links for internal site navigation. Based on personal preference.

**12) [Critical Thinking] When should you use an *article* tag?**

When you have a document that can be independently redistributed without added context. Can be used to divide a page with multiple pieces of unrelated content into separate containers, or on a single page with a singularly independent piece of content.

**13) [Critical Thinking] The purpose of a *section* can be compared somewhat to the purpose of a div. What’s the difference?**

Div is a generic element that is extremely flexible and can be used for many sophisticated purposes like passing on semantic or stylistic information not covered by other elements. Section is not a generic element and is used for grouping thematically related content.

**14) [Critical Thinking] Why would you use an *aside* element?**

It’s useful for grouping and styling content that’s related to but not critical to the main content of a page.

**15) [Critical Thinking] What’s the purpose of the *<div>* tag?**

As other semantic elements have been added in HTML5, the purpose of the <div> tag has changed over time. It’s a jack-of-all-trades tag that holds no meaning by itself, but is highly customizable and can be used to fill gaps between existing elements, or gaps not yet covered by any elements.

**16) [Critical Thinking] What does the author mean when he says, the div is the "element of last resort"?**

If another element already exists to perform the specific function that an author is looking to use the <div> tag for, it’s better to just use the existing, easily-recognizable element rather than reinvent the wheel.

**17) [Critical Thinking] How often should we be using the *<header>* element in a page?**

As much as necessary. A page can have a singular header, no header, or multiple headers, depending on what makes the most sense for that specific page.

**18) What is the purpose of the *<footer>* element?**

To hold information that is related to a section, such as reference documents, contact information, indexes, etc.

**19) How many times can you use a *<main>* element on a page and why?**

You can only use the <main> element once in a page because it’s supposed to identify ***the*** maincontent of a page.

**20) [Critical Thinking] Why would you apply a *role* attribute to an element?**

You might apply a role attribute to an element, even if they are semantically identical, because not all user-agents and devices may be capable of reading all of the semantic information held within an element.

***Formatting Page Content - Video Notes***

[Emphasizing text (Links to an external site.)](https://www.linkedin.com/learning/html-essential-training-2017/emphasizing-text) (6:53)

* Tags
  + ***Presentational*** Tags
    - ***Purely visual*** effect
      * Bold *<b> </b>*
      * Italics *<i> </i>*
  + ***Logical*** Tags
    - Has added ***semantic value***
      * Screen readers capable of vocal inflexion will strongly emphasize text
      * Strong *<strong> </strong>*
      * Emphasis *<em> </em>*
  + Why have variations for bold and italics?
    - XHTML sought to remove all *presentational* tags (e.g. bold and italics)
      * Use-cases were found to exist for these tags
      * e.g. bolded headings shouldn’t necessarily be read with emphasis
* Definition List ***<dl> </dl>***
  + Definition Term ***<dt> </dt>***
  + Definition Definition ***<dd> </dd>***

[Displaying special characters (Links to an external site.)](https://www.linkedin.com/learning/html-essential-training-2017/displaying-special-characters) (5:40)

* Special Characters
  + Symbols not on a standard keyboard
    - Different language characters, trademark symbols, etc.
  + Symbols reserved for HTML
    - e.g. left or right angle brackets <>
      * User agents and browsers may mistake these for incomplete tags and cause rendering issues
  + Displayed using ***named character entity***
    - Start with ***ampersand (&)***
    - Follow with ***named character entity***
      * Reference to a character set, listed [here](https://en.wikipedia.org/wiki/List_of_XML_and_HTML_character_entity_references)
    - End with ***semi-colon (;)***

[Controlling whitespace (Links to an external site.)](https://www.linkedin.com/learning/html-essential-training-2017/controlling-whitespace) (3:37)

* Whitespace
  + No matter how much you put in content, browsers will likely ignore **everything *after the first space***
  + Why?
    - Because code can be written by people or machines
      * Sometimes machines will put lots of whitespace that isn’t necessary
  + How to override
    - Use non-breaking-space character ***&nbsp;***
    - Each use of it adds a whitespace
      * ***Not meant for manual visual formatting***
        + This should be handled through CSS
      * Meant to just create a non-breaking-space
        + Prevents wrapped text from separating words separated with a NBSP

[Displaying images (Links to an external site.)](https://www.linkedin.com/learning/html-essential-training-2017/displaying-images) (7:08)

* Basics of importing images
  + Use img (image) tag

**<img src=”\_path/file.extension” alt=”sample text” height=”px” width=”px”>**

* + - Does not have closing tag
    - Considered ***replaced content***
      * Browser/user agent will replace its contents with ***requested resources***
    - Attributes
      * ***src*** (source) attribute tells browser where to find image
        + Spelling is critical for browser to resolve file paths
        + dot-dot-forward-slash ***../*** can be used to go ***up*** in a directory
      * ***alt*** (alternative text) attribute passes along descriptive text for accessibility
      * ***height*** and ***width*** (optional) attributes pass dimension to browser
        + Without these, browser will still display at native width and height but may have rendering issues
        + Can be altered, but may distort image (poor way of resizing)
      * ***align*** (optional) attribute allows wrapping text around left or right of image
        + Although still supported, attribute has been deprecated from HTML
        + Visual formatting is handled by CSS

***Structuring Content - Video Notes***

[The value of structure (Links to an external site.)](https://www.linkedin.com/learning/html-essential-training-2017/the-value-of-structure) (2:48)

* Structured through Sectioning Elements
  + ***Semantics***: HTML’s ability to structure documents to illustrate meaning of content
    - Visual elements may be intuitive for most users, but not machines
    - Asssistive technology and search engines
      * Can’t rely on visual layout to convey meaning
      * Information about content must be conveyed through page’s structure
  + Sectioning/Semantic Elements allow content to be grouped into specific sections with semantic meaning
    - Give documents intelligent outline to represent content
      * Groups sections of content into clearly defined regions
        + Establishes relationships between these reasons
      * ***Makes sites more legible for people and machines***
        + Makes sites more accessible
        + Improves search engine results
        + Improves consistency in site structure and styling
    - Sectioning Elements
      * <h1>...<h6>
      * <article>
      * <aside>
      * <nav>
      * <section>
    - Semantic Elements
      * <header>
      * <main>
      * <footer>

[Controlling document outlines (Links to an external site.)](https://www.linkedin.com/learning/html-essential-training-2017/controlling-document-outlines) (10:40)

* Outline is like a Table of Contents
  + Used by devices to skim and search for files
    - Establishes relationships between content and content groups
  + Easiest way to structure is by using headings
    - Apply heading tags <h1…h6> based on level of importance
      * Look for titles, subtitles, categories, subcategories, etc.
      * Don’t neglect opening and closing tags
  + New semantic ***sectioning elements*** in HTML5
    - Provides additional sectioning beyond titles
      * <nav>
        + Creates new section specific to site navigation
      * <article>
      * <section>
      * <aside>
        + Denotes content as non-critical, but related to page
    - In outliner tools, the titles of these sections are adopted from their top-level headings
    - Controlled through HTML5’s outlining algorithm (considerably new; may not be adopted by all user-agents yet
      * Best practice is to continue generating document outline through headings (as of time of recording)
        + Use new HTML5 sectioning elements to help with overall page semantics
* Outliner Tools
  + Will show outline as if it were a table of contents
  + Consider HTML outline extension for VS Code
  + [Online HTML5 Outliner tool](http://gsnedders.html5.org/outliner/)
    - Paste HTML code and select “Outline this!” to check outline during work

[The nav element (Links to an external site.)](https://www.linkedin.com/learning/html-essential-training-2017/the-nav-element) (5:32)

* [Specification Info - Semantic usage:](https://html.spec.whatwg.org/multipage/sections.html#the-nav-element)
  + ***<nav> Element***: Represent section of page that links to other pages or parts within page
    - Section with navigation links
      * If multiple links are within nav, arrange as list
    - **Major** section of navigation blocks
      * Not all groups of links in page *need to be* in a <nav> element
        + Use as necessary based on logical judgement

[The article element (Links to an external site.)](https://www.linkedin.com/learning/html-essential-training-2017/the-article-element) (5:19)

* Article vs. Section elements
  + Very similar; use based on judgement
* [Specification Info - Semantic usage:](https://html.spec.whatwg.org/multipage/sections.html#the-article-element)
  + Represents complete, self-contained article **or document**
    - Reuseable and redistributable
    - Comments, articles, blog posts, etc.
    - Doesn’t necessarily refer to a newspaper article
      * Just references ***standalone content***, like a singular ***article*** of clothing

[The section element (Links to an external site.)](https://www.linkedin.com/learning/html-essential-training-2017/the-section-element) (5:12)

* [Specification Info - Semantic usage:](https://html.spec.whatwg.org/multipage/sections.html#the-section-element)
  + Represents generic section of a document or application
    - ***Section***: a ***thematic*** grouping of content
      * ***Theme should be identified*** by including a heading element as child of section element
      * Examples: Chapters, various tab pages, numbered sections of a thesis
        + Home page can be split into sections like intro, news items, contact info
    - Use ***article*** instead when logical to syndicate contents of element
      * + Section is ***not*** a ***generic container*** element
    - Use ***<div>*** element instead when only needing element for styling purposes or scripting
    - When to use?
      * Contents need to be listed explicitly in document outline, but doesn’t meet standards of **article** element
        + Heading = explicit listing in document outline
  + Can exist as children of articles

[The aside element (Links to an external site.)](https://www.linkedin.com/learning/html-essential-training-2017/the-aside-element) (4:56)

* One of most common elements of a website is a ***sidebar***
  + Didn’t have an element to represent it until HTML5
* [Specification Info - Semantic usage:](https://html.spec.whatwg.org/multipage/sections.html#the-aside-element)
  + Represents section of page ***tangentially related*** to content *around* aside element
    - Content that isn’t ***absolutely necessary*** but is related to content of page
  + Can be used for typographical effects e.g. pull quotes, sidebars, advertising, groups of nav elements, other content separate from main content of page
* Placement
  + Think of where the content is tangentially related
    - i.e. Is it content related to an entire document or just a section of content?

[The div element (Links to an external site.)](https://www.linkedin.com/learning/html-essential-training-2017/the-div-element) (6:04)

* [Specification Info - Usage:](https://html.spec.whatwg.org/multipage/grouping-content.html#the-div-element)
  + Div has no meaning by itself; defined by its children
    - Is an empty container
      * Used for structuring/grouping content without passing on semantic meaning
    - Groups elements under specific tag
    - Should be used as last resort when no other elements are usable (or pass along necessary semantic meaning), according to specs
      * For accessibility purposes
    - Can be used to group for stylistic or unique purposes otherwise not covered by HTML5 elements
  + Div = Division tag
  + Used to divide content and used class or ID attributes to pass on semantic meaning when necessary
    - Many alternatives exist in HTML5, but div is still a powerful element
  + Author uses it to group content for styling purposes
    - Classes can be reused while IDs are single-use
      * Author uses class=”book” to identify content groupings as books
      * Classes pass on semantic meaning
* Div is a very flexible element; almost a way of extending the language
  + Useful for sophisticated visual styling needs

[Other semantic elements (Links to an external site.)](https://www.linkedin.com/learning/html-essential-training-2017/other-semantic-elements) (9:39)

* ***Semantic elements*** allow us to create sophisticated page structures without changing document outline
  + Header element
    - Represents introductory content or navigational aids for nearest sectioning content
    - If no parent element exists, Main applies to entire page
    - Can be used for table of contents, search form, logo, etc.
      * Title of site, title of page, navigation page *can* all exist in header
        + Based on judgement/preference
    - Pages are ***not*** limited to one header
      * Multiple headers can be used as needed
  + Main element
    - Consists of content unique to a page
      * i.e. does not contain navigation, logos, repeated content. etc.
    - Consists of **main content** of a page
      * Better to have more semantically rich page to improve use of assistive devices like screen readers, search engines, and other technologies
      * Author contains <article> within <main> element even though there is no additional visual effect
    - Can only be used once on a page
  + Footer element
    - Typically holds related info about its section
      * Author, links to related documents, indexes, copyright data
        + Contact info may exist in its own section within its own footer
    - Does ***not*** have to exist at the bottom of an element
      * Can be used multiple times on a page

[Using WAI-ARIA roles (Links to an external site.)](https://www.linkedin.com/learning/html-essential-training-2017/using-wai-aria-roles) (6:35)

* Web Accessibility Initiative Accessible Rich Internet Applications
  + Commonly referred to as ARIA
  + Recommendations for accessibility for websites
* Landmark Role Attribute
  + Application, Banner, Complimentary, ContentInfo, Form, Main, Navigation, Search
    - Closely resembles HTML5 elements
      * HTML5 has been attempting to bring these semantic roles to HTML
    - Applying ROLE attribute allows assistive devices to quickly scan and navigate sites
      * Screen readers can skip content based on roles
  + Assigning roles to elements
    - <header role=”banner”>
    - <nav role=”navigation”>
    - <main role=”main”>
    - <aside role=”complimentary”>
    - <footer role=”contentinfo”>
  + Some elements may have identically named roles
    - Specs say that in situations where element and role are semantically identical, use element instead of attribute
      * In practice, not all screen readers may recognize semantic value of elements
        + i.e. use both for the time being to give richer semantic info
  + <https://www.w3.org/TR/using-aria/>