**FREECODE CAMP EDITION:**

*HTML (HyperTextMarkupLanguage)*

* Markup lang used to describe struct of web page.
* Elements usually have opening and closing tags that surround and give meaning to content.
* ALL hTML DOCS MUST START WITH A <!DOCTYPE html>
  + Followed by html open and closing tags <html></html>
  + Visible part of html doc in body tags
* **ELEMENTS** 
  + An html element is everything from start to end tag.
  + Empty elements do not have end tag like <br>
* NOT CASE SENSITIVE
* **ATTRIBUTES** 
  + Provide additional info about html elements.
  + Always specified in **START OF TAG**
  + Usually come in name=”value” pairs
  + HREF attribute
    - Links defined with <a> tag, link address specified in href
      * Ex: <a href=”…google.com”> Link</a>
  + SRC attribute
    - Filename of image source for img tag for ex uses SRC attribute
      * Ex: <img src=”img\_girl.jpg”>
  + WIDTH AND HEIGHT
    - Specifies width and height of image by pixels ,
      * Ex: <img src=”…” width=”500” height=”600”
  + ALT attribute
    - Specifies alt text to be used if image can’t be displayed
      * Ex: <img src=”…” alt=”gir; with jacket”>
  + STYLE attribute
    - Used to specify styling of an element like color, font, size
      * Ex: <p style”color:red”> this is paragraph </p>
  + TITLE ATTRIBUTE
    - Value of title wil be displayed as tooltip when mouse over it
  + Target attributes
    - Specifies where to open linked document
    - \_blank- open linked doc in new window or tab
    - \_self- open linked doc in same window/tab as clicked (DEFAULT)
    - \_parent- open in parent frame
    - \_top – open in full body of window
  + **Recommended to use lowercase attribute in HTM, and quote attribute vals**
* **STYLES** 
  + Has following syntax
    - <tagname style=”property:value;”>
    - Property is a CSS property, and value is CSS value
    - INCLUDES:
      * “Background-color: blue”
      * “font-family:courier;”
      * “font-size:300%”
      * “text-align:center;”
* **FORMATTING ELEMENTS** 
  + <b> - bold text //bold no xtra importance, strong adds semantic strong import
  + <strong> important text
  + <i> italics // Italic no xtra importance, emphasized semantic importance
  + <em> emphasized
  + <mark> mark text //defines highlighted text
  + <small>
  + <del> deleted text //puts line through text
  + <ins> inserted text //adds (added) before text
  + <sub> subscript text
  + <sup> superscript text
* **Images**
  + Image Map – can map objects in image to be clickable
    - <https://www.w3schools.com/html/html_images_imagemap.asp>
    - Idea is to perform dif actions depending on where in image you click.
      * CREATE BY <img src=”…jpg” alt=”workplace” usemap=”#workmap”>
      * The usemap value starts with a # followed by name of image map, used to create relationship between images
    - Then add a map element
      * Used to create image map, and link to image by using name attribute
      * <map mame=”workmap”>
        + Can insert anywhere, don’t ave to insert right after image Imamage
    - Then add clickable areas using <area> element
    - Must define shape of area
      * Rect
      * Circle
      * Poly
      * Default – entire region
      * Must define some coordinates to be able to place clickable area onto image coordinates in x,y pairs
        + Ex: <area shape=”rect” cords=”34,44,270,350” href=”computer.htm”?
  + BACKGROUND IMAGES
    - To add background image, use style attribute
    - Div style=”background-image: url(‘img\_girl.jpg’);”>
    - If want entire page to have background image, must specify background image on body element
    - <style>
      * Body{
      * Background-image: url(‘img\_girl.jpg’);
      * }
    - </style>
    - Notice that if image too small, it will repeat itself horizontally and vertically until reach end of element.
    - To stop this:

If want background image to cover entire element use

Background-size: cover;

To make sure entire element ALWAYS covered set

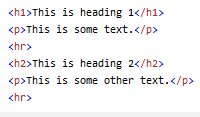
Background-attachment: fixed;

***TAGS AND HOW TO USE:***

**Header**

* Have h1 – h6
* Used to add levels to web page. Tells browser about structure of website.
  + H1 elements often MAIN headings, h2 generally subheadings.. h3…h4….h6
    - Ex: <h1> text here </h1>
  + Can make headings bigger by adding style attribte with font-size
    - Ex: <h1 style=”font-size:60px;> example</h1>

**Horizontal Rules**

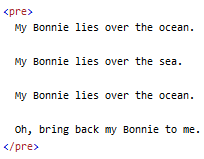
* <hr> tag defines thematic break in HTML page, used to separate content in HTML page.

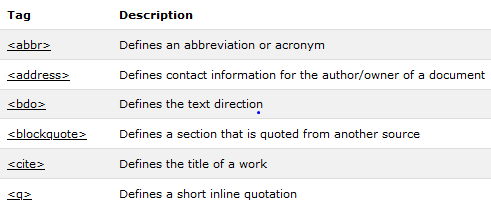
**Paragraph**

* Preferred element for paragraph text on websites.
  + Ex: <p> text here….. </p>

**PRE**

* Defines preformatted text.
* Text inside here displayed with fixed width font and preserves spaces and line breaks

**QUOTATIONS**

* Defines short quotation
* Will encase whatever inbetween tags in quotes
  + Ex: <p> <q> “I think therefore I am </q><.p>

**ABBREVIATIONS**

* The <abbr> element defines abbreviation or acronym.
* Useful for browsers, translation systems, etc.
  + <p> The <abbr title=”World Health Organization”>WHO</abbr> cool</p>
  + Will show tooltip at WHO displaying title

**Comments**

* Way to leave comments for other devs within your code without affecting resulting output.
* Convenient way to make code inactive
  + Starts with <!—and ends with -- >
    - example: <!—this is a comment - ->

**Images**

* Can add images to website using img element to point to specific image url using src attribute.
  + Ex: <img src=”https:// some url with pic” alt=”pic description”>
* Img elements are self closing.
* MUST HAVE alt attribute which improves accessibility and is displayed if img fails to load.
  + IF IMAGEP URELY DECORATIVE KEEP EMPTY
* ALSO ALLOWS GIFS

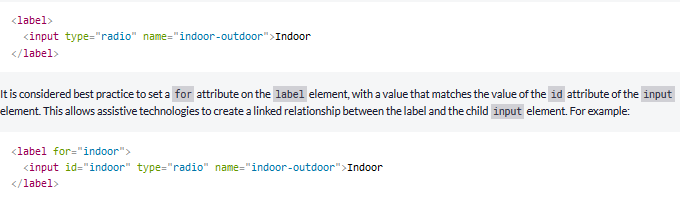
**Anchors**

* An element used to link content outside of web page.
* Needs destination web address called href attribute.
  + - Ex: <a href=”some website url> this is link to some website </a>
      * Browser will display “this is link to some website” that is clickable and takes you to the href url.
  + CAN USE to create internal links to jump to dif sections within webpage.
    - Do this by assign link’s href attribute to a hash symbol plus value of id attribute for element that you want to internally link to.
      * Ex: <a href=”#contacts-header”> Contacts </a>
        + <h2 id=”contacts-header”>Contacts</h2>
  + Can also nest into a paragraph element so part of paragraph is a link.
  + Can turn image into a link
  + Ex:
    - <a href=”#”><img src=” url img “ alt=”description”></a>
    - The # symbol indicates a dead link to jump to.
    - Helpful if we don’t know where to go yet.

**LISTS**

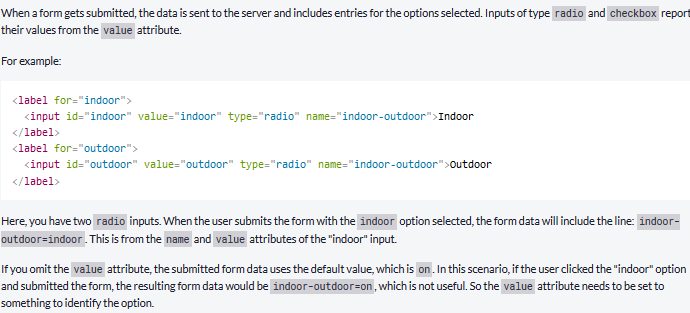
* Unordered Lists <ul>
  + Used to create bullet point list.
    - Ex: <ul>
      * <li>milk</li>
      * <li>cheese</li>
      * </ul>
* Ordered List <ol>
  + Initialize same way except numbered instead of bullets.

**WEB FORMS (input elements)**

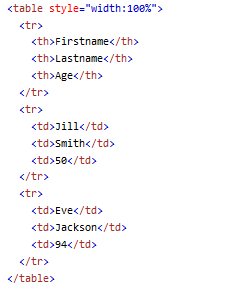
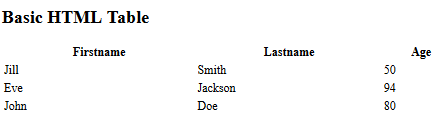
* Used to get input from user. Aka INPUT elements
* **TEXTFIELD** 
  + Used to get text input
    - Ex: <input type=”text”>
      * Will gen rectangular box for user to type input
* **Form** 
  + Used to submit data to server using nothing but HTML
  + Can do this by specifying an action on your for melement.
    - Ex: <form action=”/url want to submit form data> </form>
    - Can put other input elements within form to send more data.
* **Button**
  + Click this to do some action like send data from form to URL lspecified with your form’s action attribute.
    - Ex: <button type=”submit”> this button submits form </button>
* **Required**
  + Can require specific form fields so your user will not be able to submit form until filled out.
  + Just add required at end of tag of input element.
  + EXAMPLE:
    - <input type=”text” required>
* **Radio Buttons**
  + Used for questions where want user to only give one answer out of multiple choice.
  + Each can be nested within own label element so auto associate radio button to label surrounding it.
  + EXAMPLE:
    - Will create two radio buttons and since name is same, only one can be clicked at a time.
    - Can check auto using checked keyword at end of tag
      * Ex: <input type=”radio” name=”test” checked>

**CheckBoxes**

* Type of input. Each checkbox also nested in label element.
* By wrapping input element inside label element auto associate.
* BEST PRACTICE to define relationship between checkbox input and corresponding label using for attribute
* Ex:
  + ^



**TABLES**

* EACH HTML table defined with <table> tag
* Each row defined with a <tr> tag
* Header defined with a <th> tag
* To add border need css property
  + Table,th,td{
  + Border:1px solid black;
  + }
* If want solid borders add
* Border-collapse: collapse;
* To add css padding to cell content and borders
* Th,td { padding: 15px; }
* To align headings (left align)
* th { text-align: left; }

**LISTS**

**Descriptive HTML tags**

* these tags give descriptive structure to html, make easier to read and help with search engine optimization.
* **Main** 
  + This tag helps search engines and other devs find main content of page
    - Ex: <main> <h1> hello world</h1> </main>