HTML
INFO 253A: Front End Web Architecture
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HTML: HyperText Markup Language

- What is HyperText?
Why Text?

- Computers store streams of bits
- Hard for a person to read
- Instead, store streams of characters
- Lowest level, most flexible format that can be easily understood
Let's start simple

- Let's learn Markdown, another HyperText language which is essentially **text with links**

1. This college is [Berkeley](http://berkeley.edu)
What about headers?

- We can add hashtags at the beginning of sections

```
# Main Header
Important stuff in this paragraph...

## This is a "level 2" header
Info supporting main section, specific to this subsection...
```
**Bold? Italics?**

- We can use stars to indicate how important they are

1. *important stuff*
2. **really important stuff**
What is hard to encode in this scheme?

- Tables
- *Nested **content***
- Fonts?
- Normal use of character
Take a step back

- Instead of thinking up clever characters to emulate, be explicit
  - THIS IS BOLD: "hello"
  - THIS IS ITALIC: "world"
Markup

Annotation to existing text

1  <strong>hello</strong>
2  <em>world</em>
Tags (Elements)

- Tags wrapped in angle brackets
- Enclose affected text
- Have semantic meaning
- Can nest

1 `<strong><em>hello</em></strong>`
The Blink Tag

- "Simply evil" - Jakob Nielson
- "Please make it stop" - everyone, everywhere

1. `<blink>BLINK!</blink>`
Semantic Meaning

- Blink tag also violates semantic rule
- Tags should contain semantic meaning, not presentation
- Improves accessibility
- Clear line between HTML and CSS
Bad Examples

1 \textit{Why?}
Good Examples

Client can style these however it chooses (with help from CSS)?
So let’s learn some HTML
Section Header and Paragraph

1  <h1>Welcome to my webpage</h1>
2  <p>Hello World!</p>
Welcome to my webpage

Hello World! Here's where I work:

<a href="http://pinterest.com">Pinterest</a>
Unordered/Ordered Lists

1 <h1>Welcome to my list</h1>
2 <ul>
3   <li>List item one</li>
4   <li>List item two</li>
5   <li>List item three</li>
6 </ul>
Notes on Attributes

- HTML elements can have attributes
- Attributes provide additional information about an element
- Attributes are always specified in the start tag
- Attributes come in name/value pairs like:

```html
1 name="value"
```
Welcome to my webpage

Hello World! Here's where I work:

Pinterest
Div and Span

- div and span act as generic block and inline elements respectively
- div is can be used for sections, (e.g. headers, footers, sidebar navigation panel, popups, etc...)
- span gives you the ability to markup a specific line of content
- However, we will find later that there are more semantic ways of labeling block and inline content
Let's add a table

```html
<table>
  <tr>
    <th>First Name</th>
    <th>Last Name</th>
    <th>Class</th>
  </tr>
  <tr>
    <td>Kay</td>
    <td>Ashaolu</td>
    <td>Web Architecture</td>
  </tr>
</table>
```
DOM Tree
Head / Body

- So far we've been looking at the "body" of a document
- Main section which contains page information
- Head contains meta information
Head is Important

- Title shows up title bar of browser
- Meta tags convey general information
More Semantic Tags

```html
1 <article>
2   <section>
3     <header>Section 1 header</header>
4     <p>Section 1 body</p>
5     <footer>Section 1 footer</footer>
6   </section>
7   <section>
8     <header>Section 2 header</header>
9     <p>Section 2 body</p>
10    <footer>Section 2 footer</footer>
11   </section>
12 </article>
```
More Semantic Tags

- `<article>` An independent, self contained content
- `<section>` Defines a section
- `<header>` Defines a header
- `<footer>` Defines a footer
Note

- All of the previous tags are treated the same way as a:
- `<div>` defines a division or section of a document
- However, tags like `<header>` give semantic meaning to its content
How HTML and CSS are linked

- Browser will download these references and use them for display
- CSS link tags should appear in head
- script tags can appear in body
Why use the Head Tag?

- Semantic meaning
- Title bar
- Search engines
Summary

- HTML provides a way to annotated text to convey semantic meaning or grouping
- Browser displays tags in standard ways
- Tags are named, can contain attributes, can be nested