# Lecture 6

# Review

Selecting multiple tags

- You can use the class HTML attribute to select multiple tags with a single selector.

- The syntax is very similar to selecting by id.

# Review

Selecting by ID:

[tag type]#[tag id]

Example:

div#foo

OR

#foo

Selecting by class:

[tag type].[tag id]

Example:

span.bar

OR

.bar

# Review

In your HTML file:

Selected by:

div#foo
#foo

but not

span#foo
div#bar

Selected by

span.bar
.bar

but not

div.bar
span.foo

# Review

You can make a list of selectors to select tags based on a number of different properties:

span.foo, div#bar, div.foo, p

- The individual selectors are separated by commas.

- Any tag that matches at least one of the selectors in the list will be selected.

# Review

What tags will this select?

span.foo, div#bar, div.foo, p

# Review

What tags will this select?

span.foo, div#bar, div.foo, p

 is selected because it matches the selector span.foo.

# Review

What tags will this select?

span.foo, div#bar, div.foo, p

 is selected because it matches the selector div#bar.

# Review

What tags will this select?

span.foo, div#bar, div.foo, p

 is selected because it matches the selector div.foo.

# Review

What tags will this select?

span.foo, div#bar, div.foo, p

<p class="foo"> is selected because it matches the selector p although it does not match the selectors span.foo and div.foo (since it is a p tag), it does match the selector p.

# Review

What tags will this select?

span.foo, div#bar, div.foo, p

 matches two of the selectors in the list, namely div#bar and div.foo, so it is selected too.

# A Subtle Point

Consider this example:

HTML:

```
<div class="foo">
    <span id="bar">
        Hello world!
    </span>
</div>
```

CSS:

```
div.foo
{
    background: red;
    color: white;
}
```

What color is the span tag's background?
What color is the text?

# A Subtle Point

Consider this example:

HTML:

```
<div class="foo">
    <span id="bar">
        Hello world!
    </span>
</div>
```

CSS:

```
div.foo
{
    background: red;
    color: white;
}
```

The background is red and the text is white. Why?

# A Subtle Point

Consider this example:

HTML:

```
<div class="foo">
    <span id="bar">
        Hello world!
    </span>
</div>
```

CSS:

```
div.foo
{
    background: red;
    color: white;
}
```

- The span tag inherits those properties from its parent.
- The selector div.foo does not select the span tag.

# A Subtle Point

Consider this example:

HTML:

```
<div class="foo">
    <span id="bar">
        Hello world!
    </span>
</div>
```

CSS:

```
div.foo
{
    background: red;
    color: white;
}
```

- Inheriting CSS attributes from a parent tag does not mean that a tag is selected!

# Selecting by Parent Tag

Suppose you want to select all tags that have a particular kind of parent.

- Perhaps you want to modify all links that appear inside a paragraph to have a different color.

- Perhaps you have a navigation bar on the side of your page, and you want to apply a style to all the images there without using the class attribute.

# Selecting by Parent Tag

There is a way to do it.

[selector 1] [selector 2]

Example:

div img

Selects any img tag that is a descendant of a div tag.

There are no commas separating the tags in this case.

# Selecting by Parent Tag

CSS:

```
div img
```

HTML:

```
<div>
    <img src="myimage.jpg">
</div>

<img src="myimage2.jpg">
```

This img tag is selected because it is a descendant of a div tag.

# Selecting by Parent Tag

CSS:

```
div img
```

HTML:

```
<div>
    <img src="myimage.jpg">
</div>

<img src="myimage2.jpg">
```

This img tag is not selected because it is not a descendant of a div tag.

# Selecting by Parent Tag

What about this?  (try it!)

HTML:

```
<div>
    <span>
        <p>Hello world!</p>
    </span>
</div>
```

CSS:

```
div p
{
    background: red;
}
```

# Selecting by Parent Tag

- A tag *A* is a descendant of another tag-pair *B* if it is between *B*'s opening tag and *B*'s closing tag.

Example:

```
<span>
    <div>
        <p>
            <img>
        </p>
    </div>
</span>
```

# Selecting by Parent Tag

Example:

```
<span>
    <div>
        <p>
            <img>
        </p>
    </div>
</span>
```

- The div tag, the p tag, and the img tag are descendants of the span tag.

# Selecting by Parent Tag

Example:

```
<span>
    <div>
        <p>
            <img>
        </p>
    </div>
</span>
```

- The p tag and the img tag are descendants of the div tag.

# Selecting by Parent Tag

Example:

```
<span>
    <div>
        <p>
            <img>
        </p>
    </div>
</span>
```

- The p img tag is the only descendant of the p tag.

# Selecting by Parent Tag

Example:

```
<span>
    <div>
        <p>
            <img>
        </p>
    </div>
</span>
```

- The img tag has no descendants.

# Selecting by Parent Tag

Don't confuse descendants with children!

- A tag *A* is a child of another tag-pair *B* if it is between *B*'s opening tag and *B*'s closing tag, and it is not contained inside another tag pair that is a descendant of *B*.

# Selecting by Parent Tag

Example:

```
<span>
    <div>
        <p>
            <img>
        </p>
    </div>
</span>
```

- The div tag is the only child of the span tag.

# Selecting by Parent Tag

Example:

```
<span>
    <div>
        <p>
            <img>
        </p>
    </div>
</span>
```

- The p tag is the only child of the div tag.

# Selecting by Parent Tag

Example:

```
<span>
    <div>
        <p>
            <img>
        </p>
    </div>
</span>
```

- The img tag is the only child of the p tag.

# Selecting by Parent Tag

Example:

```
<span>
    <div>
        <p>
            <img>
        </p>
    </div>
</span>
```

- The img has no children.

# Selecting by Parent Tag

Suppose you only want to select the children of a tag, instead of all descendants.

There's a way to do it!

Here's the syntax:

[selector 1] > [selector 2]

This selects any tag matching selector 2 that is the child of a tag matching selector 1.

# Selecting by Parent Tag

Previous example:

HTML:

```
<div>
    <span>
        <p>Hello world!</p>
    </span>
</div>
```

CSS:

```
div p
{
    background: red;
}
```

- When we used the selector div p, the p tag was selected.
- We could change it to div > p to avoid selecting the p tag.

# Selecting by Parent Tag

Example:

```
<div>
    <span>
        <img>
    </span>
</div>
```

- The selector span > img would select the img tag.

# Selecting by Parent Tag

Example:

```
<div>
    <span>
        <img>
    </span>
</div>
```

- The selector div > span would select the span tag.

# Selecting by Parent Tag

Example:

```
<div>
    <span>
        <img>
    </span>
</div>
```

- The selector div > img would NOT select the span tag.

- On the other hand div img would select the img tag.

# Selecting by Parent Tag

- The selector [selector 1] [selector 2] will select any tag matching selector 2 that is a descendant of a tag matching [selector 2].

- The selector [selector 1] > [selector 2] will select any tag matching selector 2 that is a child of a tag matching [selector 2].

- Any tag selected by [selector 1] > [selector 2] will also be selected by [selector 1] [selector 2]

# Selecting by Parent Tag

You can list as many selectors as you want:

[selector 1] > [selector 2]  [selector 3] > [selector 4]

Selects any tag matching selector 4 that is the child of a tag matching selector 3 that is the descendant of a tag matching selector 2 that is the child of a tag matching selector 1.

# Selecting by Parent Tag

Example:

```
<div>
    <span>
        <p>Hello world!</p>
    </span>
</div>
```

- The selector div span p would select the p tag.
- The selector div > span p would select the p tag.
- The selector div span > p would select the p tag.
- The selector div > span > p would select the p tag.

# Selecting by Parent Tag

Example:

```
<div>
    <span>
        <p>Hello world!</p>
    </span>
</div>
```

- The selector div p span would not select the p tag.
- Neither would span p div, div p span, span > p div, or p div > span.
- Each of these selectors will select nothing.

# The Universal Selector

- The selector * selects anything.

Example:

```
*
{
    background: blue;
}
```

Now every tag gets a blue background.

Why is this useful?

# The Universal Selector

- By itself, the universal selector is not very useful.

- If we want to apply style attributes to the whole page, we can just select the body tag:

```
body
{
    background: blue;
}
```

# The Universal Selector

The universal selector becomes useful when we select children or descendants.

Example:

div *

This selects any tag that is the descendant of a div tag.

# The Universal Selector

The universal selector becomes useful when we select children or descendants.

Example:

div.foo > *

This selects any tag that is a child of a div tag of class foo.

# The Universal Selector

The universal selector becomes useful when we select children or descendants.

Example:

body *

This selects any tag that is the descendant of the body tag.

You can use this to apply style attributes to all tags inside the body without changing the body itself.

# The Universal Selector

The universal selector becomes useful when we select children or descendants.

Example:

body * > *

This selects any tag inside the body that is the child of another tag.

# The Universal Selector

The universal selector becomes useful when we select children or descendants.

Example:

body > * > div

This selects any div tag that is the child of a another tag which is a child of the body.

# The Universal Selector

The universal selector becomes useful when we select children or descendants.

Example:

span > * > * > div

This selects any div tag that is the great-grandchild of a span tag.