

Intro to HTML

Day 1, Week 2 - WDI NYC June 2013

What is HTML?

- Hyper Text Markup Language
- Provides structure and meaning to the data in a document
- Links documents together
- Rendered by a web browser for use by humans

About HTML

- Set of elements consisting of tags enclosed in angle brackets like <html>
- Tags themselves are not visible when rendered in a browser
- Tags are most commonly in pairs around data, like **This text is bold**
- Some tags, called empty elements are unpaired, such as , which is used for displaying images.

HTML & CSS

- HTML connects documents, and gives the data greater meaning
- CSS changes how the document looks to the end user

First Website, 1991

The screenshot shows a web browser window with the title bar "W3 The World Wide Web project". The URL in the address bar is "www.w3.org/History/19921103-hypertext/hypertext/WWW/TheProje...". The main content area displays the "World Wide Web" page. The page text describes the W3 project as a wide-area hypermedia information retrieval initiative aiming for universal access to a large universe of documents. It links to an executive summary, mailing lists, policy, news, and frequently asked questions. Below this, a section titled "What's out there?" provides pointers to online information, subjects, and servers. Other sections include Help (pointing to browser-specific information), Software Products (listing components like Line Mode, X11 Viola, NeXTStep, Servers, Tools, Mail robot, Library), Technical (details of protocols, formats, program internals), Bibliography (paper documentation), People (list of people involved), History (summary of the history), How can I help? (information on supporting the web), and Getting code (instructions for anonymous FTP). The overall design is minimalist and text-based.

World Wide Web

The WorldWideWeb (W3) is a wide-area [hypermedia](#) information retrieval initiative aiming to give universal access to a large universe of documents.

Everything there is online about W3 is linked directly or indirectly to this document, including an [executive summary](#) of the project, [Mailing lists](#) , [Policy](#) , November's [W3 news](#) , [Frequently Asked Questions](#) .

[What's out there?](#)

Pointers to the world's online information, [subjects](#) , [W3 servers](#), etc.

[Help](#)

on the browser you are using

[Software Products](#)

A list of W3 project components and their current state. (e.g. [Line Mode](#) ,[X11 Viola](#) , [NeXTStep](#) , [Servers](#) , [Tools](#) , [Mail robot](#) , [Library](#))

[Technical](#)

Details of protocols, formats, program internals etc

[Bibliography](#)

Paper documentation on W3 and references.

[People](#)

A list of some people involved in the project.

[History](#)

A summary of the history of the project.

[How can I help ?](#)

If you would like to support the web..

[Getting code](#)

Getting the code by [anonymous FTP](#) , etc.

First Website Code, 1991

For historical reference only

Don't write code like this

```
<HEADER>
<TITLE>The World Wide Web project</TITLE>
<NEXTID N="55">
</HEADER>
<BODY>
<H1>World Wide Web</H1>The WorldWideWeb (W3) is a wide-area<A
NAME=0 HREF="WhatIs.html">
hypermedia</A> information retrieval
initiative aiming to give universal
access to a large universe of documents.<P>
Everything there is online about
W3 is linked directly or indirectly
to this document, including an <A
NAME=24 HREF="Summary.html">executive
summary</A> of the project, <A
NAME=29 HREF="Administration/Mailing/Overview.html">Mailing lists</A>
, <A
NAME=30 HREF="Policy.html">Policy</A> , November's <A
NAME=34 HREF="News/9211.html">W3 news</A> ,
<A
NAME=41 HREF="FAQ/List.html">Frequently Asked Questions</A> .
<DL>
<DT><A
NAME=44 HREF="../DataSources/Top.html">What's out there?</A>
<DD> Pointers to the
world's online information,<A
NAME=45 HREF="../DataSources/bySubject/Overview.html"> subjects</A>
, <A
NAME=z54 HREF="../DataSources/WWW/Servers.html">W3 servers</A>, etc.
<DT><A
NAME=46 HREF="Help.html">Help</A>
<DD> on the browser you are using
<DT><A
NAME=13 HREF="Status.html">Software Products</A>
<DD> A list of W3 project
components and their current state.
(e.g. <A
NAME=27 HREF="LineMode/Browser.html">Line Mode</A> , X11 <A
NAME=35 HREF="Status.html#35">Viola</A> , <A
NAME=26 HREF="NeXT/WorldWideWeb.html">NeXTStep</A>
, <A
NAME=25 HREF="Daemon/Overview.html">Servers</A> , <A
NAME=51 HREF="Tools/Overview.html">Tools</A> , <A
NAME=53 HREF="MailRobot/Overview.html"> Mail robot</A> , <A
NAME=52 HREF="Status.html#57">
Library</A> )
<DT><A
NAME=47 HREF="Technical.html">Technical</A>
<DD> Details of protocols, formats,
program internals etc
<DT><A
NAME=40 HREF="Bibliography.html">Bibliography</A>
<DD> Paper documentation
```

Let's get started!

- Create a file called hello-world.html
- Open this empty file in your text editor
- Open this empty file in your web browser

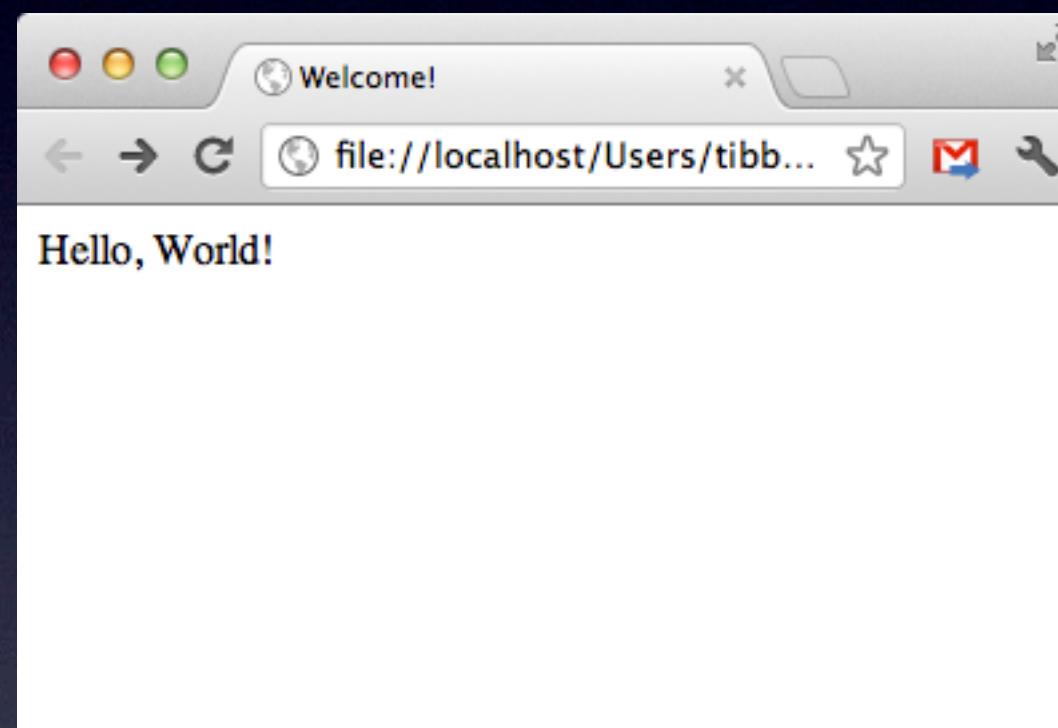
Hello, World!

Text in Editor

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>Welcome!</title>
5   </head>
6
7   <body>
8     Hello, World!
9   </body>
10  </html>
```



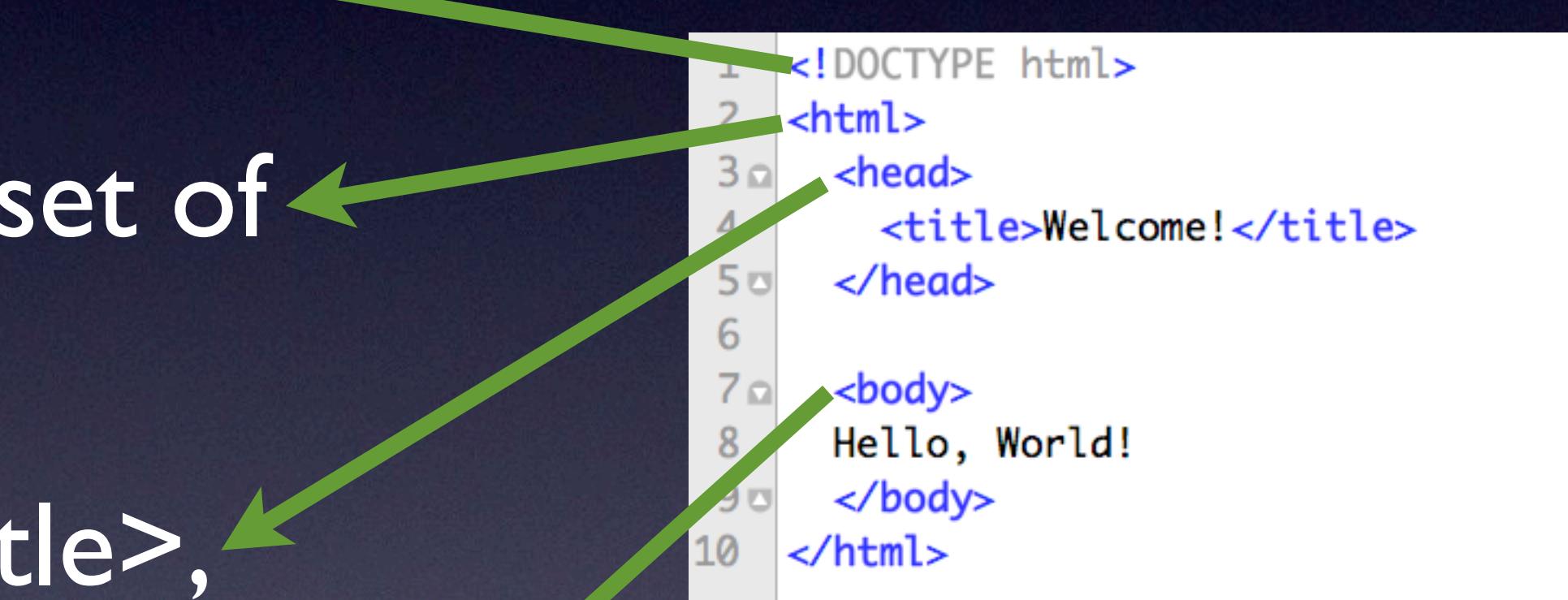
Web Browser



HTML in editor is rendered in browser.
Refresh browser to see changes.

Deconstructing Hello, World!

- Document type needed for proper rendering
- Wrap all code in one set of `<html>` tags
- `<head>` contains a `<title>`, shown at top of browser
- `<body>` output is rendered in your browser



```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>Welcome!</title>
5   </head>
6 
7   <body>
8     Hello, World!
9   </body>
10 </html>
```

A screenshot of a code editor showing the HTML code for "Hello, World!". The code is displayed in a monospaced font with line numbers on the left. The code consists of a document type declaration, an opening and closing `<html>` tag, a `<head>` section containing a `<title>` tag with the value "Welcome!", and a `<body>` section containing the text "Hello, World!". Green arrows point from each bullet point in the list to the corresponding part of the code.

HTML document structure

- Doctype declaration at the top of each page
- One set of <html> tags surrounding everything
- One <head> at the top, which contains a <title>
Other things will go in <head> as well later
- One <body>, which contains everything you want in
the document body

Semantic > Presentation

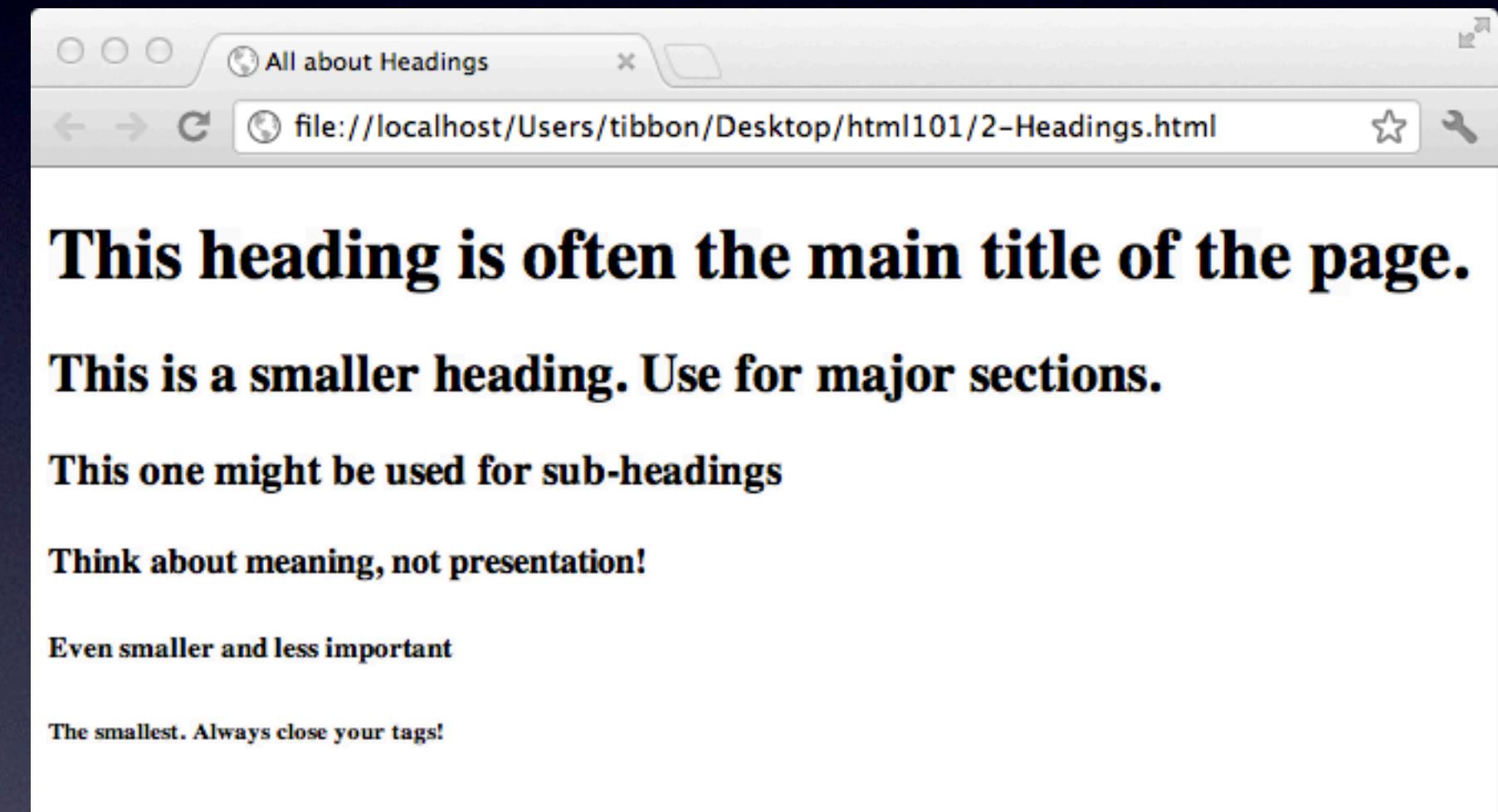
- HTML is there to describe the data in the document, not the visual style.
- What does your data mean? Is the number 10 an age, inventory count, price, navigation element, etc?
- Not only sighted humans read your document; Search engines, screen readers, other programs & more!
- More info: http://en.wikipedia.org/wiki/Semantic_HTML

Basic Text Formatting

Remember, think about meaning over presentation!

Headings

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>All about Headings</title>
5 </head>
6
7 <body>
8   <h1>This heading is often the main title of the page.</h1>
9   <h2>This is a smaller heading. Use for major sections.</h2>
10  <h3>This one might be used for sub-headings</h3>
11  <h4>Think about meaning, not presentation!</h4>
12  <h5>Even smaller and less important</h5>
13  <h6>The smallest. Always close your tags!</h6>
14 </body>
15 </html>
```



Headings provide names to sections of your page.
They are H1 through H6, decreasing in importance

i, b, em, strong

Historically, some of these i, b have been used for presentation. Do *not* do this. It is incorrect, and very 2003...

Instead now they should have semantic meaning in the document instead of presentation.

Any of the tags described can be wrapped around text in the body such as: <i>Babel Fish</i>

<i> - Alternate Voice

Used on transliterated foreign words, idiomatic phrases, alternate mood, technical terms, and typographically italicized text.

Prior to Episode I, <i>midi-chlorians</i> were never discussed.

If for foreign words, use the lang attribute

The <i lang="ja-latn">unagi</i> last night was wonderful!

Only use if there is no better option semantically.

- Draw attention to the word without conveying extra importance.
- Not always styled as bold.
- Think chapter intros where the text is different
- Only use where no other more suitable elements

Twas the night before Christmas, when through the house, not a creature was stirring, not even a mouse.

- Used to linguistically stress the emphasis of the content

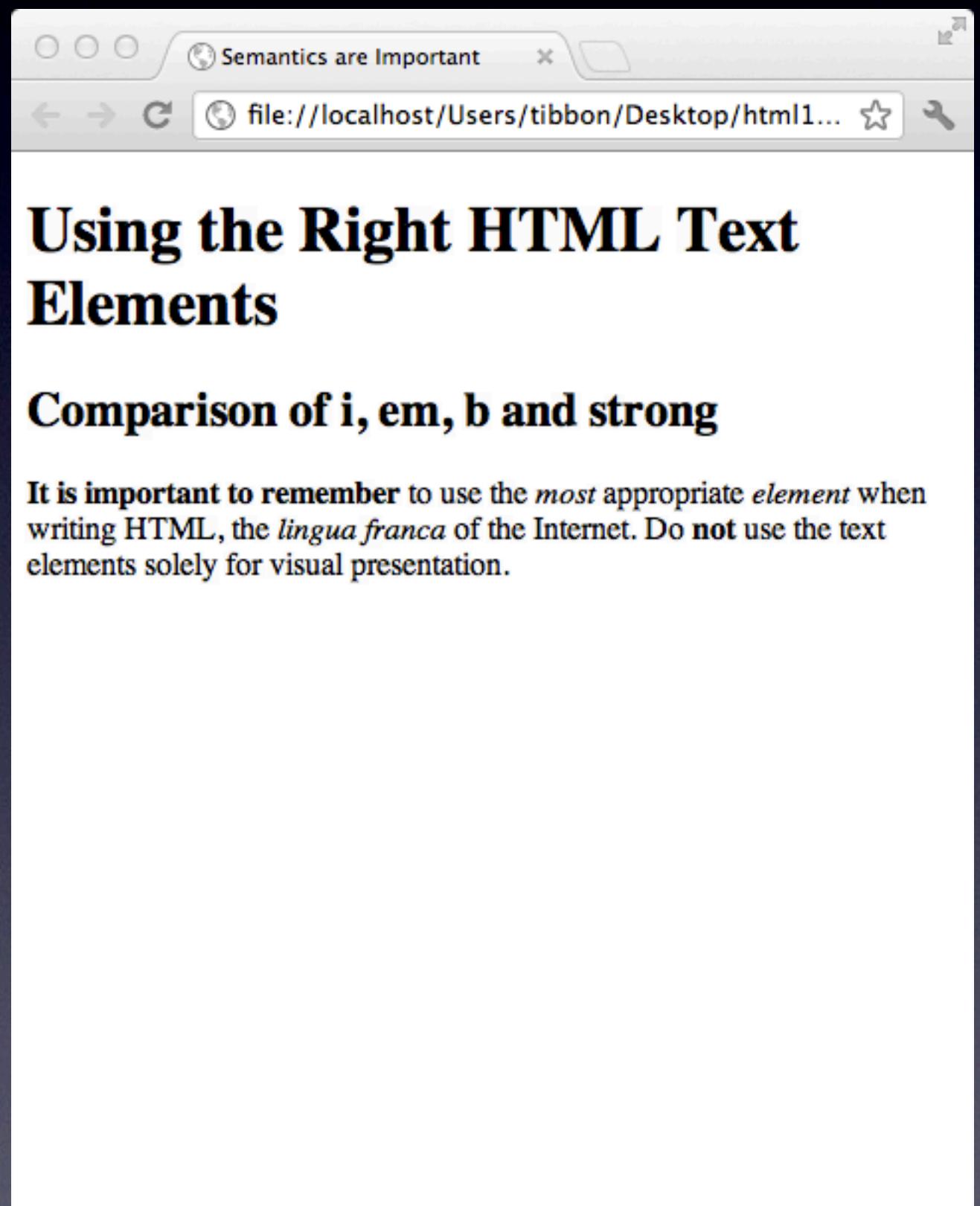
I don't think you should eat that.
I **don't** think you should eat that.
I don't **think** you should eat that.
I don't think **you** should eat that.
I don't think you **should** eat that.
I don't think you should **eat** that.
I don't think you should eat **that**.

- Represents strong importance of the text
- Can be styled bold, italic, underlined, etc.
- Remember, consider the meaning, not just presentation!

Do **not** open that door!

Text styling example

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>Semantics are Important</title>
5   </head>
6
7   <body>
8     <h1>Using the Right HTML Text Elements</h1>
9     <h2>Comparison of i, em, b and strong</h2>
10    <p>
11      <b>It is important to remember</b> to use the <em>most</em> appropriate <i>element</i>
12      when writing HTML, the <i lang="fr">lingua franca</i> of the Internet.
13      Do <strong>not</strong> use the text elements solely for visual presentation.
14    </p>
15  </body>
16 </html>
```



Using the Right HTML Text Elements

Comparison of i, em, b and strong

It is important to remember to use the *most appropriate element* when writing HTML, the *lingua franca* of the Internet. Do not use the text elements solely for visual presentation.

<p> - Paragraphs

- Paragraphs, just as in standard writing, split up the document
- Have semantic meaning, just as in writing. Your first paragraph might be your intro, and the last paragraph your summary.
- By default, causes a line break, but can be overridden in CSS

 - Line Break

- Splits up text on the page like a paragraph, but has no semantic meaning.
- Does not wrap around other text. Just use
 where you want your break. Do **not** use

Other cool tags to lookup

abbr - abbreviations

code - computer code

cite - citation

dfn - defining instance

kbd - keyboard input (hit F5 to refresh)

q - quote

u - annotations

wbr - suggested line break for long words

var - variable

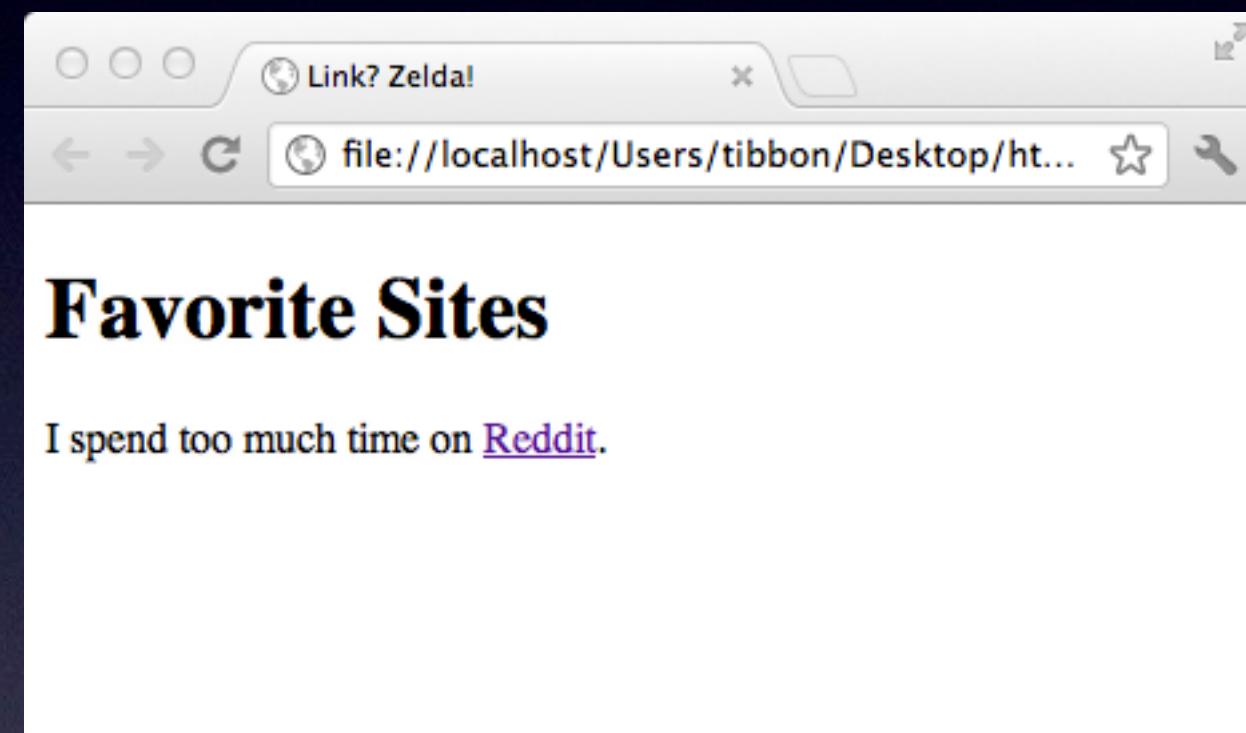
All help give the document rich meaning!

Links

- The **glue of the web**. Tie documents together
- Use the `<a>` element
- Most common usage is with the `href` *attribute* to a URL
- Goes around the text you want to turn into a link
- Can link to full URLs, or relative URLs on the same site
- Have lots of other cool, and meaningful attributes

Link Examples

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>Link? Zelda!</title>
5   </head>
6
7   <body>
8     <h1>Favorite Sites</h1>
9     <p>
10       I spend too much time
11       on <a href="http://www.reddit.com">Reddit</a>.
12     </p>
13   </body>
14 </html>
```



Images

- Use the `` tag, and can be linked to with `<a href>` wrapping it.
- Use the `src` attribute to point to the image URL
- Should always have the `alt` attribute describing the image

Lists

- Lists data
- 3 main types: unordered list, ordered list & definition list
- Define the type of list, then a series of list items
- Sometimes used for navigation

List Example

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>List Example</title>
5 </head>
6
7 <body>
8   <h1>About Me</h1>
9
10  <h2>Things I want for my Birthday</h2>
11 <ul>
12   <li>Camera</li>
13   <li>Baseball cards</li>
14   <li>Vuvuzela</li>
15 </ul>
16
17  <h2>Top 3 Favorite Albums</h2>
18 <ol>
19   <li>Happy Times</li>
20   <li>Good Dance Songs</li>
21   <li>Slow Sad Songs</li>
22 </ol>
23
24  <h2>Favorite Words</h2>
25 <dl>
26   <dt>agrestic</dt>
27     <dd>characteristic of the country, rustic; also,
.      unpolished or uncouth.<dd>
28
29   <dt>tergiversate</dt>
30     <dd>to turn one's back on one's party or cause</dd>
31 </dl>
32 </body>
33 </html>
```

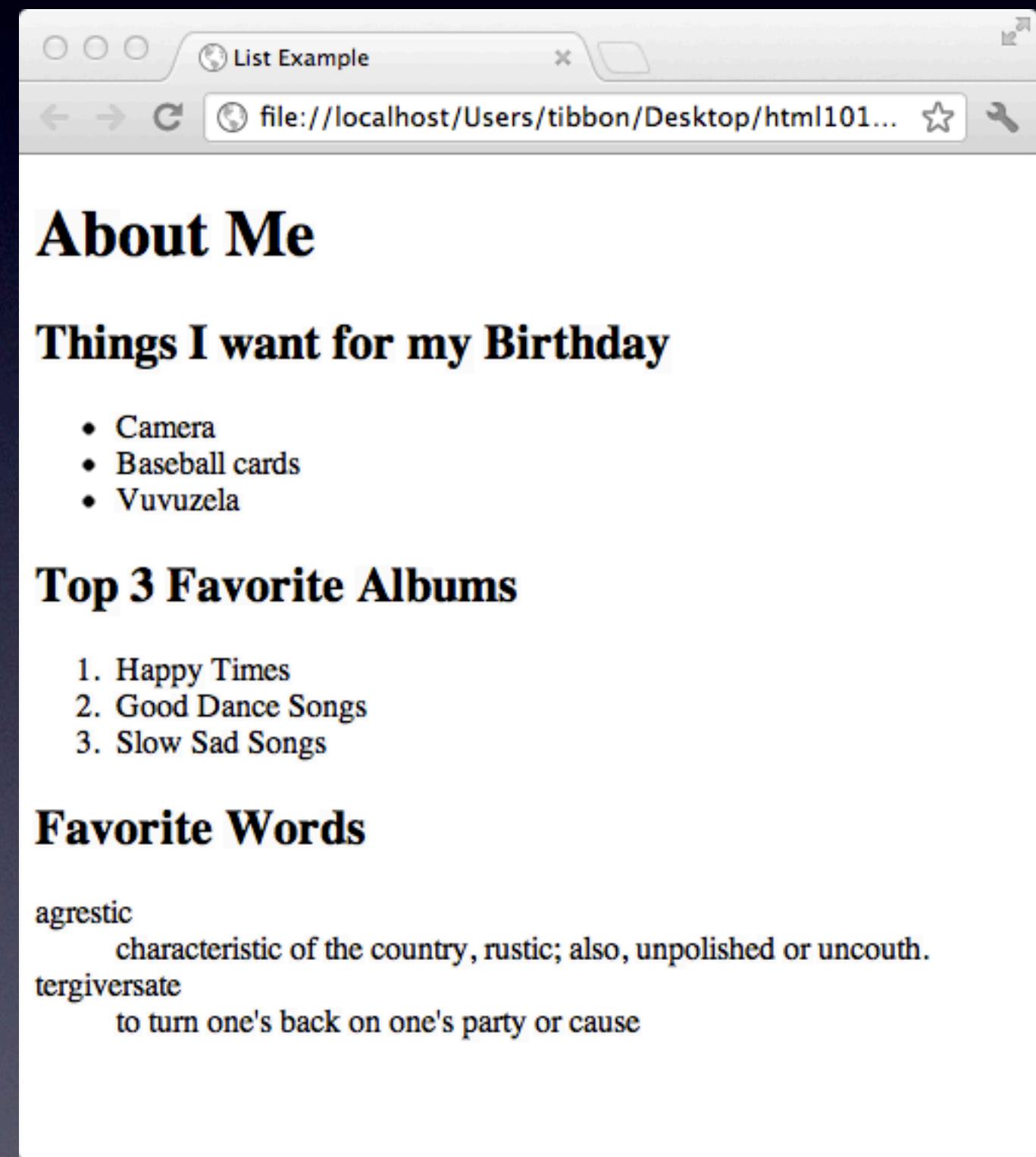


Image examples

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>Image Example</title>
5   </head>
6
7   <body>
8     <h1 lang="fr">Gargouilles (musee des Augustins, Toulouse)</h1>
9     <a href="http://www.fotopedia.com/items/flickr-4011885173">
10       
11     </a>
12   </body>
13 </html>
```

Gargouilles (musee des Augustins, Toulouse)



A screenshot of a web browser window titled "Image Example". The address bar shows the file path: "file:///localhost/Users/tibbon/Desktop/html101/5-Images.html". The page content displays the title "Gargouilles (musee des Augustins, Toulouse)" and a link to a Flickr item. Below the link is an image showing a row of stone gargoyle statues mounted on a brick wall.

section & article

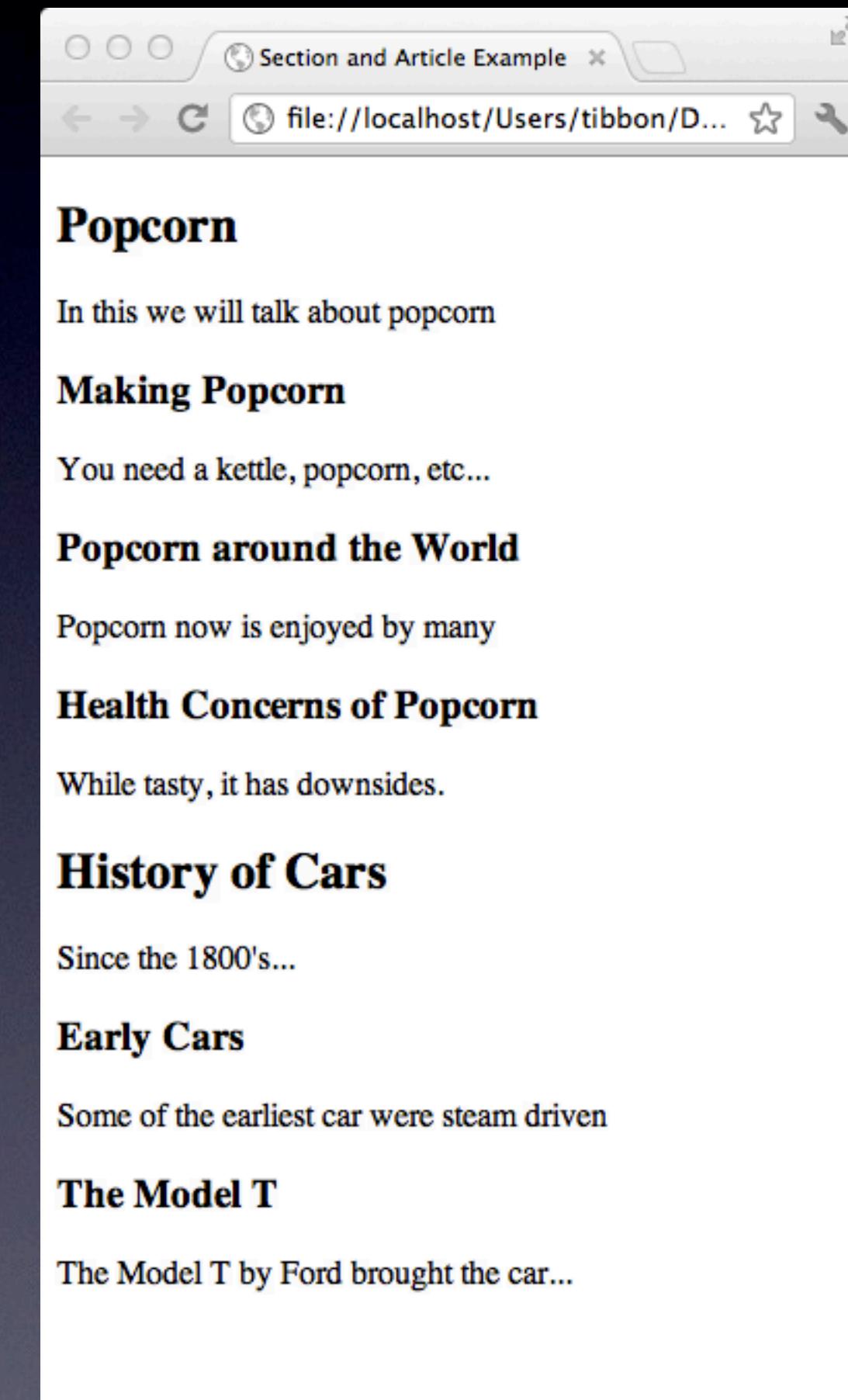
- The *article* element represents a self-contained composition in a document, page, application, or site and that is, in principle, independently distributable or reusable, e.g. in syndication.
- The *section* element represents a generic section of a document or application.
- The *section* element is not a generic container element. When an element is needed only for styling purposes authors are encouraged to use the *div* element instead.

Why articles & sections?

- Give greater meaning to the structure of the document
- Visually the same could be accomplished with headers and paragraphs, but it would have less *semantic meaning*

Article & Section Example

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>Section and Article Example</title>
5  </head>
6
7  <body>
8      <article>
9          <h1>Popcorn</h1>
10         <p>In this we will talk about popcorn</p>
11         <section>
12             <h1>Making Popcorn</h1>
13             <p>You need a kettle, popcorn, etc...</p>
14         </section>
15         <section>
16             <h1>Popcorn around the World</h1>
17             <p>Popcorn now is enjoyed by many</p>
18         </section>
19         <section>
20             <h1>Health Concerns of Popcorn</h1>
21             <p>While tasty, it has downsides.</p>
22         </section>
23     </article>
24     <article>
25         <h1>History of Cars</h1>
26         <p>Since the 1800's...</p>
27         <section>
28             <h1>Early Cars</h1>
29             <p>Some of the earliest car were steam driven</p>
30         </section>
31         <section>
32             <h1>The Model T</h1>
33             <p>The Model T by Ford brought the car...</p>
34         </section>
35     </article>
36 </body>
37 </html>
```

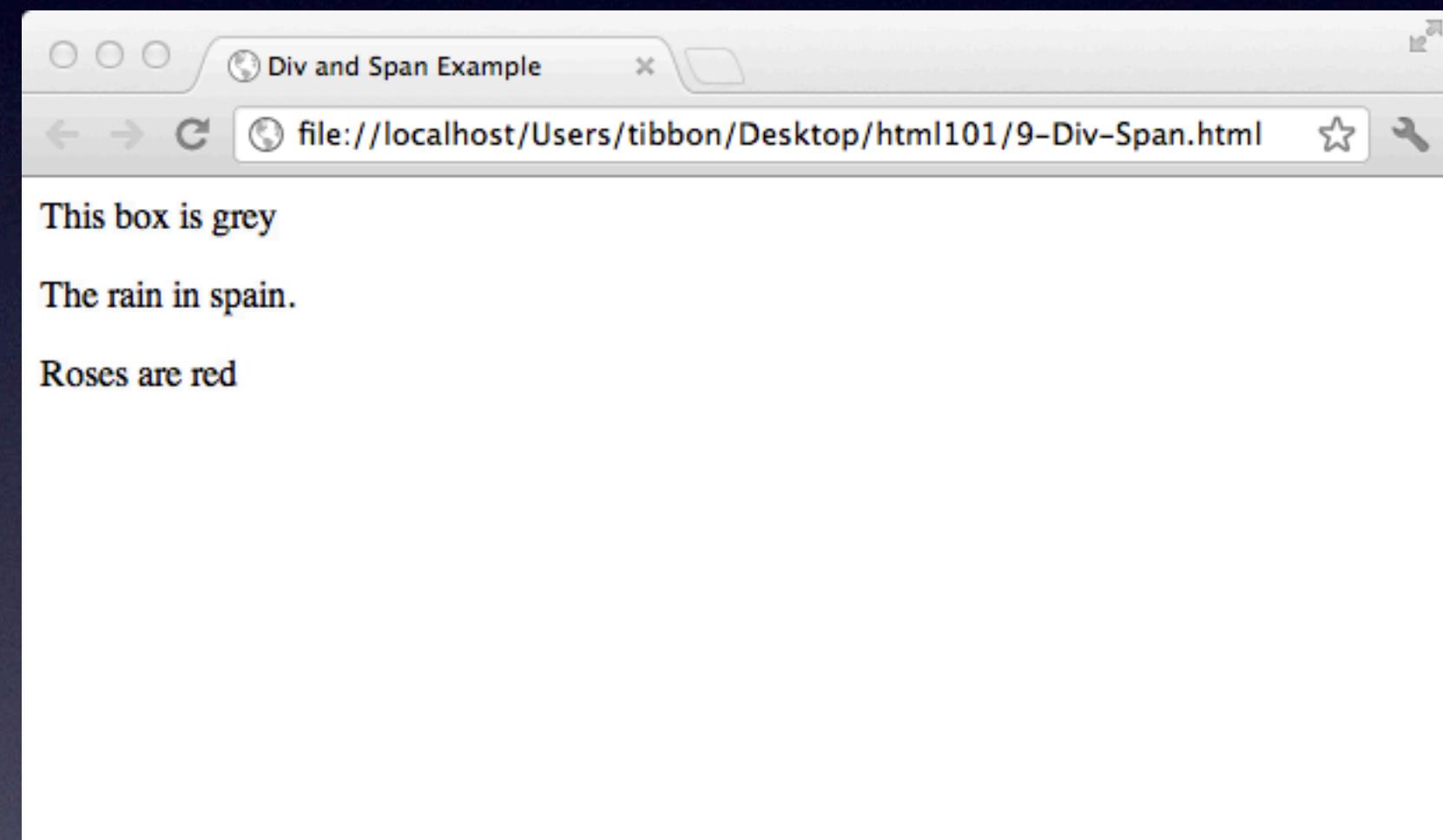


Div & Span

- Div and Span are used for parts of the page without semantic meaning, and for styling only
- While they are used frequently, they are overused
- Ask yourself if there is another element that fits better
- Often use the *class* or *id* attribute so they can be selected for styling with CSS
- Div creates a new line & area for itself
Span is ‘inline’ for styling without breaking the line

Div & Span Example

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>Div and Span Example</title>
5   </head>
6   <body>
7     <!-- None of this will actually have style/color without CSS-->
8     <div class="grey-box">
9       This box is grey
10    <div class="blue-box">
11      <p>The <span class="blue-text">rain</span> in spain.</p>
12    </div>
13    <div class="pink-box">
14      <p>Roses are <span class="blue-text">red</span></p>
15    </div>
16  </div>
17  </body>
18 </html>
```



Huh? None of the divs do anything?
All your style questions will soon be answered...

Validation

- Use a HTML5 *validator* to double check your work:
<http://validator.w3.org/>
- You can also test any page, like Gizmodo.com
- Many popular pages have errors! They might work ok now anyway, but on other browsers... what happens?
- Aim for **zero** errors. If you must have errors, learn why you have them.