- HyperText Markup Language

- The foundation of all web pages

- Marking up text with tags

- Tags look like **`<tag>text text text</tag>`**

```
<!DOCTYPE html>
<html>
    <head>
        <!-- head elements go here -->
    </head>
    <body>
        <!-- body elements go here -->
    </body>
</html>
```

Elements

- Paragraph

    `<p> text goes here </p>`

- Headings

    `<h1> big heading </h1>`

    `<h2> smaller heading </h2>`

    `<h3> even smaller heading </h3>`

- Divisions

    `<div> contains multiple paragraphs </div>`

- Lists

    `<ol> an ordered list </ol>`   A,B,C or 1,2,3

    `<ul> an unordered list </ul>`   bullets

More Elements

- Horizontal Lines
  <hr> size="10" width="xx" float="xxx" </hr>

- Line Break
  **
  </br>**

- Blanks
  ** **

- Comments
  <!-- xxxx -->

More Elements

In pixels

In pixels or
percent of screen

- Horizontal Lines
  `<hr> size="10" width="xx" float="xxx" </hr>`

Left, right, center

- Line Break
  `<br>   </br>`

- Blanks
  ` `

- Comments
  `<!-- xxxx -->`

- Let's Play

  https://www.tutorialspoint.com/online_html_editor.php

Some basic guidelines

- HTML commands are NOT case sensitive.

   Tip: always enter tags in lower case.

- Anything in quotes *might be* case sensitive

   Such as attribute values:

   ```
   <img src="picture.jpg">
   ```

- Spaces: Many spaces = one space.

- Always use end tags.

- Nesting elements: From <tag> to </endtag>

- Good habit: Quote all attribute values.

- **Cache**: Browser caches pages. Beware when reloading. SHIFT + Reload or CTRL + Reload will force.

- "**Deprecated**" = no longer supported by the standard.

- It's either a **TAG** or it's **TEXT**

- There are 4 basic **attributes** for every tag
    - `id="xxxx"` – identifies it
    - `class="classname"` – ties it into a group for style
    - `style="xxxxx"` – where xxx is a list of style elements
    - `title="xxxxx"` – adds misc info to the tag

Let's look at an example

http://www.funto o.org/Linux_Fundamentals,_Part_1

Right click and view source, inspect elements

More Elements

- **Hyperlink**

  – Takes the web user to another document

  – Can be on the same site, or ANYWHERE

  – Implemented via **`<a>`** tag ("a" is for "anchor")

  – Uses the **`href="xxxxx"`** attribute

  – Browser identifies Link via underscore and color

  - Avoid **`<u>`** tag

  – Cursor changes shape on "mouseover"

  – Status Bar shows URL of the link on "mouseover"

Linking

- **Managing Hyperlink Colors**

  – `<body link="xxxx", alink="xxxx", vlink="xxxx">`

  – xxxx = valid color name

- **Absolute versus Relative URL**

  – Protocol://host.domain.tld/fullpath/file.htm ← absolute

  – file.htm   ← relative

  – Relative location set by current page OR <base> tag in <head> section

  – <base href=http://host.domain.tld/path>

  – No file name → uses "index.htm" or "default.htm"

- **URL**

  – Directory path – filename plus extension

- **Linking to a "marker"**

  – Defined by **id="xxxx"** attribute

Images

- **Two basic types**
  - .gif –Graphics Interchange Format
  - .jpg – Joint Photographic Experts Group
- **.gif**
  - For illustrations
  - Good with large areas of contiguous color
  - Compresses nicely. "lossless"
  - Limited to 256 colors
  - Uses dithering to simulate other colors
  - Allows transparency
  - Supports animation

- **.jpg**
  - For photos
  - Good with large numbers of various colors
  - "lossy" compression.
  - Millions of colors
  - No transparency
  - No animation

Images

- **`<img>` tag attributes**

  - **`Alt="xxxxx"`** ➔ text to display when image is not available

  - **`Hspace="xx", Vspace="xx"`** ➔ puts a buffer of space around the image

  - **`Height="xx", Width="xx"`** ➔ resizes the image

    - Reserves the space to speed in page loading

- **`<img>` as "link" (I.e. a "button")**

```
<a href="week3_ex4.htm"><img src="Button1.gif" /></a>
```

Other Formatting Tags

- **<body>** attributes
  - Bgcolor="xxxx"
  - Text="xxxx"
  - Link, alink, vlink
  - Background="image.gif"
  - Topmargin="xx", leftmargin="xx"

Tables

- **Used Primarily for LAYOUT options**

- **Rows and Columns, "cells"**

- **The browser will SIZE the table large enough to hold the cells' contents**

- **Every row gets the same number of "cell positions", whether or not you define or use them**

- **Table Tags:**

  - <table> defines the table

  - <tr> defines a table row

  - <th> defines the table's header cell content

  - <td> defines the table's data cell content

  - <caption> puts some text above, outside the table

- **<table> attributes**
  - bgcolor – just like <body>
  - border="xx" size in pixels. Default = no border
  - cellspacing="xx" size of cell space in pixels (space between cells)
  - cellpadding=size of cell pad in pixels (space around contents within cell)
  - width="nn" (pixels or percent) Size of table

- **\<tr\> defines a table ROW**

- **\<tr\> attributes**

  - bgcolor – just like \<body\>

- **\<td\> or \<th\> defines a table cell**

- **\<td\> \<th\> attributes**

  - bgcolor – just like \<body\>

  - Colspan="nn" – number of columns cell spans

  - Rowspan="nn" – number of rows cell spans

```
<!DOCTYPE html>

<html>

<head>

</head>

<body>

<p>In this example, the anchor tag creates a link to another
document.</p><br><br>

<p><a href="http://www.colorado.edu"> CUBOULDER </a></p>

</body>

</html>
```

```
<!DOCTYPE html>

<html>

<head>

</head>

<body>

<p>In this example, the image is a link to another
document.</p><br><br>

<p><a href="http://www.colorado.edu">
<img src="CU.png"></img></a></p>

</body>

</html>
```

```
<!DOCTYPE html>

<html>

<head>

</head>

<body>

<p>In this example, the image will float to the right in the
paragraph,

and the text in the paragraph will wrap around the image.</p>

<p><img src="CU.png" style="float:right";>

Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Phasellus imperdiet, nulla et dictum interdum, nisi lorem

egestas odio, Cras ac leo purus. Mauris quis diam velit.

Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Phasellus imperdiet, nulla et dictum interdum, nisi lorem

egestas odio, Cras ac leo purus. Mauris quis diam velit.</p>

</body>

</html>
```