

# CSS

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# CSS

- ◎ **CSS defines how the content is presented**
  - Determines stuff like font size, colors, animations



# HTML

# CSS

A Venn diagram consisting of two overlapping circles. The left circle is reddish-pink and labeled 'content'. The right circle is light blue and labeled 'style'. The overlapping area in the center is purple and labeled 'layout'.

content

layout

style

# WITH CSS

**CSS**

Languages Edit

CSS (Cascading Style Sheets) is a declarative language that controls how webpages look in the browser. The browser applies CSS style declarations to selected elements to display them properly. A style declaration contains the properties and their values, which determine how a webpage looks.

CSS is one of the three core Web technologies, along with [HTML](#) and [JavaScript](#). CSS usually styles [HTML elements](#), but can be also used with other markup languages like [SVG](#) or [XML](#).

A CSS rule is a set of [properties](#) associated with a [selector](#). Here is an example that makes every HTML paragraph yellow against a black background:

```
1 /* The selector "p" indicate that all paragraphs in the document will be affected by that rule */
2 p {
3   /* The "color" property defines the text color, in this case yellow. */
4   color: yellow;
5
6   /* The "background-color" property defines the background color, in this case black. */
7   background-color: black
8 }
```

"Cascading" refers to the rules that govern how selectors are prioritized to change a page's appearance. This is a very important feature, since a complex website can have thousands of CSS rules.

## Learn more

General knowledge

# WITHOUT CSS

## CSS

Jump to:

1. [Learn more](#)

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### Learn more

#### General knowledge

- [Learn CSS](#)
- [CSS on Wikipedia](#)

#### Technical reference

- [The CSS documentation on MDN](#)
- [The CSS Working Group current work](#)

#### Learn about CSS

- [The web course on codecademy.com](#)

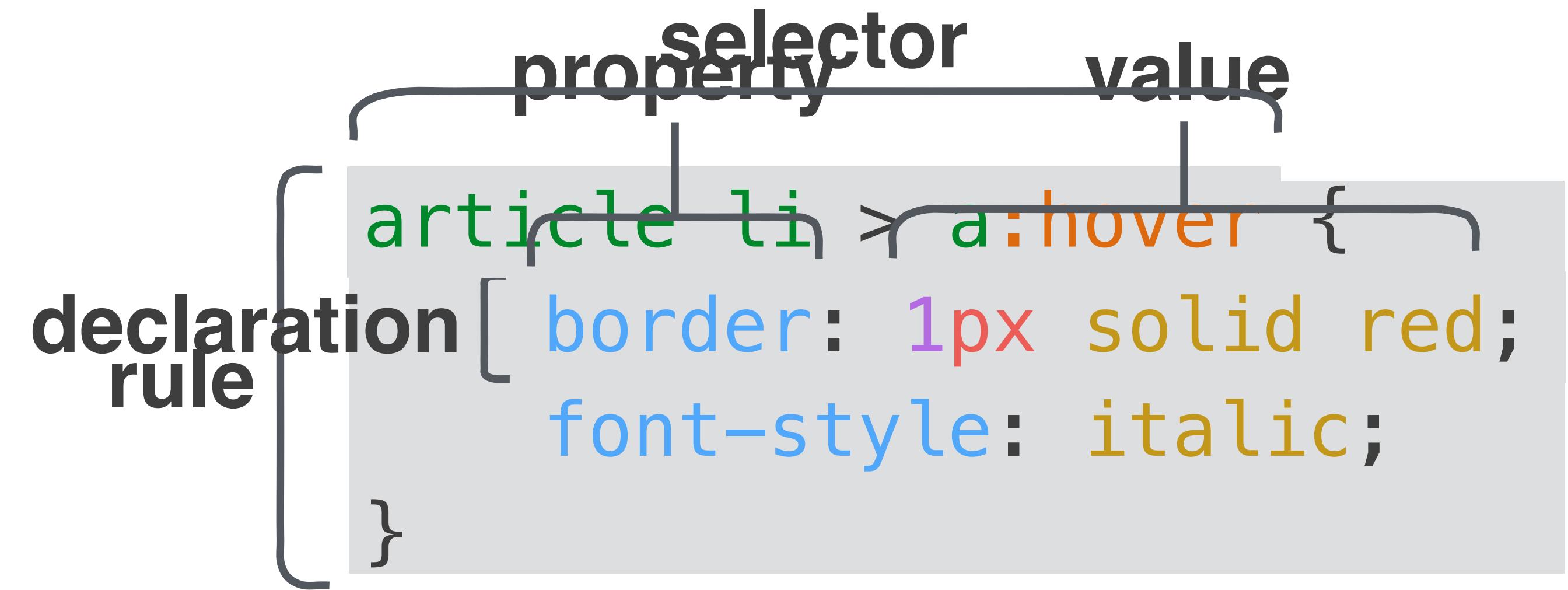
#### Document Tags and Contributors



Tags:

- [CodingScripting](#)
- [CSS](#)
- [Glossary](#)
- [!On-priority](#)
- [Web](#)

# TERMS



# RULE EXAMPLE

apply these styles →

```
article li > a:hover  
border: 1px solid red;  
font-style: italic;
```

to any elements matching **this** selector

even for any future changes ***declarative!***

# SELECTORS

<b>tag</b>	<code>input</code>
<b>class</b>	<code>.btn</code>
<b>id</b>	<code>#upload</code>
<b>attribute</b>	<code>[type="file"]</code>
<b>pseudo-element</b>	<code>::after</code>
<b>pseudo-class</b>	<code>:hover</code>
*	*

# COMBINATORS

`tag.class`

element with BOTH `tag` AND `.class`

`tag .class`

element with `.class` whose ANCESTOR matches `tag`

`tag,.class`

element with EITHER `tag` OR `.class`

`tag>.class`

element with `.class` whose PARENT matches `tag`

# CASCADING STYLE SHEETS

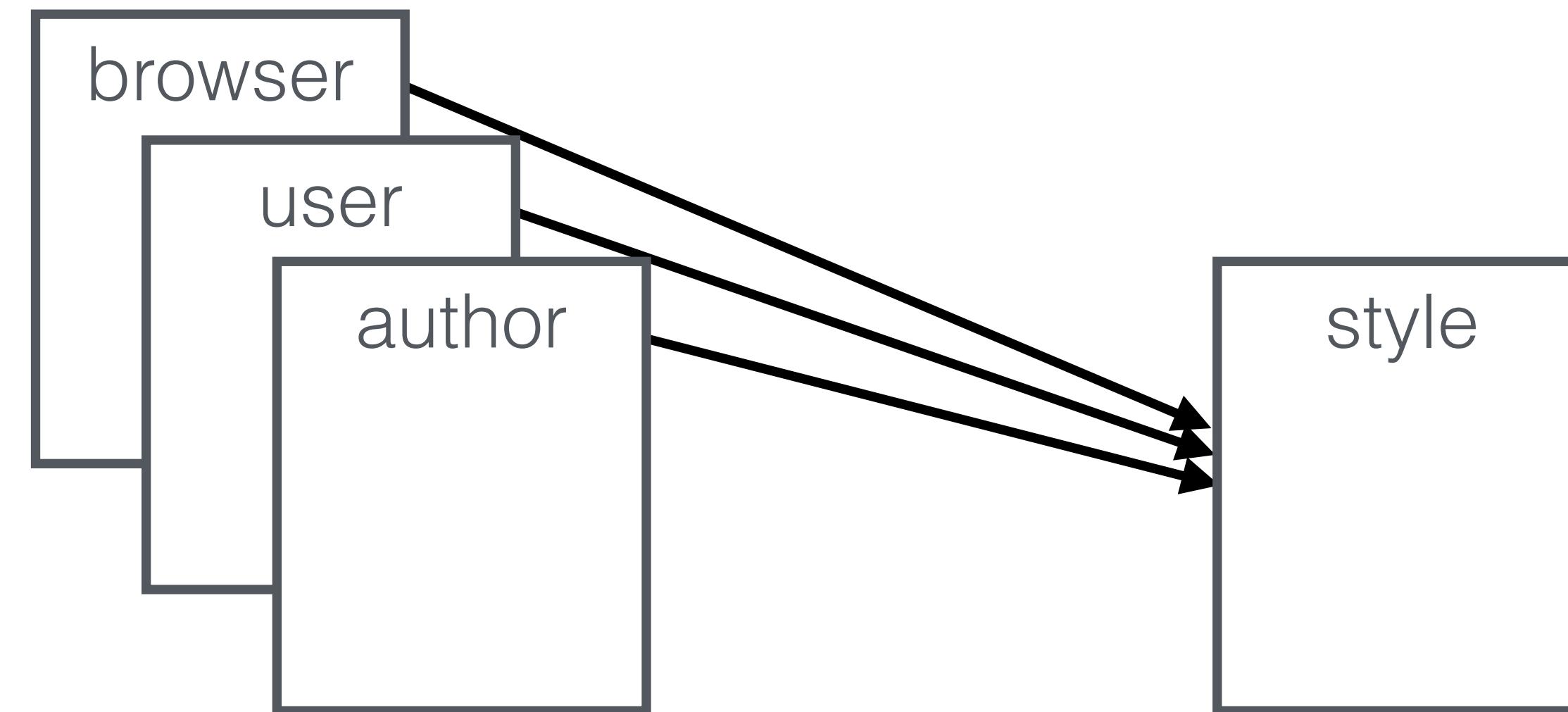
# CASCADING

In ~1994... CSS had one feature that distinguished it from all the [competing style languages]: it took into account that on the Web the style of a document couldn't be designed by either the author or the reader on their own, but that their wishes had to be combined, or "cascaded," in some way.

CASCADING STYLE SHEETS, DESIGNING FOR THE WEB, BY HÅKON WIUM LIE AND BERT BOS (1999) - CHAPTER 20

# CASCADING

*An element's style is a merge of every rule whose selector matches*



## index.html

```
<head>
  <link rel="stylesheet" href="styles-B.css" />
  <link rel="stylesheet" href="styles-A.css" />
</head>
<body>
  <ul>
    <li style="background-color:blue;">A</li>
  </ul>
</body>
```

## styles-A.css

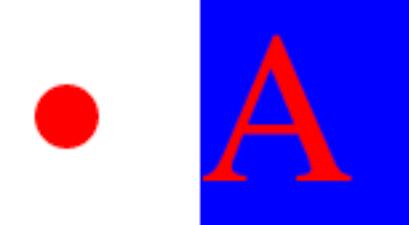
```
li {
  color: red;
}
```

## styles-B.css

```
li {
  font-size: 40px;
}
```



view



style

```
element.style {
  background-color: blue;
}
```

```
li {
  color: red;
} styles-A.css:1
```

```
li {
  font-size: 40px;
} styles-B.css:1
```

```
li {
  display: list-item;
  text-align: -webkit-match-parent;
}
```

user agent stylesheet

# What happens when declarations conflict?



```
<div id="thing"></div>
```

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

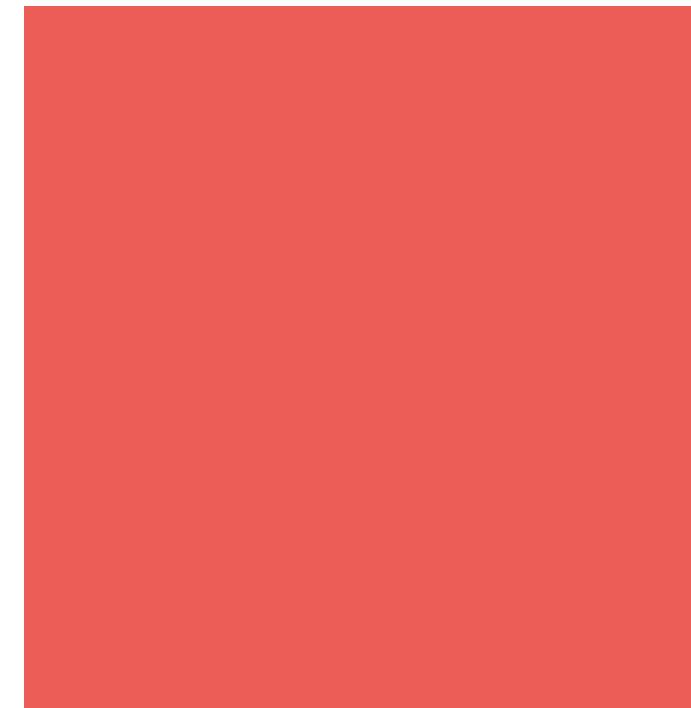


```
#thing {  
  background: blue;  
}
```



```
<div class="foo"></div>
```

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

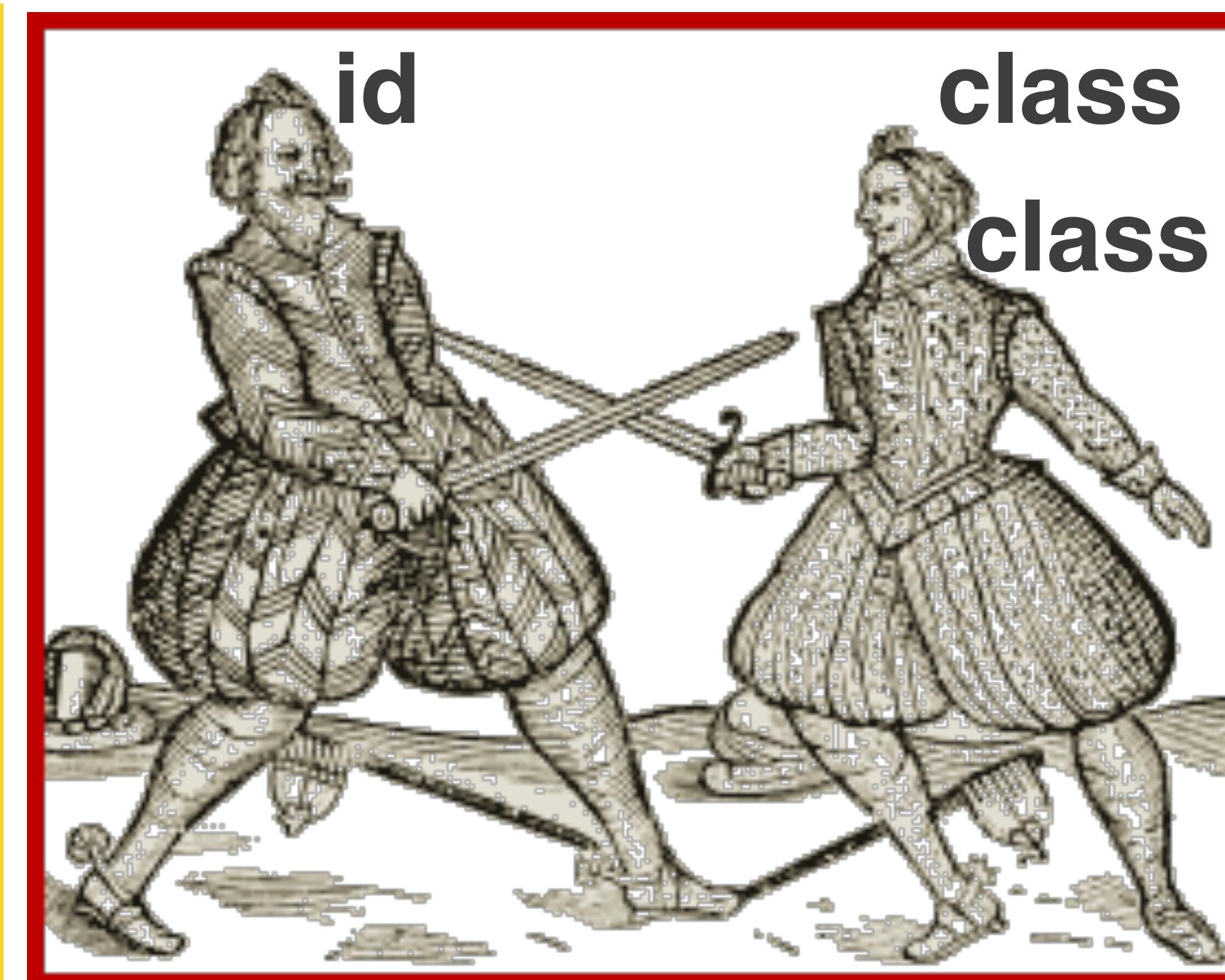


```
.foo {  
  background: green;  
}
```



```
<div id="thing" class="foo bar"></div>
```

```
#thing {  
  background: blue;  
}
```

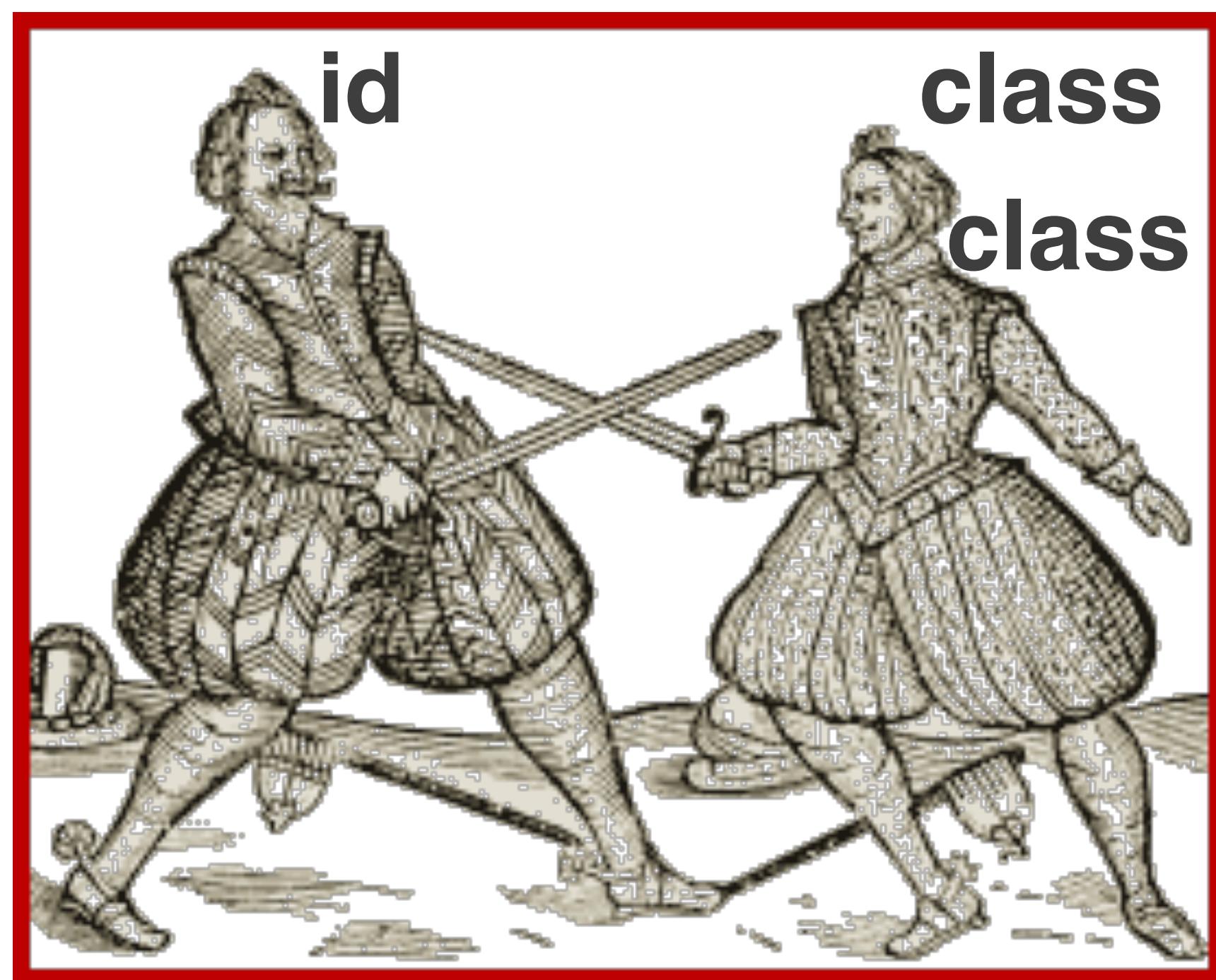
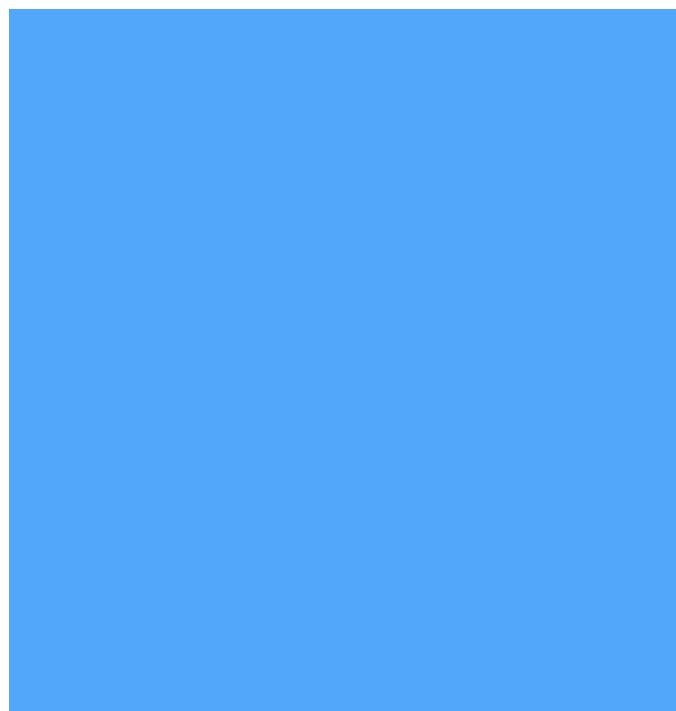


```
.foo.bar {  
  background: green;  
}
```



```
<div class="outer">  
  <div id="thing" class="foo" style="background:orange;"></div>  
</div>
```

```
#thing {  
  background: blue;  
}
```



```
.outer .foo {  
  background: green;  
}
```



# SPECIFICITY

- If there are two or more conflicting rules that point to the same element, there are rules the browser follows to figure out what is the most specific one
  - That most specific one will be the style the browser goes with
- CSS Gotcha: Check your specificity if some CSS rules are not being applied
- Rule of specificity
  - Inline styling > IDs > Classes, Pseudo-classes, Attributes > Elements, Pseudo-elements
- Specificity Calculator: For when your styling gets out of control

# THE BOX MODEL

# THE BOX MODEL

- A set of rules that define how every webpage on the Internet is rendered
- CSS treats each element in your HTML document as box with different properties that determine where/how it appears on a page
  - Recall: HTML Elements have two flavors:
    - Block elements
    - Inline elements

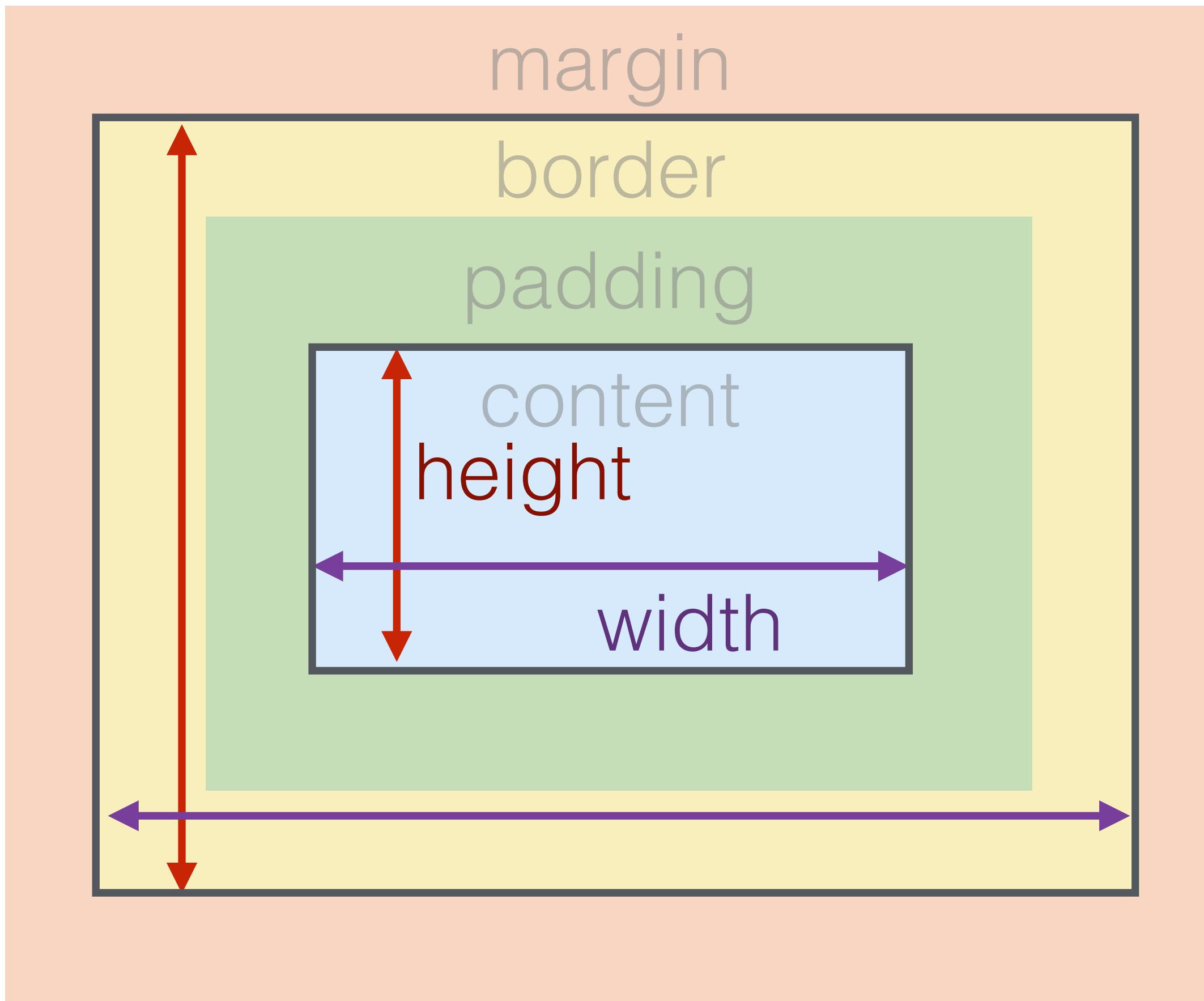
# SOME TERMINOLOGY OF THE BOX MODEL

- **Content:** The text, image, or other media content in the element
- **Padding:** The space between the box's content and its border
- **Border:** The line between the box's padding and margin
- **Margin:** The space between the box and surrounding boxes

# BOX MODEL

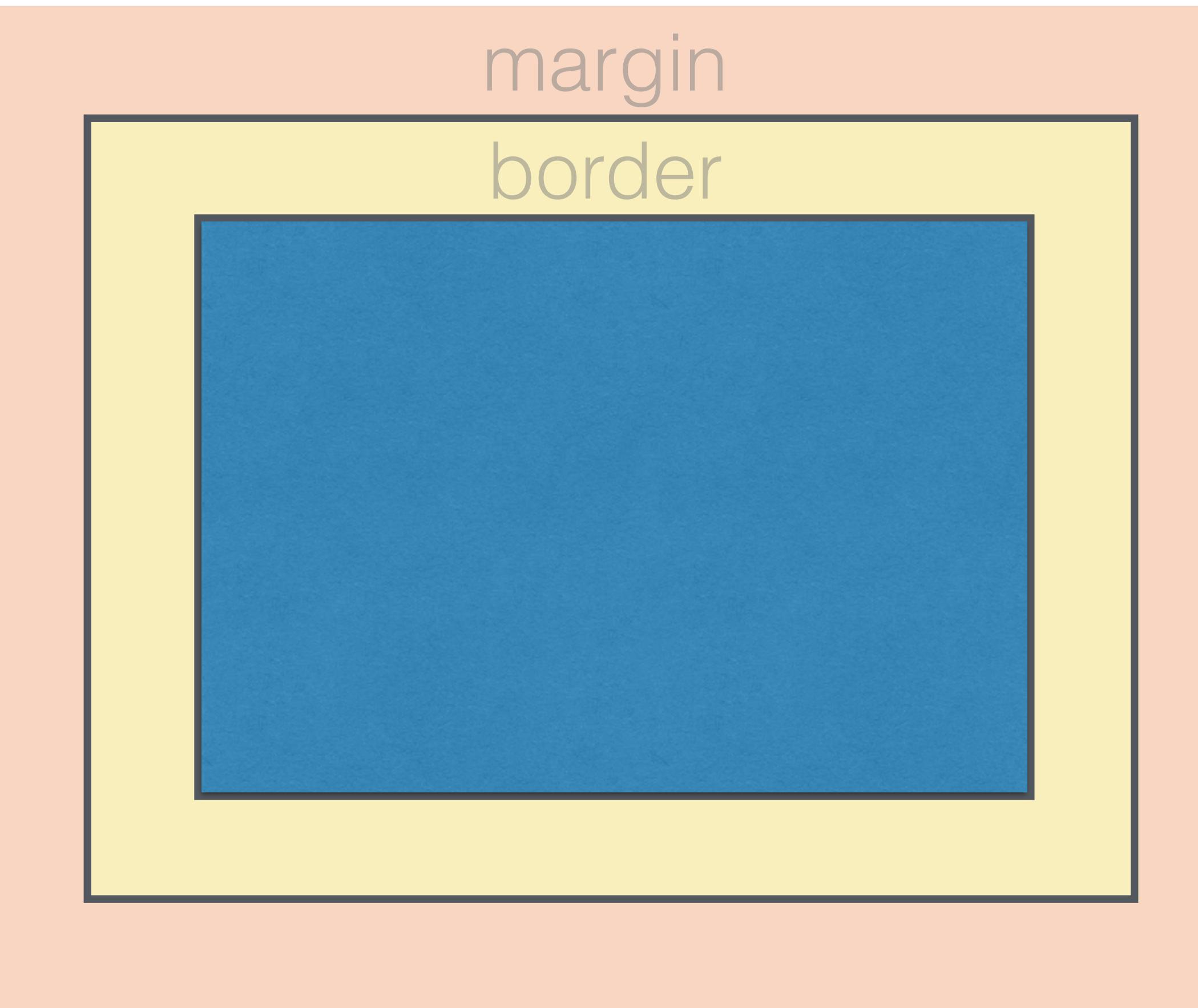
```
border box
{
  box-sizing: border-box;
}

content box
{
  box-sizing: content-box;
}
```

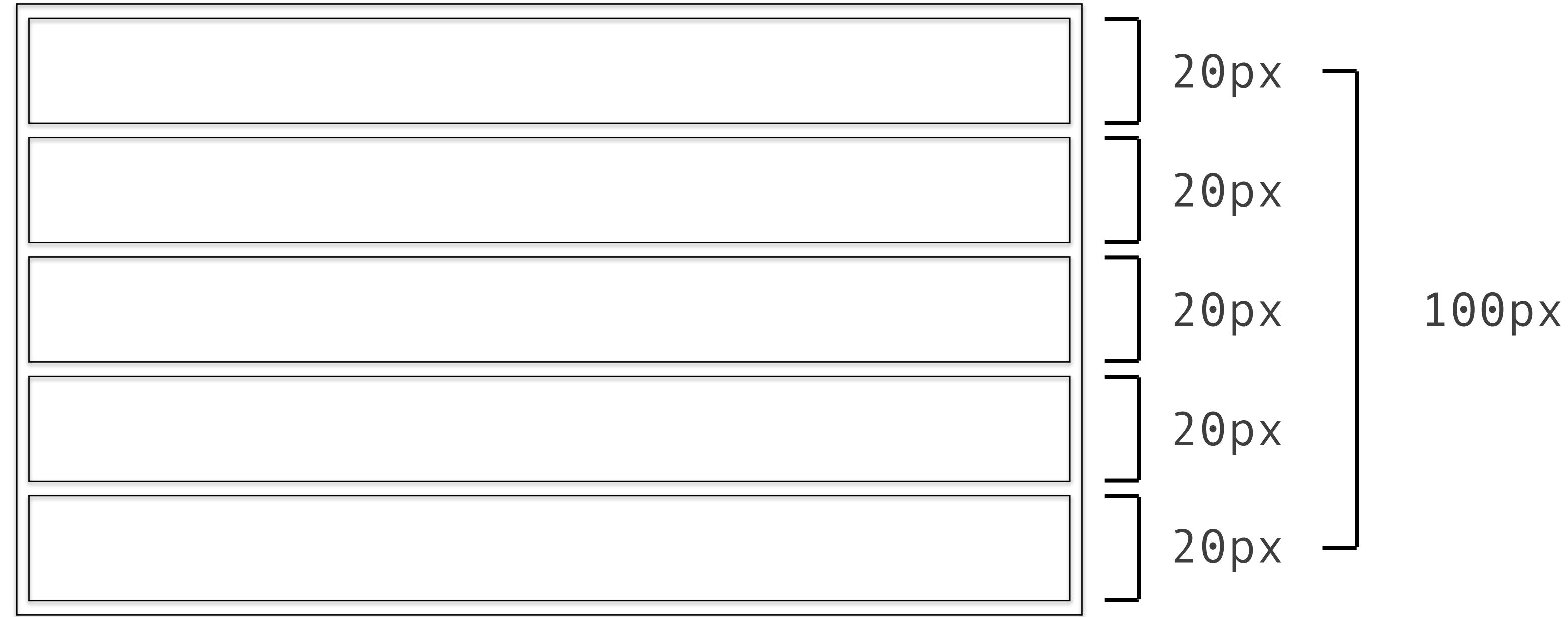


# BOX MODEL

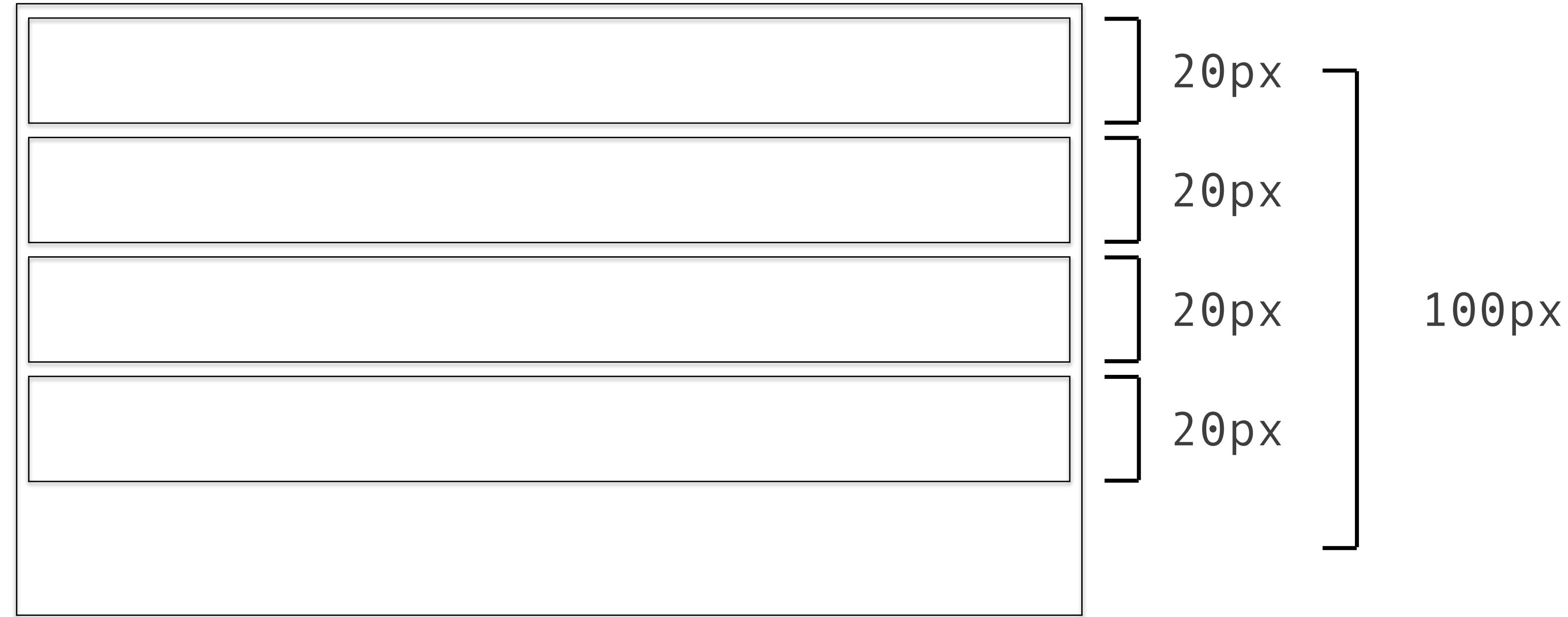
background

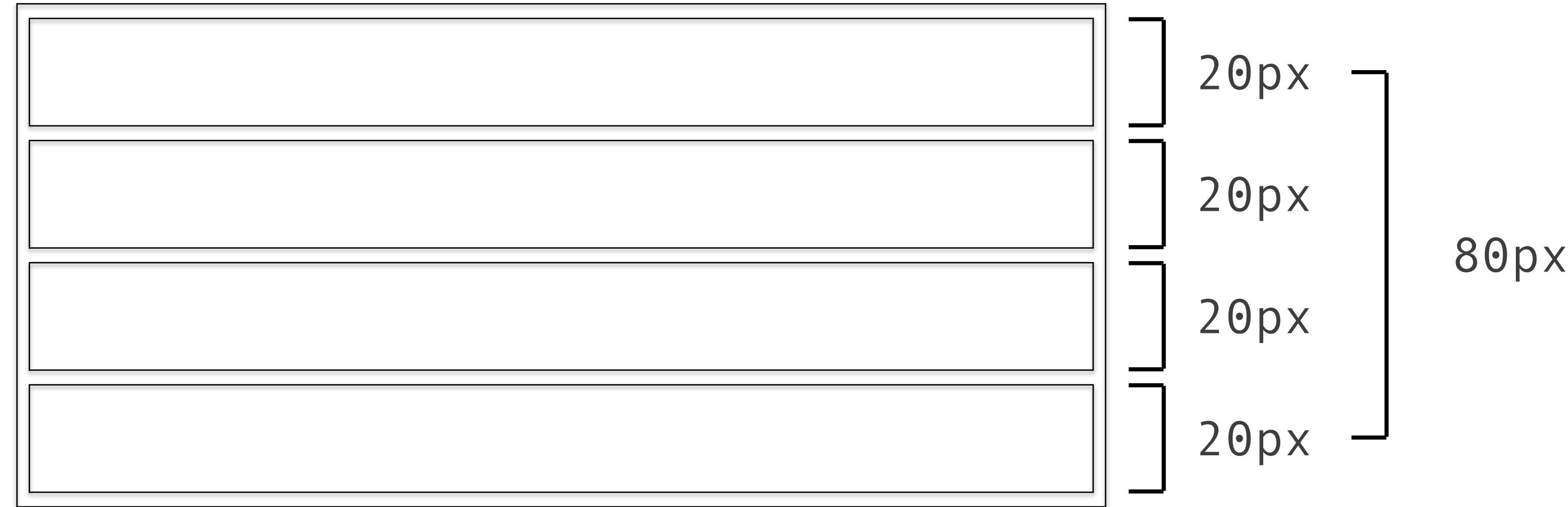


$$\text{parent.height} = \sum \text{children.height}$$

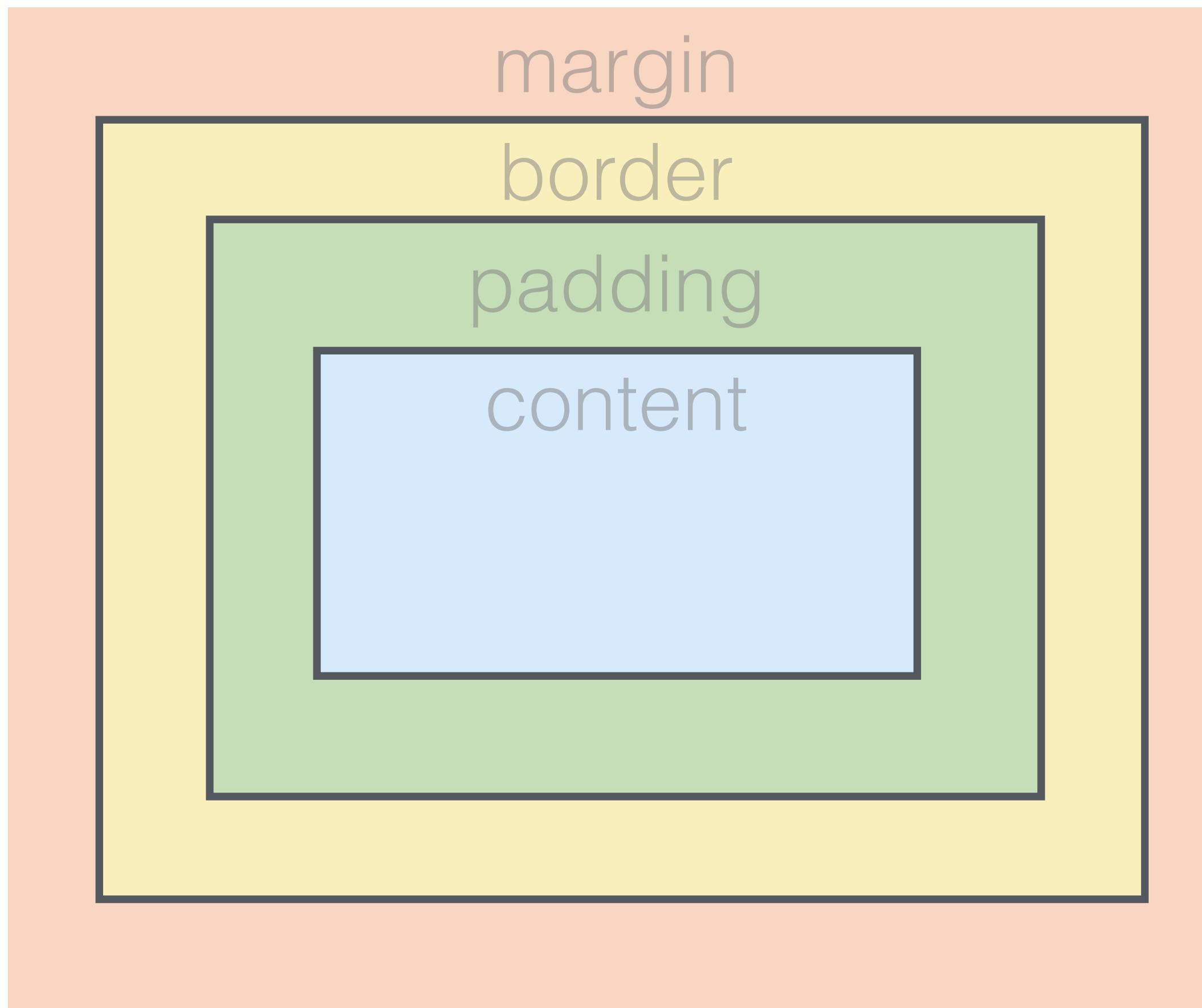

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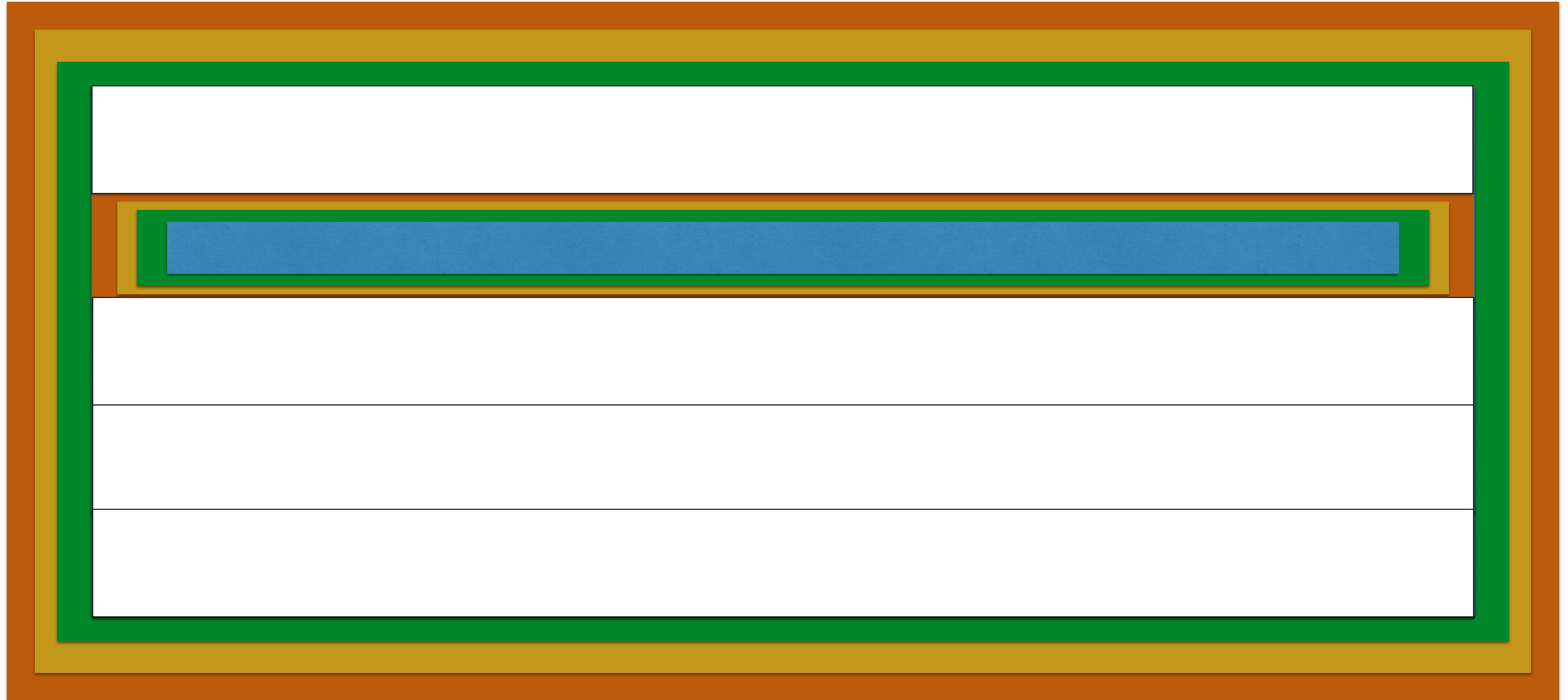

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# BOX MODEL





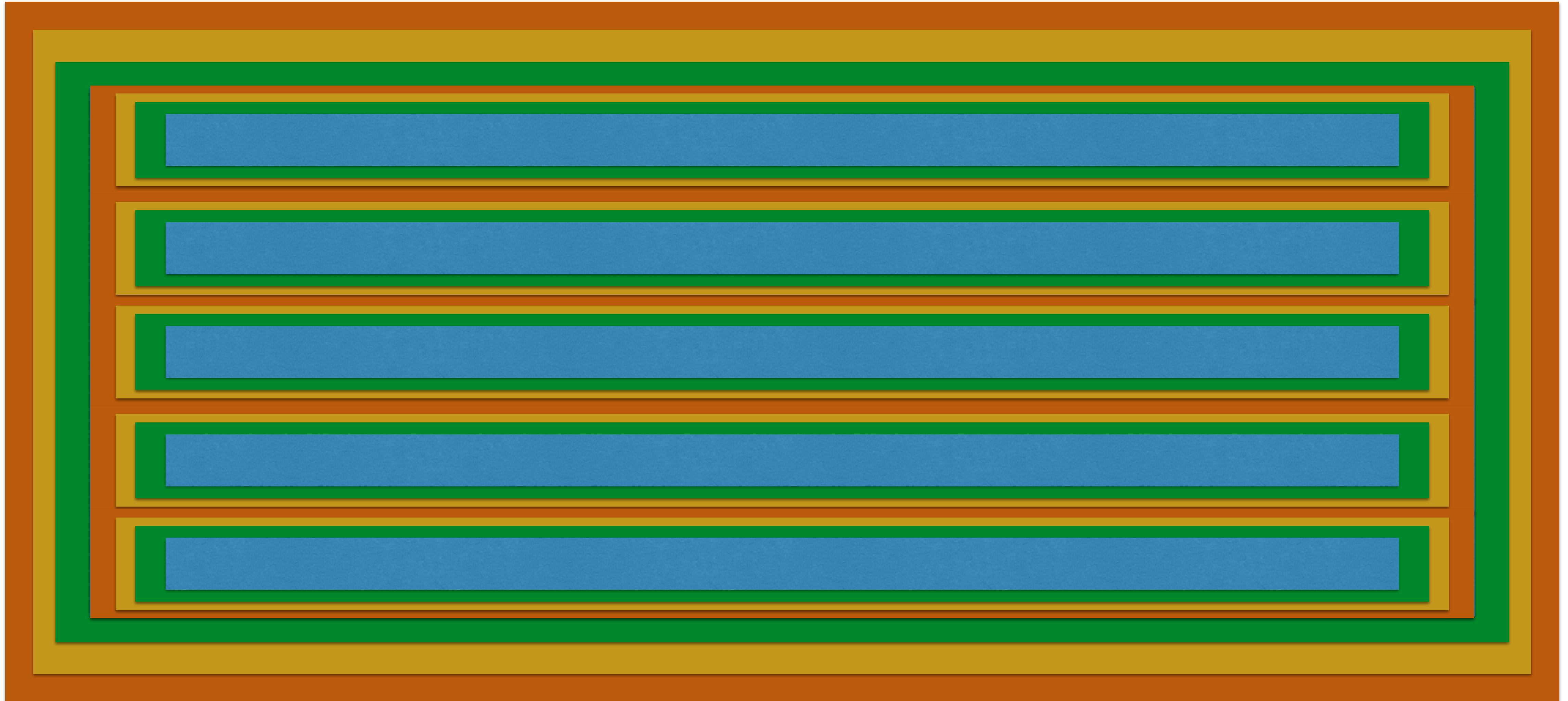














# RESPONSIVE

I heard you want to be a web developer



Here are a few devices to test your site



# RESPONSIVE DESIGN

- Website is fully functional for all screen sizes, resolutions and orientations
- Born out of necessity (see previous slide)
- Developers and designers should cater to the user's environment, not the other way around





# MEDIA QUERIES

- Uses @media rule to conditionally apply CSS properties

# MEDIA QUERY

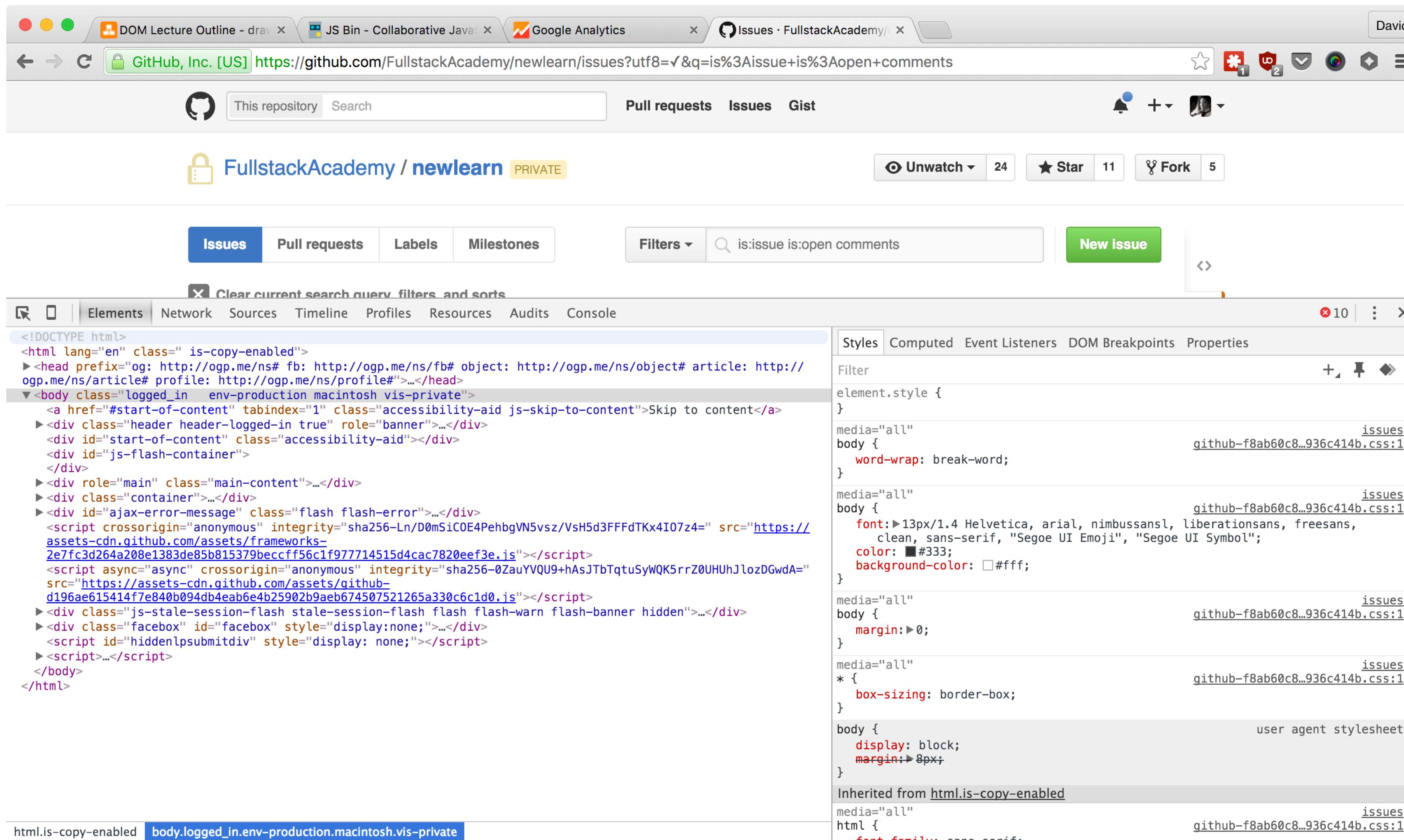
“At rule” Media Type

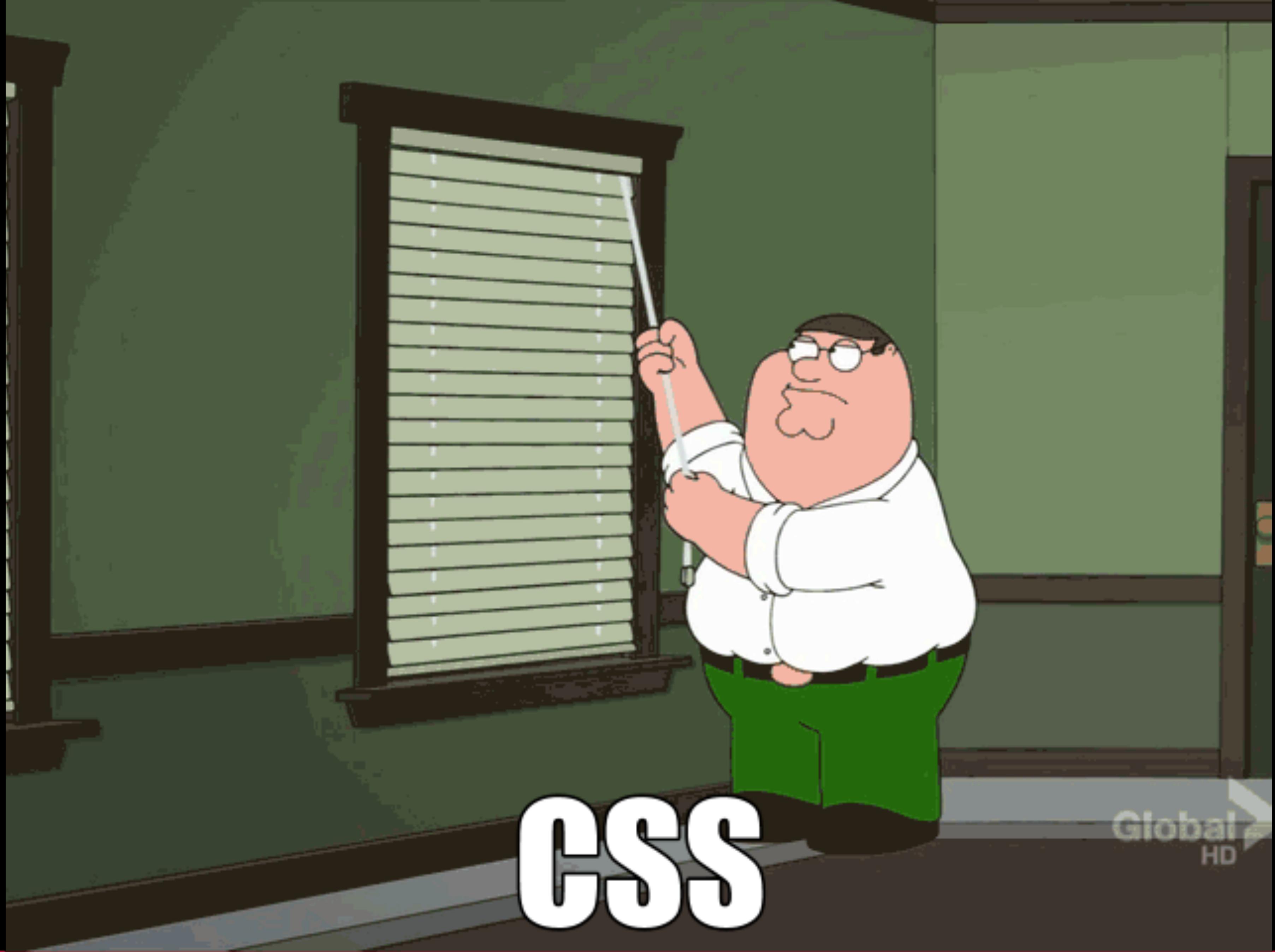
```
@media only screen and (max-width: 400px) {  
  body {  
    background-color: blue;  
  }  
}
```

Media Feature

If the browser window is 400 px or smaller, the background color will be blue

# Developer Tools





Global  
HD