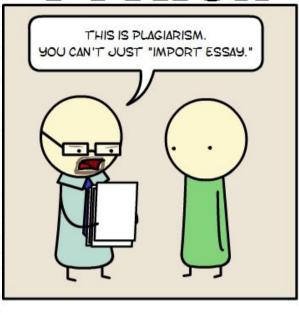
HTML & XHTML

PYTHON



C++



HTML



Comic from http://www.somethingofthatilk.com/index.php?id=135

CS/IT 490 WD, Fall 2013

Last update 2013-08-22

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Breakdown

- HTML Tag Anatomy
- Deprecated Tags
- Awesome new HTML5 things
- Invisible Things
- Text
- Graphical Cues
- Data with Tables
- Layout
- Forms
- HTML 5

HTML Tag Anatomy

- A tag has an opening and closing portion:
 <h1></h1>
- Or, some tags don't need inner content and can be closed in the same tag:
- Tags MUST have opening & closing portions in order to comply with XHTML

HTML Tag Anatomy

-
- Tags can have attributes
 is the tag,
 src (source) is an attribute
- With XHTML, tag names and attribute names must be lower-case
- Attribute values must be enclosed within quotes (single or double)
 - Could get away without quotes before

Deprecated Tags

 These tags are deprecated, and should NOT be used:

```
      <applet>
      <center>

      <dir>
      <font>

      <frame>
      <strike>

      <b>
      <i>
```

Don't use <marquee> or <blink>, either.

Awesome new HTML5 things

New tags added to HTML5! \o/

	<article></article>	<aside></aside>
	<audio></audio>	<canvas></canvas>
	<command/>	<datalist></datalist>
	<details></details>	<dialog></dialog>
	<embed/>	<figcaption></figcaption>
	<figure></figure>	<footer></footer>
	<header></header>	<mark></mark>
	<nav></nav>	<pre><pre><pre><pre><pre><pre><pre><pre></pre></pre></pre></pre></pre></pre></pre></pre>
	<source/>	<summary></summary>
	<time></time>	<video></video>

And more. You can see a list of HTML elements here: http://www.w3schools.com/tags/

<html>

This tag is required for your webpage to comply to XHTML standards.

Specifies that the document is an HTML page.

<html>
<!-- Webpage Content -->
</html>

<!DOCTYPE>

This tag is required for your webpage to comply to XHTML standards.

This tag must be the first line in your page.

It specifies to what version of HTML you're complying with.

Different types...

HTML 5 <!DOCTYPE html>

HTML 4.01 Strict

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">

XHTML 4.01 Strict

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">

There are other kinds, too: http://www.w3schools.com/tags/tag_doctype.asp

Source: http://www.w3schools.com/tags/tag_doctype.asp

<head>

This tag is required for your webpage to comply to XHTML standards.

Must contain the <title> tag

Can import JavaScript and CSS from within the head tag

Should contain metadata tags



<title>

This tag is required for your webpage to comply to XHTML standards.

The webpage's title shows up in the title bar of your web-browser, and the search result name

```
<html>
    <head>
        <title>Save Walter White</title>
        </head>
        <html>
```

<style>

Used to specify CSS styling, hard-coded into the page. Generally, we'll want to Link them instead!

```
<html>
    <html>
    <head>
        <style type="text/css">
            body { color: #FF0000; }
        </style>
    </head>
</html>
```

<script>

Used to include JavaScript files or hard-code scripts into the page.

```
<html>
    <html>
    <head>
        <script type="text/javascript">
            alert( "Hello!" );
        </script>
        </head>
    </html>
```

Hard-coding JavaScript into a page

<script>

Used to include JavaScript files or hard-code scripts into the page.

```
<html>
    <head>
        <script src="scripts/thumbnails.js"></script>
        </head>
    </html>
```

Including an external .js file in your page

k>

Used to link to external resources - "Favicon", CSS stylesheets, etc.

Metadata

Metatags let you define keywords, a description, etc. for your website.

A search engine *might* use your description, but it's more likely to use content found on the website itself.

Metadata goes inside the <head></head> tags

- Keywords
 <meta name="keywords" content="blog, video games, xbox, playstation, nintendo">
- Description
 meta name="description" content="User-created reviews on the latest games">
- Author<meta name="author" content="Cliffy B">
- Refresh
- Encoding

Metadata goes inside the <head></head> tags

- Refresh Used to refresh the page periodically <meta http-equiv="refresh" content="30">
- Encoding HTML 4:

<meta http-equiv="content-type" content="text/html; charset=UTF-8">

HTML 5:

<meta charset="UTF-8">

SEO Tip: Character Encoding

Specifying your page's encoding (such as UTF-8) is good practice – Users should generally have a UTF-8 (unicode) encoding installed on their computer.

User's computers might be running a different encoding by default (for example, our machines use Latin letters and originally didn't even contain accented letters!)

Specifying encoding is a **usability** point Usability features generally mean better SEO and better user experience in general!

Make sure to read this article to learn about unicode and localization, which is important in today's society! http://www.joelonsoftware.com/articles/Unicode.html

<!-- comments -->

Comments can be used just like in code to clarify the use of a portion of markup, or to section off regions.

Tip: Don't use comments to comment-out code/markup:

That's what source control is for!

<body>

This tag is required for your webpage to comply to XHTML standards.

The body tag begins the actual webpage; tags within **body** are rendered by the browser.

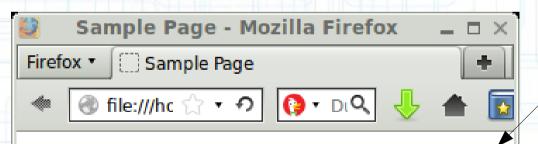
Paragraph Tag

Text should be contained within tags.

Automatically has margins (spacing) added by default, but you can override with CSS.

```
<!DOCTYPE html>
    □<html>
 3
          <head>
              <title>Sample Page</title>
 5
          </head>
 6
 7
          <body>
 8
              >
 9
                  Lorem ipsum dolor sit amet,
10
                  consectetur adipiscing elit.
11
              12
          </body>
13
      </html>
14
```

Note: even though
this text is on a
different line in the
markup, without a
line-break or new
paragraph, no
new-line will appear
on the webpage itself



Lorem ipsum dolor sit amet, consectetur adipiscing elit.

- What is Lorem Ipsum?
 - Lorem Ipsum is jumbled up Latin.
 - It is usually used to fill in a webpage with content without actually needing content. (Helps the page look filled out)
 - You can generate varying lengths of Lorem Ipsum copy at: http://www.lipsum.com/

 Line Break tag

A Line Break tag can be used to add a new-line to text. The Line Break does not contain the same default margins as a paragraph tag.

```
8
              >
                 This is my first paragraph where
 9
10
                 I have no line-breaks. Lorem ipsum dolor sit amet, consectetur adipiscing elit.
                 Aliguam tempus faucibus suscipit. Integer et est placerat,
11
12
              13
              >
14
                 This is a second paragraph, with
15
                 its own p tags. Lorem ipsum dolor sit amet, consectetur adipiscing elit.
                 Aliquam tempus faucibus suscipit. Integer et est placerat,
16
17
              18
                 This is a third paragraph and <br/>
19
20
                 it has a line-break. <br/>
                 Lorem ipsum dolor sit amet, consectetur adipiscing elit. <br/>
21
22
                 Aliguam tempus faucibus suscipit. Integer et est placerat,
23
```

This is my first paragraph where I have no line-breaks. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aliquam tempus faucibus suscipit. Integer et est placerat,

This is a second paragraph, with its own p tags. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aliquam tempus faucibus suscipit. Integer et est placerat,

This is a third paragraph and it has a line-break.

Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Aliquam tempus faucibus suscipit. Integer et est placerat,

The text lines go until there's no more space then wrap around.

Separate paragraphs have more spacing than a single line-break

Headers

Headers are used to specify a hierarchy of information on your webpage.

Headers include <h1>, <h2>, <h3>, <h4>, etc.

```
<h1>1990s style video game reviews!</h1>
>
   Tired of CSS and JavaScript mucking up your video gaming
   experience?! We all know that gamers only care about content
   and graphics don't matter at all!
<h2>Latest Games</h2>
<h3>This Month</h3>
>
   Saints Row IV<br/>
   Gone Home<br/>
<h3>This Year</h3>
>
   Animal Crossing New Leaf<br/>
   The Last of Us<br/>
<h2>Search by System...</h2>
```

1990s style video game reviews!

Tired of CSS and JavaScript mucking up your video gaming experience?! We all know that gamers only care about content and graphics don't matter at all!

Latest Games

This Month

Saints Row IV Gone Home

This Year

Animal Crossing New Leaf The Last of Us

Search by System...

Playstation 3

SEO Tip: Headers

A page should only have **ONE** <h1> tag, but you can have as many <h2>, <h3>, etc. tags as you would like.

Think of the <h1> tag as the header stating what the page is all about.

Be sure to mark sub-headings with the appropriate header-tags as well! This helps the search engine figure out key terms of the webpage.

Emphasizing text

While HTML tags for styling are deprecated (such as and <i>), you can use tags like and to specify what should have *emphasis* or be *stronger* on the webpage.

You can then style these with CSS, but by default is italic and is bold.

```
<h1>1990s style video game reviews!</h1>

    Tired of CSS and JavaScript <strong>mucking up your video gaming
    experience?!</strong> We all know that gamers only care about content
    and graphics don't matter at all!

<m>Note: This page is under construction!
```

Tired of CSS and JavaScript mucking up your video gaming experience?! We all know that gamers only care about content and graphics don't matter at all!

Note: This page is under construction!

Lists

When you have a list of data (steps in an algorithm, links in a navigation bar), it is good to store it with an
 (ordered-list) or
 (unordered-list) tag.

Nested within an set is the tag (list-item).

By default, they show up as a hierarchy, each list-item on its own line, but you can style these in CSS as well!

```
<h2>Recent Games</h2>

Saints Row IV
Gone Home

<h3>Top Games</h3>

The Secret of Monkey Island
Commander Keen
Klonoa
```

Recent Games

- Saints Row IV
- Gone Home

Top Games

- 1. The Secret of Monkey Island
- 2. Commander Keen
- 3. Klonoa

Nested Lists

Nested lists are a bit of a pain, but possible.

Within a List-Item tag (), you need to open up a new list...

```
<h2>Top games by System</h2>
Playstation 3
    <0l>
       The Last of Us
       Uncharted 2
       LittleBigPlanet
     <!-- Playstation 3 -->
  Xbox 360
    <0l>
       Gears of War
       Halo 3
       Fable 2
    Wii
    <0l>
       Super Mario Galaxy
       Super Smash Bros Brawl
       The Legend of Zelda
```

Top games by System

- Playstation 3
 - 1. The Last of Us
 - 2. Uncharted 2
 - 3. LittleBigPlanet
- Xbox 360
 - 1. Gears of War
 - 2. Halo 3
 - 3. Fable 2
- Wii
 - 1. Super Mario Galaxy
 - 2. Super Smash Bros Brawl
 - 3. The Legend of Zelda

Links

To link to content on another website, or another page on your own site, you use an **anchor tag**:

View Metacritic

The Anchor tag <a> has attributes:

- href The page being linked to
- title Title of the link (will pop up a tool-tip on mouse-hover, also used for accessibility for blind people)

Text

Link attributes:

- name The name of this link (you can also link to a section on the same webpage)
- target Whether to open the link in a new window or current window

Text

Links to another page:

Links

View Metacritic

View GameTrailers

Text

Link to a section of the current page:

```
<h2><a name="Recent">Recent Games</a></h2>

            Saints Row IV
            Gone Home

<h2><a name="TopGames">Top Games</a></h2>
```

These two headers have **anchor tags**, but instead of an href attribute we specify a name.

```
<h2>Table of Contents</h2>

    <a href="#Recent">Recent Games</a>
    <a href="#TopGames">Top Games</a>
    <a href="#TopSystem">Top Games by System</a>
    <a href="#Links">Links</a>
```

Rather than linking to a page, we can link to a #name attribute

Table of Contents

- Recent Games
- Top Games
- Top Games by System
- Links

Can be used to create a table of contents, or allow a user to link to a specific section of a webpage easily.

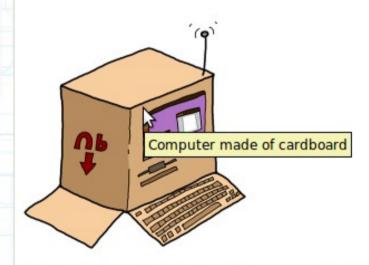
<0l>

You can display an image file on your page with the **img** tag.

The Image tag has attributes:

- src The URL of the image (could be relative to the current page, or a full URL)
- title The name of the image (will pop up a tool-tip on mouse-hover, also used for accessibility for blind people)
- Do not use width and height attributes they're deprecated!

1990s style video game reviews!



Tired of CSS and JavaScript mucking up your video gaming experience?!

SEO Tip: Titles

You should always include the **title** attribute for your anchor tags <a> and for any relevant image tags.

For image tags, describe what the image is a picture of. Don't worry about background images and nonimportant content, but try to add titles to anything pertinent.

There are accessibility tools for blind and hard-of-seeing people to use the internet – there are even blind programmers!

<hr/>

You can use the **horizontal rule** tag to draw a line across the page.

It has a default styling, but you can update it with CSS.

There is nothing to store within an <hr> tag, so close it immediately.

Note: This page is under construction!

Table of Contents

- Tables are used to store data, similar to a spreadsheet.
- Tables should not be used for creating a webpage layout. That's what CSS is for.

asdf is what you type in the subject line when you have no subject.

asdf are the first four letters you learn in typing.

asdf likes ikl;

asdf is free.

asdf is nothing.

asdf is what. happens to fads.

asdf just is.

is green?

asdf could be this

asdf

asdf is worth 8 points in scrabble.

asdf should

capitalized,

but isn't.

be

asdf is the title of an unwritten zine.

aoeu is asdf's cousin asdf is a four letter word.

asdf is a significant difference.

asdf sounds like this?

Looks innocent enough, right?

Page from http://asdf.com/whatisasdf.html

Last update 2013-08-22

Written by Rachel J. Morris Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License



Let's make the borders visible via FireBug...

Page from http://asdf.com/whatisasdf.html



NO, THIS IS NOT WHAT TABLES ARE FOR.

Page from http://asdf.com/whatisasdf.html

Table-related tags:

- Encloses all the table tags
- Table Row
- and Table cell
- <thead> Wrap header and within
- Wrap body and within

```
<thead>
</thead>
```

Start with the outer tag and defining the <thead> and

```
<thead>

Title
Author
Author
ISBN
```

Each row in a table is denoted by

For the header, we use for the cells

Andrew Hunt, David Thomas
For the body, we use for the cells

Tip: There are JavaScript libraries out there that will allow your table to be sorted by any column (or, columns you specify!)

Some libraries will also automatically style table rows so that alternating rows have different colors

```
The Pragmatic Programmer
       Andrew Hunt, David Thomas
       978-0201616224
      <!-- End Row -->
     Head First Design Patterns
       Elisabeth Freeman
       978-0596007126
      <!-- End Row -->
     Effective C++
       Scott Meyers
       978-0321334879
      <!-- End Row -->
```

Each "Record" gets its own row, and each Column is specified by ...

Use CSS to add borders and padding/margins

Library Lookup

Title	Author	ISBN
The Pragmatic Programmer	Andrew Hunt, David Thomas	978-0201616224
Head First Design Patterns	Elisabeth Freeman	978-0596007126
Effective C++	Scott Meyers	978-0321334879

Tip: There are JavaScript libraries out there that will allow your table to be sorted by any column (or, columns you specify!)

Some libraries will also automatically style table rows so that alternating rows have different colors

- Form Elements can be used to gather data and then push it to the server for it to be processed (via PHP or whatever you're using)
- Form elements have attributes like name, id, type, etc. to help differentiate between them when pushing data to the server.
- The data that comes out is essentially a key-value pair.
- We'll worry more about this later when we get to PHP

<form> tag

Any data that will be pushed to the server needs to be contained in a form tag.

You can have multiple form tags with different names. If a **submit button** is pressed within one form, data from the other forms won't be pushed.

You will want to include the **method** attribute in your form tag, set to either "post" or "get" — don't worry about this right now, we will discuss this in the PHP section.

Form elements can have a **name** attribute and an **id** attribute.

- The name attribute is for the server: this is what will become our "keys" when the data is pushed as a key-value pair.
- The id attribute is for HTML: It identifies the tag itself and we can use it to link certain tags together.

<label> tag

A Label tag will link a text label to an input item.

Some input items don't automatically display their own labels (checkboxes, radio buttons, etc.)

Additionally, if you click a *label* that belongs to an input element, it will automatically toggle that element for you.

<label> tag

Has an attribute called **for**. This should be the same value as the **id** of the input item we're linking it to.

<label> tag

Features:

Message Board
Email
Blog

<but>

tag

Generates a button. You will have an opening and closing tag, and the text for the button in-between:

<button type="submit">Submit Form</button>

Button type can be button, submit, and reset.

You can also use the input tag to create buttons.

<textarea> tag

This is a large text input box, rather than a one-line text input box (that is the input tag).

For example, you would center comments or a review within a text area, while name and email would go in an input tag.

<select> tag

Select generates a drop-down box. To specify the contents of the dropdown box, you use the <option> tag.

```
<select>
     <option value="KS">Kansas</option>
     <option value="MO">Missouri</option>
</select>
```

<input> tag

The input tag can be used as various types of elements, depending on what you specify as the **type** attribute.

Buttons:

- type="button"
- type="submit"
- type="reset"
- type="image"

With type="image", specify a path to an image with the **src** attribute. This acts as an image button that submits a form.

<input> tag

Text boxes:

- type="text"
- type="password"
- type="email"
- type="month"
- type="number"
- type="tel"

- type="time"
- type="week"
- type="date"
- type="search"
- type="range"

<input> tag

More form elements:

- type="checkbox"
- type="radio"
- type="file"
- type="hidden"

Remember to use the checkbox and radio button with labels!

 Layout tags don't necessarily have an appearance (unless you add, say, a border with CSS) but help you divide up the page into sections, which can be positioned and styled.

<div> - Division, specify a section on your
webpage. Example:

```
<div class="news-article">
</div>
```

<div class="registration-form">
</div>

<div> - Division, specify a section on your
webpage. Example:

```
<div class="news-article">
</div>
```

<div class="registration-form">
</div>

 - you can wrap text within a span to
give a custom style.

>

Registration Form

There was an error processing the form: Password is only one character.

<code> - Text within is treated as computer
code; can be styled.

<blockquote> - Text within is treated as a comment.

Here are some tags new to HTML5

- <article>
- <header>
- <source>
- <time>
- <embed>
- <canvas>
- <nav>

- <dialog>
- <figcaption>
- <footer>
- <summary>
- <video>
- <audio>

<article> <nav>

<header> <time>

<footer> <dialog>

<summary> <figcaption>

<souce> <time>

Surround corresponding content with these tags; you can style them or just use as a way to mark regions in your webpage.

Google may also use for SEO.

<canvas>

The HTML5 canvas is a fancy new feature of HTML5 – can be used to draw graphics with JavaScript.

It's somewhat meant to replace Flash with a less-proprietary technology.

e.x., there is an HTML5 version of the YouTube player

<canvas>

Samples:

http://www.kevs3d.co.uk/dev/phoria/

http://www.kevs3d.co.uk/dev/arena5/

http://wolf3d.atw.hu/

List of demos:

http://www.kevs3d.co.uk/dev/

<embed>

Allows you to link to an external plugin. Use the **src** attribute to specify the path.

Can include:

- Flash files (.swf)
- PDF files
- Anything that supports in-browser viewing?

<audio>

Allows you to embed audio files of various formats (.mp3, .ogg, etc.)

Some attributes:

- autoplay
- loop
- preload
- src

Tip: NOBODY likes autoplaying music on webpages!

<video>

Allows you to embed video files of various formats (.mp4, .ogg)

Some attributes:

- autoplay
- width/height
- loop
- src

The video tag by itself might not give you a really good method for playing video, you might want something closer to YouTube (i.e., with play button and navigation).

Video:

OGV:



There are various JavaScript libraries that give you a better video experience:

- VideoJS http://www.videojs.com/
- PopcornJS http://popcornjs.org/
- HTML5Video http://html5video.org/

Same for audio, when embedding audio doesn't give you a nice interface:

- Jplayer http://jplayer.org/
- MediaElementJS (Audio & Video): http://mediaelementjs.com/

HTML Tag Reference

 View a list of HTML tags here: http://www.w3schools.com/tags/default.asp

