

Chapter 10 — More CSS Selectors to Give Your Style Sheet Surgical Precision

In the style sheets we have created, so far, we have used the tag selector, the id selector, the class selector, the descendant combinator, and the `:nth-child(n)` pseudo class. In this chapter we will review those CSS selectors and show several of the most commonly used ones.

Learning Outcomes for this Chapter

Upon completion of the reading of this chapter and assignments found at the end, a student should be able to:

- Create CSS that includes the tag, id, and class selectors,
- use combinators to select elements within elements,
- use the universal selector to select all elements in a page or a combinator expression,
- create selection rules that use other attributes beyond id or class,
- use simple pseudo selectors.

Selectors

A selector is used to tell the web browser to apply a style to an HTML element or group of elements. There are four selectors that we commonly use: 1) the universal selector; 2) the HTML tag selector; 3) the class selector; and 4) the id selector.

The Universal Selector

***** — everybody (the universal selector) ¹⁰⁸

Apply this CSS to every element on the page. It is commonly used with combinators, attribute selectors, and with pseudo classes that are to be applied to the entire page.

The Tag Selector

tag — all tags of a specific type ¹⁰⁹

¹⁰⁸ <https://www.w3.org/TR/selectors-3/#universal-selector>

¹⁰⁹ <https://www.w3.org/TR/selectors-3/#type-selectors>



The Class Selector

.class — class selector — apply the style to all the tags that have the same class defined as an attribute.¹¹⁰

On the HTML tag we define a class or classes using an attribute like: `class="group"` or `class="first second"`

You may specify multiple class names on a tag by separating them with a space.¹¹¹

Class names are case sensitive and should start with a letter and contain letters, numbers, dashes, and underscores.¹¹²

The ID Selector

#id — id selector — find the tag with the specified id attribute¹¹³

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <title>title</title>
    <link href="simple_selectors.css" rel="stylesheet" type="text/css">
  </head>
  <body>
    <h1>This page shows the simple CSS selectors at work.</h1>
    <section>
      <h2>Page section one</h2>
      <p class="happy">This is a paragraph that belongs to the
        happy class.</p>
    </section>
    <section>
      <h2 class="happy">Page section two</h2>
      <p>This is a paragraph that has <em id="cheese">Cheddar</em>
        on the side.</p>
    </section>
  </body>
</html>
```

110 <https://www.w3.org/TR/selectors-3/#class-html>

111 http://www.w3schools.com/tags/att_global_class.asp

112 <http://www.w3.org/TR/html401/struct/global.html#h-7.5.2>

113 <https://www.w3.org/TR/selectors-3/#id-selectors>



```
/* simple_selectors.css - Sample CSS Sheet for Simple Selectors */  
  
/* make everything blue */  
* {  
    color: blue;  
}  
  
/* set the h2 tags white on blue */  
h2 {  
    color: white;  
    background-color: blue;  
}  
  
/* give the happy class a yummy background */  
.happy {  
    background-color: tomato;  
}  
  
/* set id cheese to orange */  
#cheese {  
    color: orange;  
}
```

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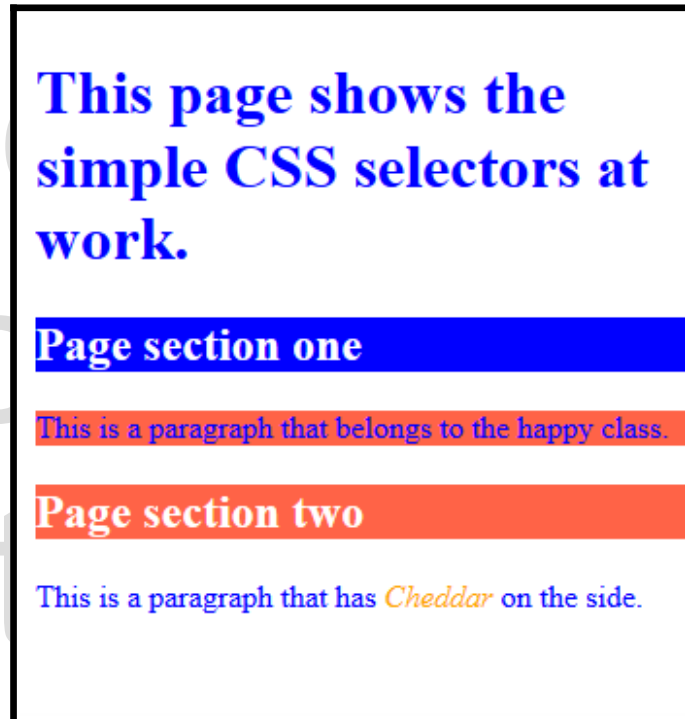


Illustration 31: Simple CSS Selectors

Cascading

In the example above you will notice that the "Page section two" heading has the "happy" background. This is because, if an element has more than one style that may apply the more specific style will be applied and may overwrite style from less specific styles.

Combinators

A combinator allows for selectors to be combined to help zero in on a specific tag or group of tags. This introduction will cover five of the most common combinators.

This and That Combinator

`selector_one, selector_two ...` (Comma) — apply the same style for multiple elements. It is really just a shortcut to keep from having the style repeated when it is used in



more than one place. ¹¹⁴

Descendant Combinator

`selector_one selector_two ...` (Space) — select all of `selector_two` inside `selector_one`. May be embedded anywhere within elements parent elements. ¹¹⁵

Adjacent Sibling Combinator

`selector_one + selector_two ...` (plus) — find the `selector_two` directly after `selector_one` at the same level. Siblings not children. ¹¹⁶

General Sibling Combinator

`selector_one ~ selector_two ...` (tilde) — find the `selector_two` sibling(s) that follows `selector_one` at the same level. The siblings do not have to be adjacent, just follow. ¹¹⁷

Direct Children Combinator

`selector_one > selector_two ...` (greater than) — select all `selector_two` children inside `selector_one`. This only gets direct children and not children of children. ¹¹⁸

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <title>Combinators</title>
    <link href="combinators.css" rel="stylesheet" type="text/css">
  </head>
  <body>
    <h1>This page shows the CSS combinators at work.</h1>
    <section class="bignews">
      <h2>Page section one</h2>
      <p>This is a paragraph that belongs to a <b>bignews</b>
      section.</p>
      <section>
        <h3>Inside section one</h3>
```

114 <https://www.w3.org/TR/selectors-3/#grouping>

115 <https://www.w3.org/TR/selectors-3/#descendant-combinators>

116 <https://www.w3.org/TR/selectors-3/#adjacent-sibling-combinators>

117 <https://www.w3.org/TR/selectors-3/#general-sibling-combinators>

118 <https://www.w3.org/TR/selectors-3/#child-combinators>



```
        <p>Inside <b>paragraph</b>.</p>
    </section>
</section>
<section>
    <h2>Page section two</h2>
    <p>This is a paragraph that has <em id="cheese">Cheddar</em>
    on the side.</p>
</section>
<section>
    <h2>first one</h2>
    <h3>adjacent sibling</h3>
    <p>Paragraph with <b>two</b> heads.</p>
</section>

</body>
</html>
```

```
/* combinators.css - Sample CSS Sheet for Common Combinators */

/* this or that - apply to multiple selectors */
/* comma */
h1, em {
    font-family: script;
}

/* descendant - apply to selector within */
/* apply to all <b> tags in the class happy */
/* whitespace */
.bignews b {
    color: white;
    background-color: red;
}

/* adjacent sibling */
/* plus */
h2 + h3 {
    border-bottom: 5px solid black;
}

/* general sibling */
/* tilde */
h1 ~ section {
    border: 2px groove grey;
}

/* direct children */
/* greater than */
section > section {
```



```
border: 4px outset green;  
margin: 5px;  
}
```

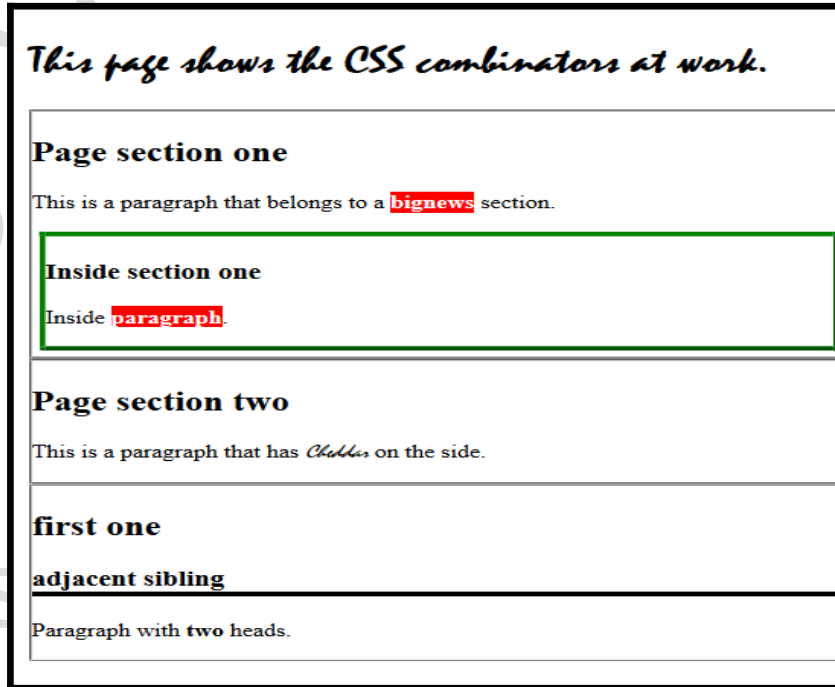


Illustration 32: CSS Combinators

Attribute Selectors

Attribute selectors modify add additional refinement to the selectors above. They allow us to not only select items by tag, class, or id but also by attributes that the tag may have.¹¹⁹ Follow a selector with a set of square braces. Inside the braces place an attribute name to test if the element has the attribute (with any value); or an expression to test the specific value of the attribute.

selector [attribute] — Select if the element has the attribute.

selector [attribute=value] — Select if the element has the attribute with a specific value.

¹¹⁹ <https://www.w3.org/TR/selectors-3/#attribute-selectors>



selector[attribute*=value] — Select if the element has the value one or more times anywhere in the attribute.

There are more attribute selectors, that allow for more complex selection rules, but these are common. For more information follow the links in the footnotes to this section.

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <title>Attribute Selector</title>
    <link href="attribute_selector.css" rel="stylesheet" type="text/css">
  </head>
  <body>
    <h1>Attribute Selector</h1>
    <ul>
      <li><label for="username">Name:</label>
        <input type="text" name="username" required>
      </li>
      <li><label for="color">Favorite Color:</label>
        <select name="color" id="color_select" required>
          <option value="R">Red</option>
          <option value="O">Orange</option>
          <option value="Y">Yellow</option>
          <option value="G">Green</option>
          <option value="B">Blue</option>
          <option value="I">Indigo</option>
          <option value="V">Violet</option>
          <option value="X">Do Not Wish to Answer</option>
        </select>
      </li>
      <li><label for="Comment">Comment:</label>
        <textarea name="comment"></textarea>
      </li>
    </ul>
  </body>
</html>
```

```
/* attribute_selector.css - Sample CSS Sheet for Attribute Selectors */

ul {
  list-style: none;
}

label {
  display: inline-block;
```




```
width: 10em;
}

/* put a bold border around required fields */
*[required] {
  border: 5px groove black;
}

option[value="R"] {
  color: red;
}

option[value="O"] {
  color: orange;
}
```

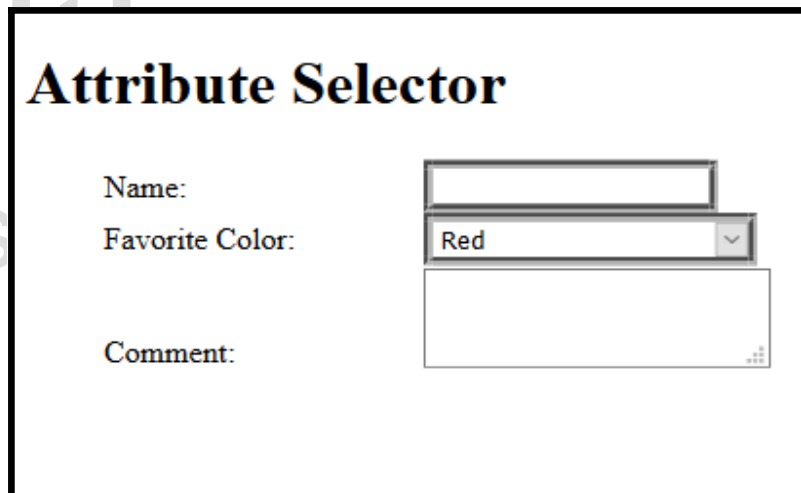


Illustration 33: Attribute Selector

Pseudo-classes

Pseudo means false.¹²⁰ These special selectors are typically added to the end of a simple selector (class, id, tag, or universal) to create special behavior.¹²¹ As an example, we can change the style of an element based on whether the mouse pointer is hovering over an element.

¹²⁰ <http://dictionary.reference.com/browse/pseudo>

¹²¹ <https://developer.mozilla.org/en-US/docs/Web/CSS/Pseudo-classes>



- `:hover`¹²² — apply this style to the element when the mouse pointer is over the element.
- `:link`¹²³ — for anchors (`<a>`) apply this style if it is a clickable link.
- `:visited` — for anchors (`<a>`) apply this style if we have visited the link.
- `:nth-child(n)`¹²⁴ — one of many of the "Structural Pseudos" but very common. Usually used for pretty table and list formatting. This was seen in the previous chapter on tables.
- `:checked`¹²⁵ — apply this style when the element is checked
- `selector_1:not(selector_2)`¹²⁶ — Negation — selector_1 but not selector_2. The selector in the not expression must be a simple selector

Advanced Topics for Exploration

We did not cover all of "The 30 CSS Selectors you Must Memorize" by Jeffery Way¹²⁷ as we could have but...

CSS name spaces.

Vocabulary

- adjacent sibling selector
- attribute selector
- checked
- class selector
- combinator
- descendant combinator
- direct children combinator
- general sibling combinator
- hover
- id selector
- link
- not
- nth-child
- pseudo class
- tag selector
- this and that combinator

122 <https://www.w3.org/TR/selectors-3/#useraction-pseudos>

123 <https://www.w3.org/TR/selectors-3/#link>

124 <https://www.w3.org/TR/selectors-3/#structural-pseudos>

125 <https://www.w3.org/TR/selectors-3/#UIstates>

126 <https://www.w3.org/TR/selectors-3/#negation>

127 <https://code.tutsplus.com/tutorials/the-30-css-selectors-you-must-memorize--net-16048>



- universal selector
- visited

Exercises

Word Search

```
dgstaoludals-uds  
aieaheuniversalh  
tprncinasstihnee  
nsseeosttrghovtd  
oelecrmhtmlnvce  
sungstaba-rretlt  
rddvce lincirnai  
ioiih lc ndhbts  
nksitiehsa iuse  
uchinoteciittlte  
litlinkctlbohde  
tadeceldemodlras  
isldesirceorriet  
vsdescendantcen  
adjacent sibling  
nalna ccheckedrc
```

adjacent sibling, attribute, checked, class, descendant, direct children, general sibling, hover, id, link, not, nth-child, pseudo class, selector, tag, this and that, universal, visited

Problems

