CSS Selectors

Part one of a three-parter on CSS

```
#header {
    color: blue;
    font-weight: bold;
}
```

Selector

Style attributes

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Today

- A plug on why you should use CSS.
- How to get started with CSS.
- How to build HTML that works well with CSS.
- How to build CSS for your HTML.

What's CSS?

It's a file that contains all the style and appearance settings for your site.

By using CSS, you can eliminate style information from your HTML.

- Write *content* in HTML.
- Write *style and appearance* in CSS.

So why use it?

- Eliminates style "noise" from HTML.
- Apply one style to all your pages.
- One file: easy to update.

Find the style “noise” in this HTML

```
<html>
  <head>...</head>
  <body>
      <center><font style="font-size: 20px; color: blue;">A
name you can surely trust!</font></center><br/>
      <hr color="red" /><br/><br/>
      <div style="float: right; width: 350px">
          <img src="img/sales-boyd.png" width="100%">
          <hr color="red" />
          <img src='img/car-blue.png' id="car"
height="256px" /><br/>
      </div>
  </body>
</html>
```

(there are six misdemeanors to find)

Without CSS

```
<html>
    <head>...</head>
    <body>
        <center><font style="font-size: 20px; color: blue;">A name you can
surely trust!</font></center><br/>
        <hr color="red" /><br/><br/>
        <div style="float: right; width: 350px">
            <img src="img/sales-boyd.png" width="100%" />
            <hr color="red" />
            <img src='img/car-blue.png' id="car" height="256px" /><br/>
        </div>
    </body>
</html>
```

With CSS, no “noise”

```
<html>
    <head>...</head>
    <body>
        <p id="strapline">A name you can surely trust!</p>
        <div id="sidebar">
            <img src="img/sales-boyd.png" />
            <img src='img/car-blue.png' />
        </div>
    </body>
```

Getting Started

1. Create an empty CSS file.
2. Link your HTML to the CSS file like this:

```
<html>
    <head>
        <link rel="stylesheet" type="text/css"
href="css/style.css" />
    </head>
    <body>
        ...
    </body>
</html>
```

Classes vs IDs

	Class	*ID*
Usable on separate pages	✓	✓
Use on several elements	✓	✗
Use on unique elements	✗	✓

HTML Genealogy

```
<html>
    <head>...</head>
    <body>
        <p id="strapline">A name you can surely trust!</p>
        <div id="sidebar">
            <img src="img/sales-boyd.png" />
            <img src='img/car-blue.png' />
        </div>
    </body>
</html>
```

Child

HTML Genealogy

```
<html>
    <head>...</head>
    <body>
        <p id="strapline">A name you can surely trust!</p>
        <div id="sidebar">
            <img src="img/sales-boyd.png" />
            <img src='img/car-blue.png' />
        </div>
    </body>
</html>
```

Parent

HTML Genealogy

```
<html>
    <head>...</head>
    <body>
        <p id="strapline">A name you can surely trust!</p>
        <div id="sidebar">
            <img src="img/sales-boyd.png" />
            <img src='img/car-blue.png' />
        </div>
    </body>
</html>
```

Descendant

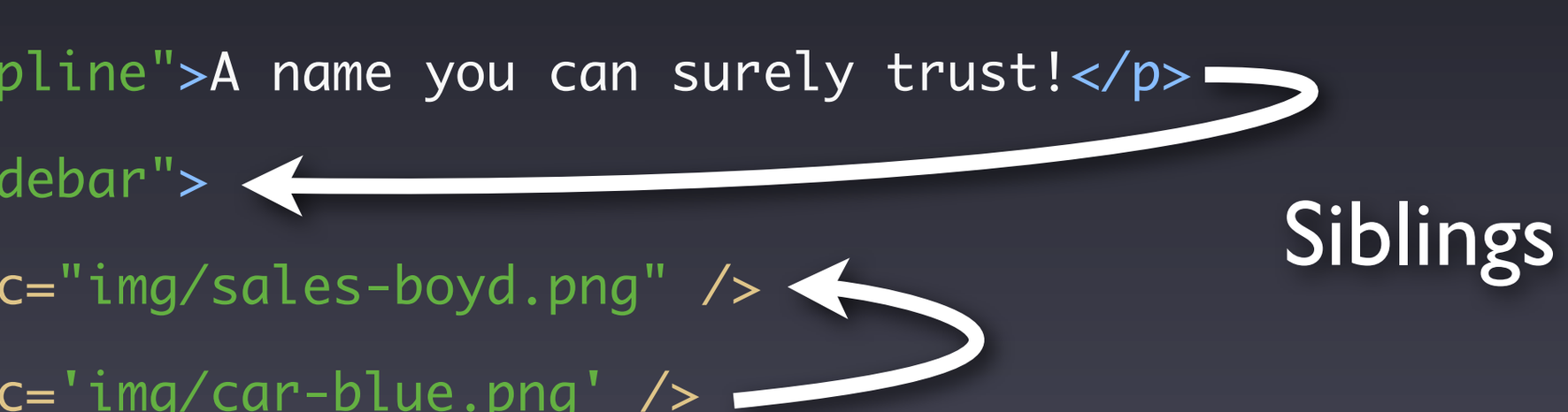
HTML Genealogy

```
<html>
    <head>...</head>
    <body>
        <p id="strapline">A name you can surely trust!</p>
        <div id="sidebar">
            <img src="img/sales-boyd.png" />
            <img src='img/car-blue.png' />
        </div>
    </body>
</html>
```

Ancestor

HTML Genealogy

```
<html>
    <head>...</head>
    <body>
        <p id="strapline">A name you can surely trust!</p>
        <div id="sidebar">
            <img src="img/sales-boyd.png" />
            <img src='img/car-blue.png' />
        </div>
    </body>
</html>
```



This selector...	*Selects...*
#header	The element with `id="header"`
`.article`	All elements with `class="article"`
`img`	All `<img>` elements.

```
<html>
  <head>...</head>
  <body>
      <h1>Site Header</h1>
      <div id="lead">This is the lead article.</div>
      <div id="menu">
          <a class="menu-item">Link 1</a>
          <a class="menu-item">Link 2</a>
          <a class="menu-item">Link 3</a>
      </div>
  </body>
</html>
```

```
<html>
  <head>...</head>
  <body>
      <h1>Site Header</h1>
      <div id="lead">This is the lead article.</div>
      <div id="menu">
          <a class="menu-item">Link 1</a>
          <a class="menu-item">Link 2</a>
          <a class="menu-item">Link 3</a>
      </div>
  </body>
</html>
```

Q: Does the <h1> describe *style* and/or *content*?

Combining Selectors

This selector...	*Selects...*
`h1#header`	The `<h1>` element with `id="header"`
`div.article`	All `<div>` elements with `class="article"`
`div.article.lead`	All `<div>` elements with `class="framed" and class="lead"`

Chaining Selectors

Combining selectors to...

- Target children and descendants.
- Reduce our use of class and id in the HTML.

```
<html>
  <head>...</head>
  <body>
      ...
      <div id="menu">
          <a class="menu-item">Link 1</a>
          <a class="menu-item">Link 2</a>
          <a class="menu-item">Link 3</a>
      </div>
  </body>
</html>
```

```
<html>
  <head>...</head>
  <body>
      ...
      <div id="menu">
          <a class="menu-item">Link 1</a>
          <a class="menu-item">Link 2</a>
          <a class="menu-item">Link 3</a>
      </div>
  </body>
</html>
```

The class attributes on these menu items are repeated, so they are probably candidates for chained CSS.

How can I target them in CSS, without the class attributes?

```
<html>
  <head>...</head>
  <body>
      ...
      <div id="menu">
          <a class="menu-item">Link 1</a>
          <a class="menu-item">Link 2</a>
          <a class="menu-item">Link 3</a>
      </div>
  </body>
</html>
```

The class attributes on these menu items are repeated, so they are probably candidates for chained CSS.

How can I target them in CSS, without the class attributes?

Yes, it's `#menu a`

aka all <a> elements that are children of `id="menu"`

Chaining Selectors

This selector...	*Selects...*
`#content p`	All <p> elements that are children of `id="content"`
`ul#menu li`	All elements that are children of `<ul id="menu">`
`ul#menu li a`	All <a> children of children of `<ul id="menu">`

Attribute Selectors

Attribute Selectors

We can select elements based on other attributes besides id and class.

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This selector...	*Selects...*
`input[type="submit"]`	All `<input>` elements with `type="submit"`

Attribute Selectors

We can select elements based on other attributes besides id and class.

```
<form>
    <input type="text" name="email_address" />
    <input type="submit" value="Confirm" />
</form>
```

This selector...	*Selects...*
`input[type="submit"]`	All `<input>` elements with `type="submit"`

Pseudo-selectors

...activate when some operational property of the element is fulfilled.

This psuedo-selector...	*Selects...*
`:hover`	When the element is hovered over.
`:first-child` `:last-child`	The first or last elements inside a parent.
`:first-letter`	The first letter of a block of text.

Pseudo Selectors

Pseudo Selectors

A hover example...

Pseudo Selectors

A hover example...

This selector...	*Selects...*
`a`	All <a> elements.
`a:hover`	An <a> element when hovered over.

Controlling the Ancestors

```
<html>
    <head>...</head>
    <body>
        <div id="header">
            <div>
                <div>Tel: 01234 123456</div>
                <div>Fax: 01234 123457</div>
            </div>
        </div>
    </body>
</html>
```

How can we select *just* the directly inside ?

Controlling the Ancestors

```
<html>
    <head>...</head>
    <body>
        <div id="header">
            <div>
                <div>Tel: 01234 123456</div>
                <div>Fax: 01234 123457</div>
            </div>
        </div>
    </body>
</html>
```

`#header > div` selects `div` children of `#header`.

`#header div` selects `div` descendants of `#header`.

CSS Priorities

Your browser will process CSS styles in this order:

1. Inline styles (e.g. `<a style="color: red">`).
2. Specificity (e.g. `#header img` beats `img`).
3. Order of rules (i.e. last defined rule wins).
4. Browser built-in styles (next lecture!)

   (this is a short list; Wikipedia CSS has a good reference)

CSS Versions

- There are three major versions of CSS.
- They have differing features.
- All backward-compatible.
- Browser support:
  - Most support versions 1 and 2.
  - Some support some features of version 3.

For Reference

1. Google “456 css selectors”
    a. Choose “CSS 2.1 Selectors” for everyday stuff.
    b. Choose “CSS 3 selectors” for fancy stuff.