

CSE-465

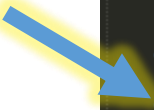
Web Programming

CSS Units & Selectors

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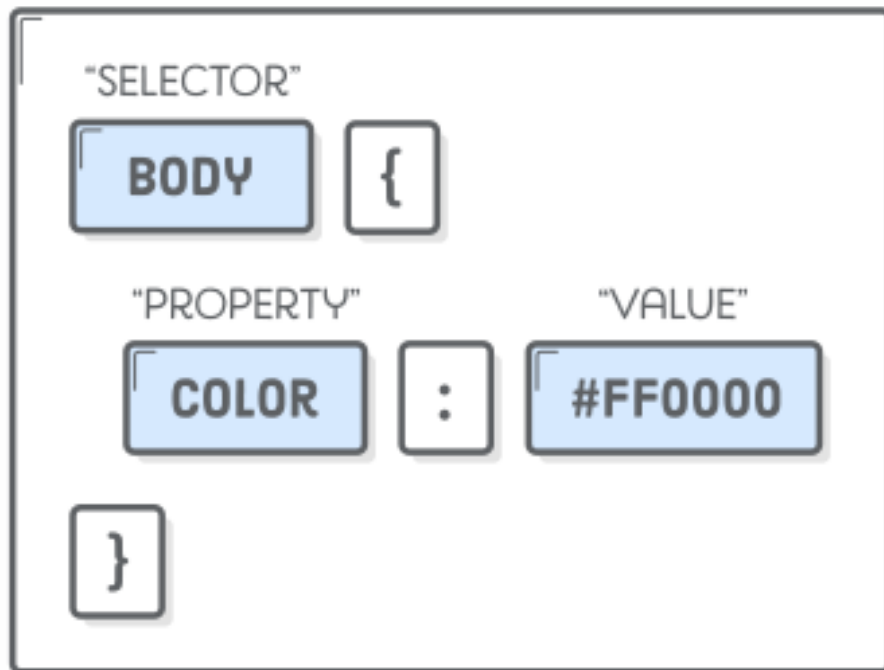
Creating a Stylesheet

```
body {  
    color: #FF0000;  
}
```



```
<title>Hello,  
</head>  
<body>  
  <h1>Hello, CS  
  
  <p>CSS lets u
```

"RULE"



- Color is a built-in property defined by the CSS specification that determines the text color of whatever HTML elements have been selected.
- Accepts a hexadecimal value representing a color.
- #FF0000 means bright red.

CSS Comments

```
body {  
  color: #414141;    /* Dark gray */  
}
```

CSS Multiple Properties

```
body {  
    color: #414141;           /* Dark gray */  
    background-color: #EEEEEE; /* Light gray */  
}
```

Why did we pick shades of grays instead of black and white?

Using a #000000 background with a #FFFFFF text color is too high of a contrast. It makes it look like the page is vibrating, which can be very distracting for readers.

Defining Fonts

```
h1, h2, h3, h4, h5, h6 {  
  font-family: "Helvetica", "Arial", sans-serif;  
}
```



Font-family is another built-in CSS property that defines the typeface for whatever element you selected. It accepts multiple values because not all users will have the same fonts installed. With the above snippet, the browser tries to load the left-most one first (Helvetica), falls back to Arial if the user doesn't have it, and finally chooses the system's default sans serif font.

More Text Styles

text-align

start | end | left | right | center | justify

text-decoration

none | underline | overline | line-through | blink

font-style

normal | italic | oblique | inherit

font-variant

normal | small-caps | inherit

More Text Styles

font-size

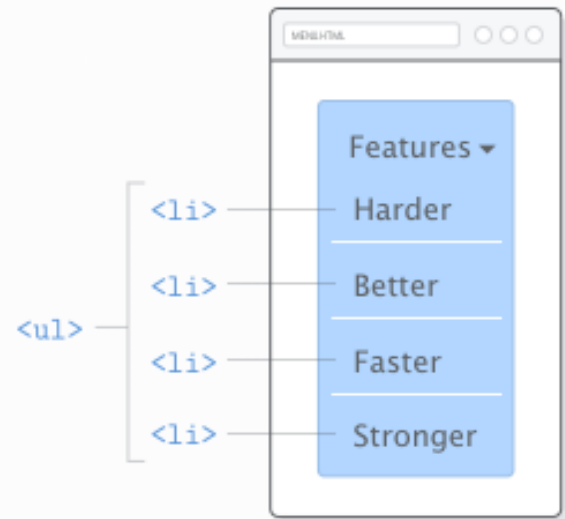
xx-small | x-small | small | medium | large | x-large | xxlarge | smaller | larger |
inherit
length
%

font-weight

normal | bold | bolder | lighter | 100 | 200 | 300 | 400 | 500 | 600 |
700 | 800 | 900 | inherit

List Styles

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



List Style Properties

list-style-image

none

url

list-style-type

none | asterisks | box | check | circle | diamond | disc | hyphen |
square | decimal | decimalleading-zero | lower-roman | upper-roman |
lower-alpha | upper-alpha | lower-greek | lower-latin | upper-latin |
hebrew | armenian | georgian | cjk-ideographic | hiragana | katakana |
hiragana-iroha | katakana-iroha | footnotes

Colors

color name	red, blue, green, dark green
rgb(x,y,z)	red = rgb(255,0,0)
rgb(x%,y%,z%)	red = rgb(100%,0,0)
rgba(x,y,z,alpha)	red = rgba(255,0,0,0)
#rrggbb	red = #ff0000 (or shorthand - #f00)
hsl(hue, saturation, lightness)	red = hsl (0, 100%, 50%)
flavor	An accent color (typically chosen by the user) to customize the user interface of the user agent itself.
currentColor	computer value of the 'currentColor' keyword is the computed value of the 'color' property

Unit of Measurements

Absolute Lengths

Unit	Description
cm	centimeters
mm	millimeters
in	inches (1in = 96px = 2.54cm)
px *	pixels (1px = 1/96th of 1in)
pt	points (1pt = 1/72 of 1in)
pc	picas (1pc = 12 pt)

Source: https://www.w3schools.com/cssref/css_units.asp

Unit of Measurements

Relative Lengths

Unit	Description
%	Relative to the parent element
em	Relative to the font-size of the element (2em means 2 times the size of the current font)
vw	Relative to 1% of the width of the viewport*
vh	Relative to 1% of the height of the viewport*
rem	Relative to font-size of the root element

Unit of Measurements



Unit of Measurements

```
body {  
    color: #414141;           /* Dark gray */  
    background-color: #EEEEEE; /* Light gray */  
    font-size: 18px;  
}  
  
h1 {  
    font-size: 2em;  
}  
  
h2 {  
    font-size: 1.6em;  
}
```

CSS Basic Selectors

Selector	Example	Example description
#id	#firstname	Selects the element with id="firstname"
.class	.intro	Selects all elements with class="intro"
element.class	p.intro	Selects only <p> elements with class="intro"
*	*	Selects all elements
element	p	Selects all <p> elements
element, element,..	div, p	Selects all <div> elements and all <p> elements

CSS Attribute Selectors

Selector	Example	Example description
[attribute]	[target]	Selects all elements with a target attribute
[attribute=value]	[target=_blank]	Selects all elements with target="_blank"
[attribute~=value]	[title~=flower]	Selects all elements with a title attribute containing the word "flower"
[attribute =value]	[lang =en]	Selects all elements with a lang attribute value starting with "en" (whole word)
[attribute^=value]	a[href^="https"]	Selects every <a> element whose href attribute value begins with "https"
[attribute\$=value]	a[href\$=".pdf"]	Selects every <a> element whose href attribute value ends with ".pdf"
[attribute*=value]	a[href*="w3schools"]	Selects every <a> element whose href attribute value contains the substring "w3schools"

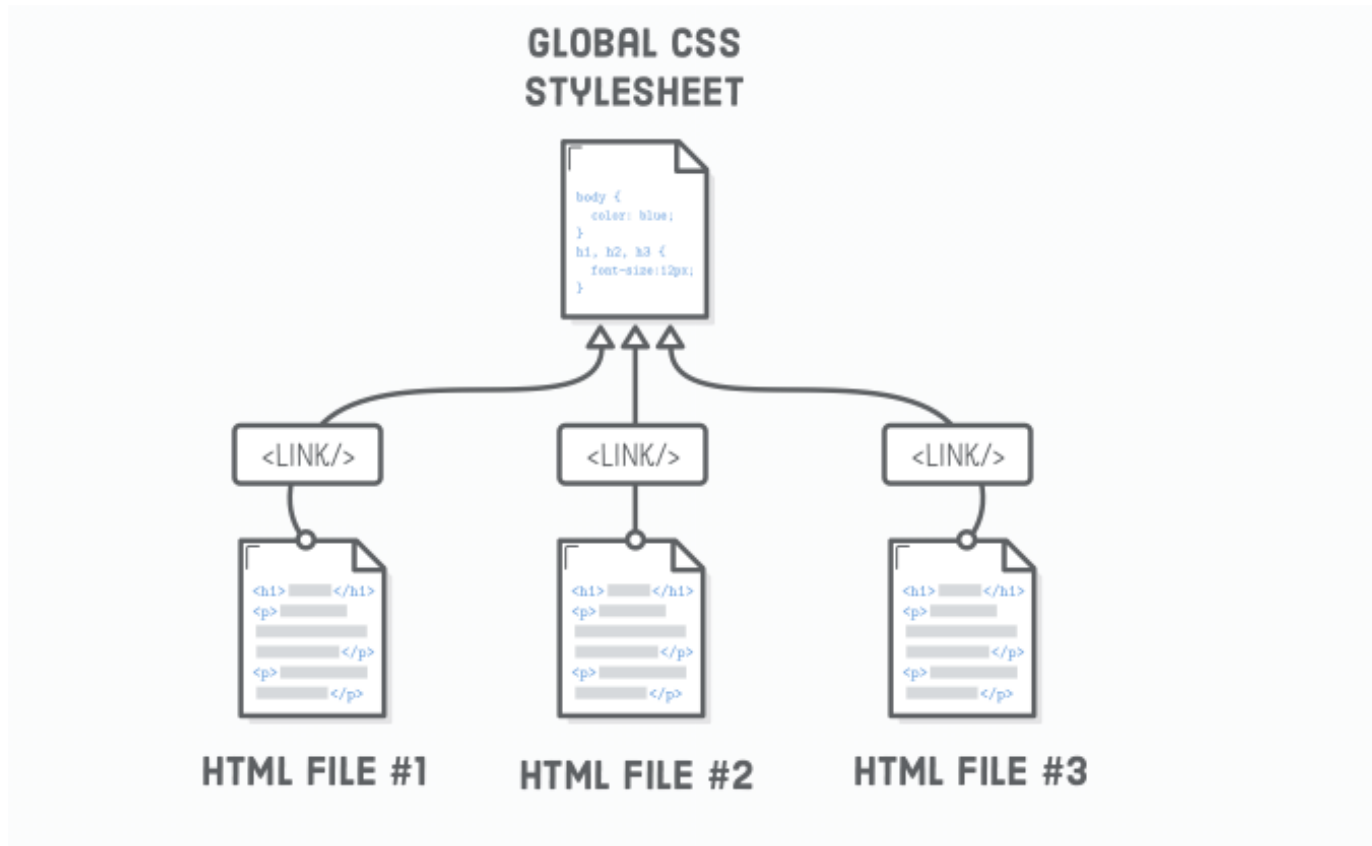
CSS Combinator Selectors

Selector	Example	Example description
element element	div p	Selects all <p> elements inside <div> elements
element>element	div > p	Selects all <p> elements where the parent is a <div> element
element+element	div + p	Selects <u>the first</u> <p> element that is placed immediately after <div> elements
element1~element2	p ~ ul	Selects every element that are <u>preceded</u> by a <p> element inside the same parent

CSS Pseudo-class Selectors

Selector	Example	Example description
:active	a:active	Selects the active link
:hover	a:hover	Selects links on mouse over
:first-child	p:first-child	Selects every <p> elements that is the first child of its parent
:first-of-type	p:first-of-type	Selects every <p> element that is the first <p> element of its parent
:link	a:link	Selects all unvisited links
:visited	a:visited	Selects all visited links
:not(selector)	:not(p)	Selects every element that is not a <p> element
:nth-child(n)	p:nth-child(2)	Selects every <p> element that is the second child of its parent

Reusable CSS Files



It's usually a good idea to use root-relative paths when linking global stylesheets to avoid problems in nested pages. For example, `some-folder/page.html` would need to use `../styles.css` to reference our `styles.css` file, and this can get real confusing real quick.

Linking a CSS File

```
<head>
  <meta charset='UTF-8' />
  <title>Hello, CSS</title>
  <link rel='stylesheet' href='styles.css' />
</head>
```

- The <link/> element is just like the <a> element, but it's only meant to be used inside of <head>.
- The rel attribute defines the relationship between the resource and the HTML document. By far the most common value is stylesheet

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- The rel attribute defines the relationship between the resource and the HTML document. By far the most common value is stylesheet
- The value for href can be an absolute, relative, or root-relative link.

Cascading

The CSS hierarchy for every web page looks like this:

- The browser's default stylesheet
- External stylesheets (that's us)
- Page-specific styles (that's also us)
- Inline styles (that could be us, but it never should be)

This is ordered from least to most precedence, which means styles defined in each subsequent step override previous ones. For example, inline styles will always make the browser ignore its default styles.



Page Specific Style

```
<head>
  <meta charset='UTF-8' />
  <title>Dummy</title>
  <link rel='stylesheet' href='styles.css' />
  <style>
    body {
      color: #0000FF;    /* Blue */
    }
  </style>
</head>
```

Inline Style

```
<p>Want to try crossing out an <a href='nowhere.html'  
  style='color: #990000; text-decoration: line-through;'>obsolete link</a>?  
This is your chance!</p>
```


Multiple Stylesheets

```
<head>  
  <link rel='stylesheet' href='styles.css' />  
  <link rel='stylesheet' href='product.css' />  
</head>
```

Reference

1. <https://www.slideshare.net/imamhossain75054/web-2-css-cascading-style-sheets>
2. <https://websitesetup.org/css3-cheat-sheet/>
3. <https://www.w3schools.com/css/>