

Lesson 3-CSS Properties

Recall: Basic CSS rule syntax

```
selector {
   property: value;
   property: value;
...
   property: value;
}

p {
   font-family: sans-serif;
   color: red;
}
```

Grouping styles

```
p, h1, h2 {
   color: green;
}
h2 {
   background-color: yellow;
}
```

This paragraph uses the above style.

This h2 uses the above styles.

- a style can select multiple elements separated by commas
- the individual elements can also have their own styles (like h2 above)

CSS comments: /* ... */

```
/* This is a comment.
  It can span many lines in the CSS file. */
p {
  color: red;
  background-color: aqua;
}
```

- CSS (like HTML) is usually not commented as much as code such as Java
- the // single-line comment style is NOT supported in CSS
- the <!-- ... --> HTML comment style is also NOT supported in CSS

W3C CSS Validator

```
<a href="http://jigsaw.w3.org/css-validator/check/referer">
<img src="http://jigsaw.w3.org/css-validator/images/vcss"</p>
alt="Valid CSS!" /></a>

CSS
output
```

- jigsaw.w3.org/css-validator/
- checks your CSS to make sure it meets the official CSS specifications
- more picky than the web browser, which may render malformed CSS correctly

CSS properties for text

property	description
<u>text-align</u>	alignment of text within its element
<u>text-decoration</u>	decorations such as underlining
<u>text-indent</u>	indents the first letter of each paragraph
text-shadow	a colored shadow near an existing piece of text 😇
line-height, word-spacing, letter-spacing	gaps between the various portions of the text

text-align

```
blockquote { text-align: justify; }
h2 { text-align: center; }
```

The Emperor's Quote

[TO LUKE SKYWALKER] The alliance... will die. As will your friends. Good, I can feel your anger. I am unarmed. Take your weapon. Strike me down with all of your hatred and your journey towards the dark side will be complete.

output

• can be left, right, center, or justify (which widens all full lines of the element so that they occupy its entire width)

text-decoration

```
p {
    text-decoration: underline;
}

This paragraph uses the style above.
```

- can also be overline, line-through, blink, or none
- effects can be combined:

text-decoration: overline underline;

text-shadow

```
p {
    font-weight: bold;
    text-shadow: -2px 5px gray;
}

CSS

This paragraph uses the style above.

output
```

• shadow is specified as an X-offset, a Y-offset, and an optional color

The list-style-type property

```
ol { list-style-type: lower-roman; }
```

- Possible values:
 - none : No marker
 - disc (default), circle, square
 - decimal: 1, 2, 3, etc.
 - decimal-leading-zero: 01, 02, 03, etc.
 - lower-roman : i, ii, iii, iv, v, etc.
 - upper-roman : I, II, III, IV, V, etc.
 - lower-alpha : a, b, c, d, e, etc.
 - upper-alpha : A, B, C, D, E, etc.
 - lower-greek : alpha, beta, gamma, etc.
 - others: hebrew, armenian, georgian, cjk-ideographic, hiragana, katakana, hiragana-iroha, katakana-iroha

CSS properties for backgrounds

property	description
background-color	color to fill background
background-image	image to place in background
background-position	placement of bg image within element
background-repeat	whether/how bg image should be repeated
<u>background-attachment</u>	whether bg image scrolls with page
<u>background</u>	shorthand to set all background properties

background-image

```
body {
    background-image: url("images/draft.jpg");
}

This is the first paragraph of the paragraph...

This is the second paragraph...

If occupies 2 fines of the paragraph...
```

• background image/color fills the element's content area

background-repeat

```
body {
    background-image: url("images/draft.jpg");
    background-repeat: repeat-x;
}

This is the first paragraph of the paragraph...

This is the second paragraph...

It occupies 2 lines
```

• can be repeat (default), repeat-x, repeat-y, or no-repeat

background-position

```
body {
    background-image: url("images/draft.jpg");
    background-repeat: no-repeat;
    background-position: 370px 20px;
}

This is the first paragraph

This is the second paragraph...

It occupies 2 lines
```

- value consists of two tokens, each of which can be top, left, right, bottom, center, a percentage, or a length value in px, pt, etc.
- value can be negative to shift left/up by a given amount

Body styles

```
body {
  font-size: 16px;
}
```

- to apply a style to the entire body of your page, write a selector for the body element
- saves you from manually applying a style to each element

Styles that conflict

```
body { color: green; }
p, h1, h2 { color: blue; font-style: italic; }
h2 { color: red; background-color: yellow; }

This paragraph uses the first style above.
```

This heading uses both styles above.

- when two styles set conflicting values for the same property, the latter style takes precedence
- (later we will learn about more specific styles that can override more general styles)

Embedding style sheets: <style> (BAD!)

- CSS code can be embedded within the head of an HTML page
- this is bad style; DO NOT DO THIS (why?)

Inline styles: the style attribute (BAD!)

```
This is a paragraph
This is a paragraph

output
```

- higher precedence than embedded or linked styles
- used for one-time overrides and styling a particular element
- this is bad style; DO NOT DO THIS (why?)

Content vs. presentation

- HTML is for content; what is on the page (heading; list; code; etc.)
- CSS is for presentation; how to display the page (bold; centered; 20px margin; etc.)
- keeping content separate from presentation is a very important web design principle
- If the HTML contains no styles, its entire appearance can be changed by swapping .css files

Cascading style sheets

- it's called Cascading Style Sheets because the properties of an element cascade together in this order:
 - browser's default styles (reference)
 - external style sheet files (in a <link> tag)
 - internal style sheets (in a <style> tag in the page header)
 - inline style (the style attribute of an HTML element)

Inheriting styles

```
body { font-family: sans-serif; background-color: yellow; }
p { color: red; background-color: aqua; }
a { text-decoration: overline underline; }
h2 { font-weight: bold; text-align: center; }

This is a boading
```

This is a heading.

A styled paragraph. Previous slides are available on the web site.

a bulleted list

output

- when multiple styles apply to an element, they are inherited
- a more tightly matching rule can override a more general inherited rule
- not all properties are inherited (notice link's color above)

CSS pseudo-classes

```
a:link { color: #FF0000; } /* unvisited link */
a:visited { color: #00FF00; } /* visited link */
a:hover { color: #FF00FF; } /* mouse over link */
Buy early, buy often! output
```

class	description
:active	an activated or selected element
:focus	an element that has the keyboard focus
:hover	an element that has the mouse over it
:link	a link that has not been visited
:visited	a link that has already been visited
:first-letter	the first letter of text inside an element
:first-line	the first line of text inside an element
:first-child	an element that is the first one to appear inside another
:nth-child(<i>N</i>)	applies to every Nth child of a given parent

Exercise 1

- Busy Schedule: Given the following HTML code, write CSS to make the following style changes:
 - All elements in the body should have a white background with a text color of #330033 and the font Verdana or any serif available on the viewer's computer
 - The first-level headers are 40px bold serif font. The second-level headers are 24px underlined sans serif.
 - Paragraph text and lists should have a width of 550px and a top and bottom padding of 10px.
 - Ordered lists should have a background color of #FFCC99 and unordered lists should have a background color of #CCFFCC. All list elements should be in italics.
 - Ordered lists should have a background color of #FFCC99 and unordered lists should have a background color of #CCFFCC. All list elements should be in italics.

```
<h1>Being Busy</h1>
It's not easy being busy! But that doesn't mean it can't be fun.
<h2>Important Things To Do</h2>
\langle ol \rangle
     <a href="phys.html">Turn in</a> Physics HW!
     Do Reading for English
     Go To the Store for Groceries
     Pay Tuition
     Make sure program compiles...
<h2>Fun Things To Do</h2>
cul>:
     Sleep In
     Out to Dinner with Friends
     Go Swimming
     Finish Painting
     Go to the Movies: <a href="movies.html">>see what's
playing</a>
```

Q & A