

CSS Basics: Styling your Web

CSS Defined

- CSS stands for Cascading Style Sheets
- It is the primary way of styling static HTML pages
- The current standard is CSS3, but some more antiquated browsers do not support all of its features

Why learn CSS?

- Controls the layout and style of any webpage you create
- Without it, your websites will look quite plain
 - Why? The web and HTML were originally created for professors to share research papers, not by designers
- Eventually, you'll be able to make your websites look good on any device (desktop, tablet, mobile) using it

How do I add CSS to my web page?

- CSS styling can be added to an HTML page in several different ways
 - Inline, inside of HTML elements
 - Included inside of an HTML file as a list of declarations linked to HTML elements
 - Written in a separate .css file as a list of declarations linked to HTML elements and linked to externally from inside of an HTML file

Inline, inside of HTML elements

```
<!DOCTYPE html>
<html>
  <body>
    <span style="color: black">Some text</span>
  </body>
</html>
```

Included in HTML file

Typically in <head> section

```
<!DOCTYPE html>
<html>
  <head>
    <style type="text/css">
      span{color: black;}
    </style>
  </head>
  <body>
    <span>Some text</span>
  </body>
</html>
```

Linked to in an external stylesheet from HTML

```
<!-- index.html, abridged -->
<head>
  <link rel="stylesheet" type="text/css" href="style.css">
</head>
<body>
  <span>Some text</span>
</body>
```

```
/* style.css */
span{
  color: black;
}
```

Classes and IDs

- A **class** is an HTML attribute whose value is used to classify one or more elements on a page
- An **ID** is an HTML attribute whose value is used to only classify one element on a page

```
<div id="events">  
  <div class='event'>  
    <h3>Awesome Party</h3>  
  </div>  
  <div class='event'>  
    <h3>Only Alright Party</h3>  
  </div>  
</div>
```


Selectors

- Used in order for the browser to know which element you are trying to style
- The basic selectors are
 - HTML element names
 - Class names, always prefixed with a dot (.)
 - ID names, always prefixed with a pound sign (#)

attribute: value;

background-color: orange;

- A CSS attribute
 - is a pre-defined style that the browser applies to an HTML element
 - always followed by a colon
- A CSS value
 - always follows an attribute
 - tells the browser which attribute option to apply to the selected element
 - is always followed by a semicolon

CSS Example 1: Element Selection

Select all `div`s on the page, make their text orange, give them a black background, and center all of their text within the `div`s themselves¹

```
div{  
  color: orange;  
  background-color: black;  
  text-align: center;  
}
```

¹ Keep in mind that this CSS must be included in an HTML page using one of the three methods mentioned in prior slides, the next few pages will assume this

CSS Example 2: Class Selection

Select all elements with the class events on the page, make their text white, give them a red background, and left align all of their text within the elements themselves

```
.events{  
  color: white;  
  background-color: red;  
  text-align: left;  
}
```

CSS Example 3: ID Selection

Select all elements with the ID event on the page, make their text white, give them a red background, and left align all of their text within the elements themselves

```
#event{  
  padding: 10px;  
  margin-bottom: 6px  
}
```

More on padding and margin later.

CSS Comments

- Comments can be a useful way to
 - denote what you're actually styling if it's unclear
 - leave notes for other developers
 - temporarily disable code to see how the page looks without a style

```
/* An individual event listing */  
.events li{  
  /* Let's leave this section for now until v1.2 */  
  background-color: blue;  
  /* color: orange; */  
}
```

CSS Example 4: An actual stylesheet

```
/* Extracted from the NYCDA 'class' page template */
.right{
  width: 440px;
  font-size: 20px;
}

.right i{
  display: block;
}

.skills{
  margin-top: 10px;
}

i{
  font-style: italic;
  margin-bottom: 6px;
  margin-top: 16px;
  font-size: 18px;
  line-height: 30px;
}

ul{
  margin-left: 21px;
  font-size: 18px;
  line-height: 30px;
}

ul li{
  list-style: disc;
}
```

Exercise 1: Your First CSS

- Create a blank webpage with an `<h1>` and `<p>` element and sample text inside of both
- Style these elements' background and text colors using CSS included from an external stylesheet (.css file)
- If you have time, clone your basic webpage and try implementing your CSS using the other 2 methods outlined earlier
 - Inline, inside of the elements themselves
 - At the top of the file in the head section

Basic CSS Attributes

```
color: red;
```

The color attribute dictates text of the element color

```
font-family: "Times New Roman", serif;
```

font-family denotes the element's display font

```
font-size: 20px;
```

font-size determines the selected element's font size

```
background-color: #fff;
```

Sets the background color of the element, #fff is a hex code meaning "white" (more on this later). This is the default background-color value

```
background-image: url('tiger.png');
```

Sets a background image for the element with the url 'tiger.png'

```
background-repeat: no-repeat;
```

Tells the browser not to repeat the background image horizontally or vertically. Other possible values: repeat (default), repeat-x, repeat-y, inherit

```
width: 100%;
```

Sets the width of this element to take up 100% of the parent element it resides in

```
height: 20px;
```

sets the height of the element to 20 pixels

Units for width, height, and font size

- %, a percentage of the parent element the selected element is occupying

`width: 43%;`

- px, an exact pixel value for the element to take up

`height: 420px;`

- em, proportionate to the parent value with 1em being the exact parent value and 2em twice that

`max-height: 3em`

Specifying colors

- background-color and color can take several forms of color input
 - "valid" colors like red, orange, and blue³
 - hex values which correspond to a color, like #fff (white), #000 (black), or #0E0EFF (a specific shade of blue)
 - RGB, or red, green, blue values like rgb(10, 160, 30) or rgba values, which include an alpha (opacity) value rgba(100, 43, 210, .4)

³ For a full list of valid colors, see [this website](#)

More attributes

```
text-align: center;
```

How the text should be aligned within the element itself

```
text-transform: uppercase;
```

Makes all text uppercase regardless of how it was entered into the element. Also try lowercase and capitalize

```
line-height: 20px;
```

Gives the selected element a line-height of 20px, a measure of separation between lines of text

Styles for tags within lists

```
list-style-type: square;
```

Makes the bullet point style into a square bullet point, one of many possible options

```
list-style-image: url('my-bullet.png');
```

Sets a custom image for the bullet point

```
list-style: none;
```

Removes bullet points from the list style

Alternate selection methods

Sometimes, just using an element name, class name, or ID isn't specific enough or the most efficient way to select an element.

Combining element and class selectors

You can combine an element and class selector to be more specific. The same can be done with IDs.

```
<ul class="presidents">
  <li>
    George Washington
    <ul>
      <li>Brave</li>
      <li>Tall</li>
    </ul>
  </li>
</ul>
```

```
/* Only George Washington will have a square list-style-type, not brave and tall */
ul.presidents{
  list-style-type: square;
}
```

Selecting multiple items

To select multiple items, separate their selectors with commas.

```
<ul class="presidents">
  <li>
    George Washington
  </li>
</ul>
<span>Cut down the cherry tree</span>

ul.presidents, span{
  font-family: "Arial", sans-serif;
}
```

Selecting descendants

```
<ul class="presidents">
  <li>
    George Washington
    <ul>
      <li>Brave</li>
      <li>Tall</li>
    </ul>
  </li>
</ul>
```

```
/* All <li>s will have a square list-style-type */
ul.presidents li{
  list-style-type: square;
}
```

Selecting direct descendants

```
<ul class="presidents">
  <li>
    George Washington
    <ul>
      <li>Brave</li>
      <li>Tall</li>
    </ul>
  </li>
</ul>
```

```
/* Only George Washington will have a square list-style-type */
ul.presidents > li{
  list-style-type: square;
}
```

Final Basic CSS Exercise

Style "The Onion Article"

Download the `onion.html` file and apply the following styles to it:

1. Make the main headline dark green
2. Use the font family "Georgia" for the main headline and the subheadline
3. Center the text of the main headline and the subheadline
4. Make the paragraphs have a line height of 19 pixels
5. Make the "You might also like" label all uppercase
6. **Bonus:** Remove the underline from the links
7. **Bonus:** Make an underline appear when you hover over a link