Module 3-1

CSS Selectors

HTML Review: Language Introduction

- HTML (Hyper Text Markup Langage) is a declarative language interpreted by internet browsers.
- Unlike Java, there is no separate step needed to compile the code, the instructions written in HTML are simply interpreted by the browser.

HTML Review: A Semantic Language

- HTML is a semantic language based on tags. Here are a few common ones:
  - <html>...</html>
  - <head>...</head>
  - <body>...</body>
  - <nav>...</nav>
- The rules for tags are straightforward:
  - There is a begin tag and an end tag, the end tag is denoted by the slash.
  - Some tags can be defined in a self-closing manner. For example, the tag for an image can be constructed like so:
    - **** as an alternative to **<img src=”photo.jpg”></img>**

HTML Elements: The Box Model

- HTML content that have been annotated with tags **are known as HTML elements**.
- All elements come with a margin, border, and padding, this is referred to as the box model.

Image - Image of Box Model

HTML Elements: Inline vs Block

- HTML elements are also classified as being inline vs block.
  - **Inline**: Does not start on a new line
  - **Block**: Starts on a new line

- Common inline elements: a, img, span
- Common block elements: p, div, table

Let’s Test This

HTML Elements: Positioning

- All elements have a default flow, a position they will fall into in the abcense of additional instructions. This is known as “static” flow. There are additional defined positions:

    - **relative**: “relative” to what it would be positioned per the normal flow. (Hard to explain, we’ll do an example)
    - **absolute**: positioned relative to its ancestor.
    - **fixed**: positioned relative to your screen, will follow you as you scroll.

Let’s Test This

What is CSS?

- CSS (Cascading Style Sheets) are used to change the default style of HTML elements.
  - Some of the things we've seen so far are considered style changes - borders, margins, making text bold, positioning, etc.

- CSS code can be included within the <head>...</head> section of a HTML document or it can be included in its own separate file.
  - The latter is much preferred.
  - Files names should end with a *.css extension.

CSS Selectors

- CSS uses selector to determine which HTML elements will be “targeted” or selected to have a specific format.
- Generally speaking, there will be a CSS block that looks like so:

```
[SELECTOR] {

    [attribute] : [attribute value]

}
```

- We will start discussion three most important types of selectors in the next section.

CSS Selectors: By Element

Example

```
div {

        color : red;
}
```

A valid HTML element type is used, in the example to the left, the DIV type.

What this code does: Finds all HTML elements that are 's and applies the formatting, which is to make all the enclosed text red.

CSS Selectors: By Class

Example

```
.warning {
        color : red;
}
```

The dot is required for selection by class.

Anytime you see a dot, it is selection by class!

A valid class name is used, in the example to the left, any element of class “warning.”

What this code does: Finds all HTML elements that have the class specified. In other words find all HTML elements that are enclosed by any tag with an attribute class=”warning”.

CSS Selectors: By ID

Example

```
#demo {
        color : red;
}
```

The # sign is required anytime you do selection by ID.

Anytime you see a #, it is selection by id!

A valid HTML element type is used, in the example to the left, the DIV type.

What this code does: Finds all HTML elements that have an attribute id=”demo” and apply the format.

CSS Selectors: ID takes precedence over Class

Example

```
#demo {
        color : red;
}

.someId {
        color: blue;
}
```

If there is a HTML element has both an id of someId and a class of demo it will appear blue.

...

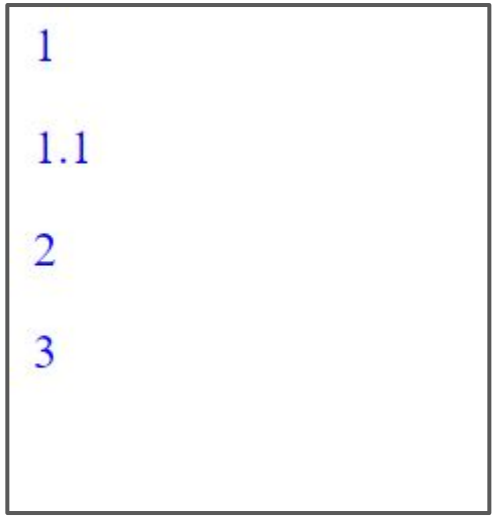
The Id attribute takes precedence over the class attribute.

CSS Descendant Selector

Consider the following CSS & HTML code:

```
div p {
        color: blue;
}
```

```
<div id="container">
   <p>1</p>
    <span>
        <p>1.1</p>
    </span>
   <p>2</p>
   <p>3</p>
</div>
```

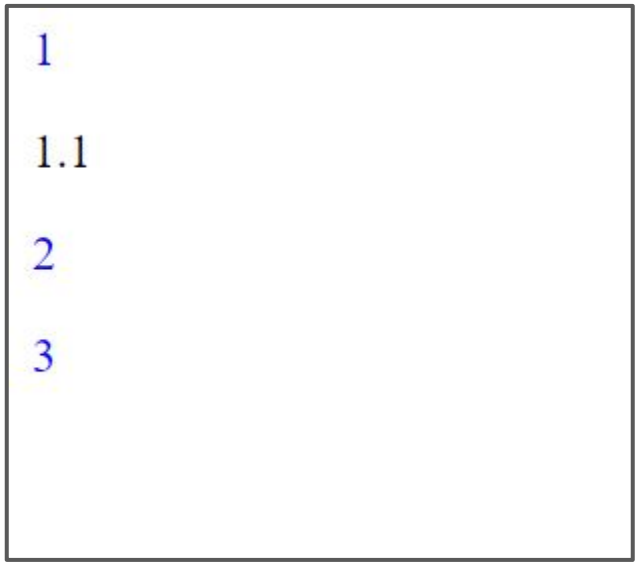


CSS Child Selector

Consider the following CSS & HTML code:

```
div > p {
        color: blue;
}
```

```
<div id="container">
   <p>1</p>
    <span>
        <p>1.1</p>
    </span>
   <p>2</p>
   <p>3</p>
</div>
```



Let’s write some code!

CSS Variables

```
:root {
   --main-bg-color: blue;
 }

div  p {
   color: var(--main-bg-color);
}
```