

# 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

```
1 # Main Header
2 Important stuff in this paragraph...
3
4 ## This is a "level 2" header
5 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 Nielsen
- "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 <font> <center> <i>
```

Why?

# Good Examples

```
1 <span> <strong> <em>
```

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>
```



# Link Tag

```
1 <h1>Welcome to my webpage</h1>  
2 Hello World! Here's where I work:  
3 <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:

```
1 name="value"
```

# Div and Span

```
1 <div>
2     <h1>Welcome to my webpage</h1>
3     <span>Hello World! Here's where I work:</span>
4     <a href="http://pinterest.com">Pinterest</a>
5 </div>
```

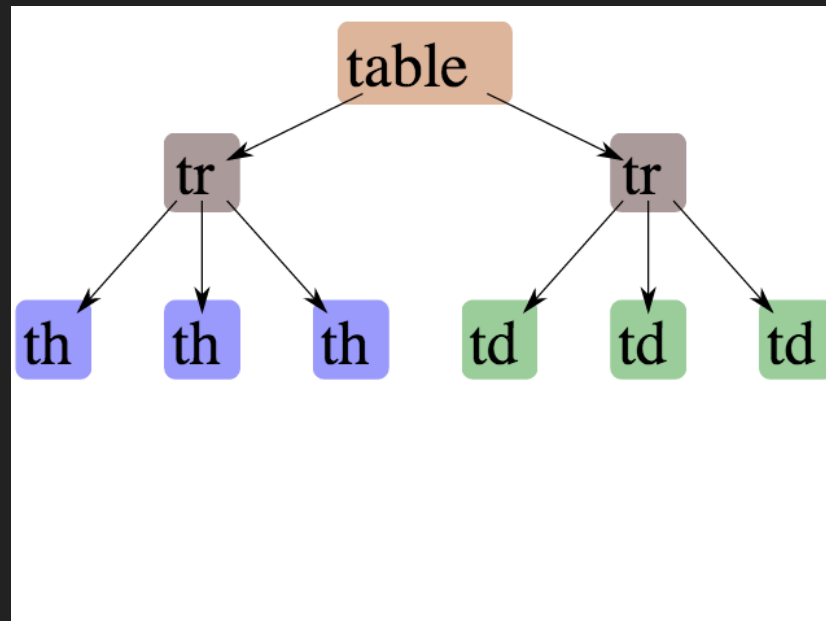
# Div and Span

- 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

```
1 <table>
2     <tr>
3         <th>First Name</th>
4         <th>Last Name</th>
5         <th>Class</th>
6     </tr>
7     <tr>
8         <td>Kay</td>
9         <td>Ashaolu</td>
10        <td>Web Architecture</td>
11    </tr>
12 </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

```
1 <!DOCTYPE html>
2 <html>
3     <head>
4         <title>My First HTML Webpage</title>
5         <meta name="author" content="Kay Ashaolu" />
6         <meta http-equiv="Content-Type" content="text/html;charse
7     </head>
8     <body>
9         Main Content
10    </body>
11 </html>
```

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

# More Semantic Tags

```
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

```
1 <head>
2 <link rel="stylesheet" href="../css/style.css" type="text/css" />
3 </head>
```

- 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 annotate text to convey semantic meaning or grouping
- Browser displays tags in standard ways
- Tags are named, can contain attributes, can be nested