

# HTML

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## 1 Introduction

**Definition:** HTML (Hypertext Markup Language) is the standard markup language used to create web pages and web applications.

- It provides a structure for content on the World Wide Web, using a system of elements and attributes to define the layout and content of a document.
- HTML elements are represented by tags, which browsers interpret to render the visual and auditory elements of a web page.
- HTML works in conjunction with
  - CSS for styling
  - JavaScript for interactivity

## 2 Responsive Web Design

### Summary:

#### Concept

#### Syntax

Open/close tag elements    `<tag>...</tag>`

- Text an element will display goes b/w its opening/closing tags.
- e.g. elements with o/c tags h#, p, a, div, span, ul etc.
  - Text
    - \* h#: 1-6 to signify the importance of content below them in decreasing order.
    - \* em: Emphasize text (italicize).
    - \* strong: Strongly emphasize text (bold).
  - List:
    - \* ul: Unordered list to create a list of items w/o a specific order.
    - \* ol: Ordered list to create a list of items with a specific order.
    - \* li: List item to create an item in a list (ordered or unordered).
  - Form:
    - \* form: Create a form to collect user input.
    - \* button: Create a clickable button (default behavior of a button is to submit a form to the location in the form's action attribute).
    - \* label: used to help associate the text for an input element with the input element itself (helpful for assistive technologies).
    - \* fieldset: Group related inputs and labels together in a form. (block-level element → appear on new line)
  - figcaption: Caption to describe the image contained within the figure element.
  - a: Anchor tag to create hyperlinks (use href attribute) for text, images, etc.

Self-close tag elements    `<tag />`

Void elements    `<tag>`

- An element w/o a closing tag.
- e.g. img, br, hr, input, link, meta
  - img: Embed an image in a document.
  - input: Collect data from a web form.

Commenting    `<!-- comment -->`

- Comments to leave messages w/o affecting browser display
- Can make code inactive.

Content area elements    `<header>, <footer>, <nav>, <main>, <article>, <section>, <aside>`  
                                  `</header>, </footer>, </nav>, </main>, </article>, </section>, </aside>`

- Identify different content areas for modularity, Search Engine Optimization (SEO), and accessibility.
- Nesting: For readability, nest content by indenting.
- Examples:
  - main: Represent main content of the body of a document.
  - section: Define sections in a document, such as chapters, headers, footers, or any other sections of the document.
    - \* Content inside should be unique and not repeated elsewhere on the page.
  - figure: Represents self-contained content and will allow you to associate a caption with an image.

**Summary:****Concept    Syntax****Attributes    <tag attribute="value">**

- Special words inside the opening tag of an element to control the element's behavior.
- e.g. id, class, src, alt, href, style, target etc.
  - Image:
    - \* src: Specifies the URL of an image.
    - \* alt: Specifies an alternate text for an image to improve accessibility and is displayed if the image cannot be loaded.
  - a:
    - \* href: Specifies the URL of the page the link goes to.
    - \* target: Specifies where to open the linked document (e.g. "\_blank" opens in a new tab).
  - Form:
    - \* action: Where form data should be sent.
  - Input:
    - \* type: Specifies the type of form element (e.g. text, password, submit, radio (circle), checkbox (square)).
    - \* name: For a form's data to be accessed by the location specified by action, you must give the text input a name attribute and assign it a value to represent the data being submitted.
    - \* value: Specify the data sent to the server when the form is submitted.
      - Radio: W/o value attribute, the default is "On" regardless of which button is clicked (use value to differentiate).
    - \* placeholder: Provides a hint to the user of what can be entered in the field.
    - \* required: Prevent a user from submitting a form without filling out a required field (no value needed).
  - Button:
    - \* type: Specifies the type of button (e.g. submit, reset, button).
  - General
    - \* id: Used to identify specific HTML elements. This must be unique from all other id values for the entire page.