

# LECTURE 33

## HTML AND CSS

MCS 275 Spring 2021

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# LECTURE 33: HTML AND CSS

Course bulletins:

- We're starting a unit on programming for the web, leading up to building web applications in Python.
- Worksheet 12 covers databases. (Do you want to **install the sqlite command line shell**? It's optional.)

# CORE WEB TECHNOLOGIES

**HTML** - Hypertext Markup Language. Web page content is written in this language.

**CSS** - Cascading Style Sheets. Web page presentation (margins, fonts, colors, ...) is specified in this language.

**JS** - JavaScript. The language for programs that run in the browser and make web pages interactive.

**HTTP** - Hypertext Transfer Protocol. The network protocol used to send all of the above from a server to the browser (client).

**URL** - Uniform Resource Locator. A string that describes where a resource (e.g. web page) is, and how to get it (e.g. HTTP).

Opening **developer tools** in your browser with Ctrl-Shift-i will let you explore most of these for live pages.

# HTML

First developed in 1993 by physicist Tim Berners-Lee.

Uses plain text with **tags** to indicate the structure of a document (and to add links, images, other resources).

HTML exists in many versions. We focus on HTML5 (from 2014), which all modern browsers support.

The rest of today's lecture overlaps a lot with [MCS 260 Fall 2020 Lecture 22](#).

# HTML EXAMPLE

```
<!doctype html>
<html>
  <head>
    <title>Document title as seen in browser tab</title>
  </head>
  <body>
    Content you'll see in the browser window.
  </body>
</html>
```

Indenting is optional. Note how start tags and end tags (like `<tagname>` and `</tagname>`) function like parentheses, surrounding the text they apply to.

# A FEW USEFUL TAGS

p paragraph

---

ul unordered (bullet) list

---

ol ordered (numbered) list

---

li item in a list

---

strong important text to be emphasized

# A FEW USEFUL TAGS

`h1, h2, ..., h6` headings for document, section, subsection, etc.

---

`div` Component (division) of a document

---

`a` link to another resource

---

`img` image (no end tag)

The `a` and `img` tags require **attributes** to be useful.

These are key=value pairs in the start tag, e.g.

```
See the <a href="http://example.com/">example.com web site</a>.
```

```
My kitten, Mr. Mittens: 
```

# CSS

HTML is for a document's **content**, with logical parts indicated by tags.

CSS is a related language for specifying **presentation** or **style** (spacing, color, typeface, etc.)



# CSS EXAMPLE

```
body {
  font-family: sans-serif;
  background: #C0C0C0;
  max-width: 45rem;
  padding: 2rem;
  margin: auto;
}
a {
  color: #000050;
  text-decoration: none;
}
a:hover {
  text-decoration: underline;
}
```

One way to apply it to a HTML document is to place the CSS code within a `style` tag in the header.

# REFERENCES

- [HTML tutorial from W3Schools](#) (all in-browser)
- [A Guide to HTML5 and CSS3](#) - no-cost PDF ebook from 2014 that is good for self-study; must enter an email address to download
- Countless web design books in the O'Reilly technical library (free to anyone with a UIC email address).

# REVISION HISTORY

- 2021-04-05 Initial publication

