HyperText Markup Language and Cascading Style Sheets

Introduction

HyperText Markup Language or HTML is the language that is probably the most commonly associated with the web. HTML is responsible for organizing the content of a web page. This page has things like headings and under headings is usually a section. Then some things are defined as links or there might be lists. All of this is defined in HTML. Here is a sample of what is a minimal HTML page.

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <title>title</title>
  </head>
  <body>
    <!-- page content -->
  </body>
</html>
```

This particular example page does not actually have any content, just the minimal amount of meta-data to be considered a valid page. The actual content would go within the body.

Notably I never mentioned HTML affecting how a page looks. Browsers have some default ways of rendering things, but HTML is a language to organize data. It is not a language to lay it out or to change the way it looks. That is what Cascading Style Sheets (CSS) are for. These files apply certain styles like a color or positioning rule to matched elements. The following is a CSS snippet that applies some rules to paragraphs and to things in the 'lead' class.

```
p {
margin: 0 0 9px;
font-family: "Helvetica Neue", Helvetica, Arial, sans-serif;
font-size: 13px;
line-height: 18px;
}
p small {
font-size: 11px;
color: #999999;
}
.lead {
margin-bottom: 18px;
font-size: 20px;
font-weight: 200;
line-height: 27px;
}
```

By the time you are done with this section you should easily be able to parse these rules and write your own.

Key Questions

- What is the purpose of HTML?
- What is the purpose of CSS?
- When would you use CSS vs HTML?
- Where should classes and ids be used?
- What are the CSS selectors and how are they used?
- What are the various components of an HTML tag?

Assignment Overview

This week you will be making a non-interactive website. It will have constraints on the way the data should be organized and styled. You will need to appropriately use HTML and CSS to make a website that meets those constraints.

Explore the Topics

- Intro to HTML - Organizing the data of the world (html-intro.html)
- HTML Tags - Putting things in the page (html-tags.html)
- A Smattering of Tags - Some tags you might often use (html-tag-examples.html)
- Forms - A subset of really important tags (html-forms.html)
- Intro to Cascading Style Sheets - Making things pretty! (css-intro.html)
- CSS Properties - Make things look like different things (css-properties.html)
- CSS Selectors - Make those things in particular look like different things (css-selectors.html)

Additional Resources

- Mozilla's HTML Intro (https://developer.mozilla.org/en-US/docs/Web/Guide/HTML/Introduction) - This is a very minimal introduction to the concepts behind HTML. It does not go over specific tags but is some good material to have as background as you go into the class content. (Required)
- Mozilla's CSS Intro (https://developer.mozilla.org/en-US/docs/Web/Guide/CSS/Getting_started) - This is an excellent getting started guide for CSS. It is 13 sections but they are not much longer than a single page each. Ignore section 14 and don't worry about pseudo-classes in section 5. (Required)
- Mozilla's HTML (https://developer.mozilla.org/en-US/docs/Web/HTML) and CSS (https://developer.mozilla.org/en-

US/docs/Web/CSS) resources. There are some good getting started guides here but I recommend these sites more as a less technical reference. (Reference Material)

W3C official HTML specification (http://www.w3.org/TR/html5/). This is very technical, but less so than the spec on a language like C++. If you want to know the exact definition, look no further. I would not recommend this as a general reference however. (Reference Material)

Jon Duckett's HTML and CSS: Design and Build Websites (ISBN:1118871642). This book is in no way required, but it is a very visual HTML and CSS book which exists in the physical world. (Optional Book)

Reflection

There is a lot of material this week. I don't anticipate that you will remember it all going into upcoming weeks. But you should have a basic understanding such that you can have these pages open and get a basic web page created and styled. You should also feel comfortable using some sort of reference to look up HTML or CSS elements. Finally you should start getting used to using Chrome Developer Tools to examine other peoples websites and to help debug your own. There will be a bit of a break moving forward from here where we focus on pure JavaScript, but then you will be getting back to a lot of HTML and CSS work as we start modifying pages using JavaScript.