
GENERAL ASSEMBLY
Code in One Day:
HTML & CSS Crash Course

GENERAL ASSEMBLY

Empowering people to pursue work they **love**.

What We Teach

- Coding
- UX & Design
- Data
- Digital Marketing
- Product Management

Continue Your Education

	Front-End Web Development	Web Development Immersive
Format	10-week part-time, evening course	12-week full-time course, Monday-Friday
Outcome	Learn to develop beautiful web pages with HTML, CSS, & JavaScript.	Learn the skills to become an entry-level web developer and the resources to get a job in this intensive program.
Tuition	$3,950	$14,950
Learn More	www.ga.co/fewdbos	www.ga.co/wdibos

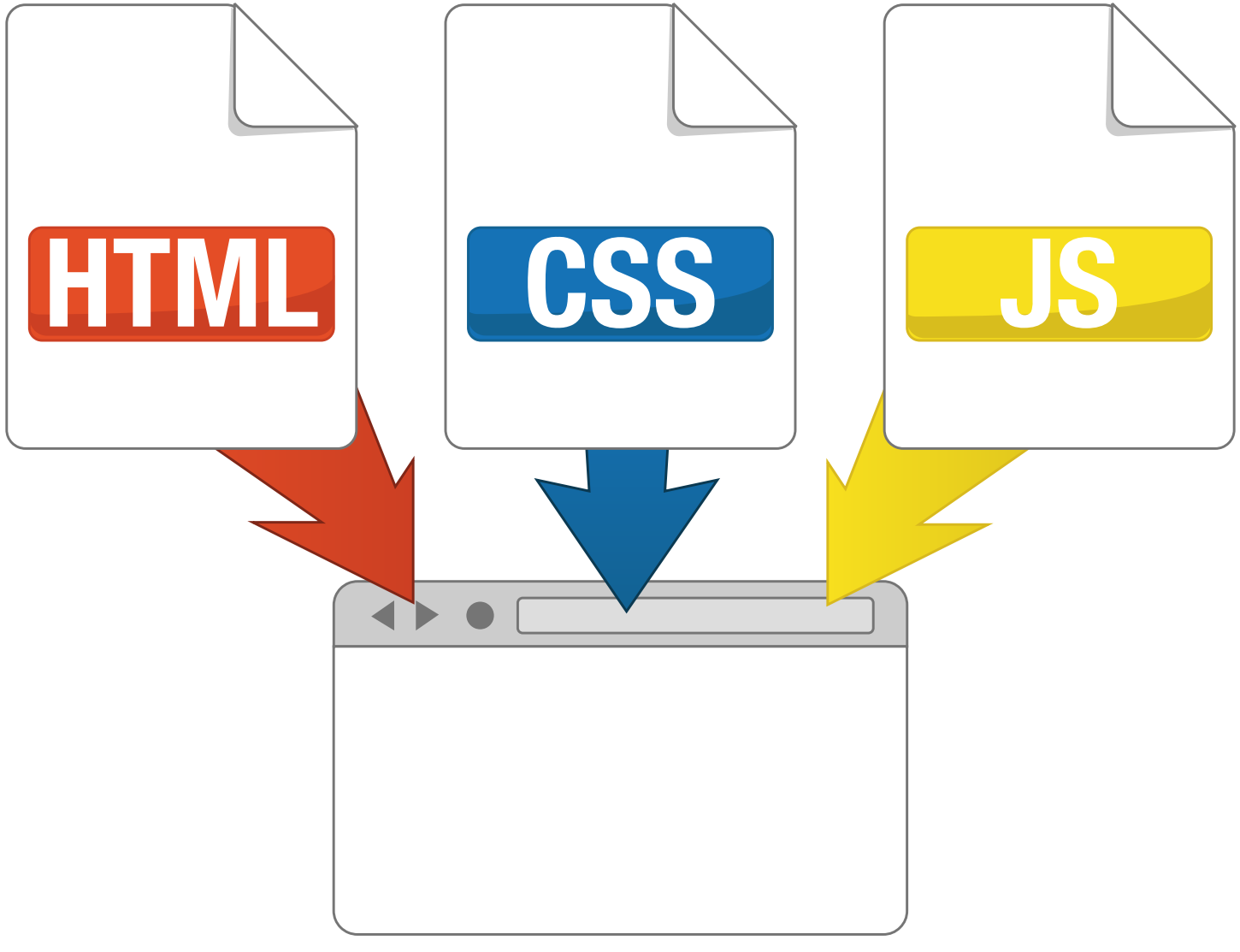
Introductions

What We'll Cover

- Building Web Pages with HTML & CSS
- How Stuff Behaves in the (Sometimes Weird) World of the Web
- Where to Go from Here

Primer

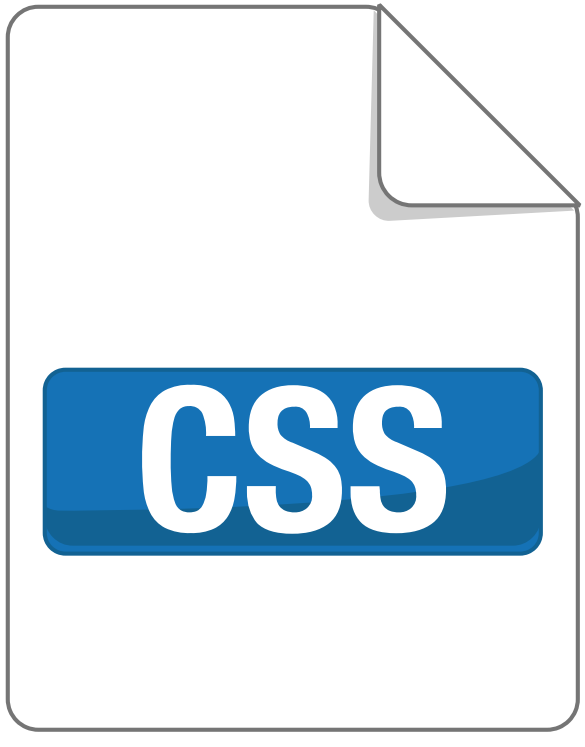
How Web Pages Work



Hypertext Markup Language

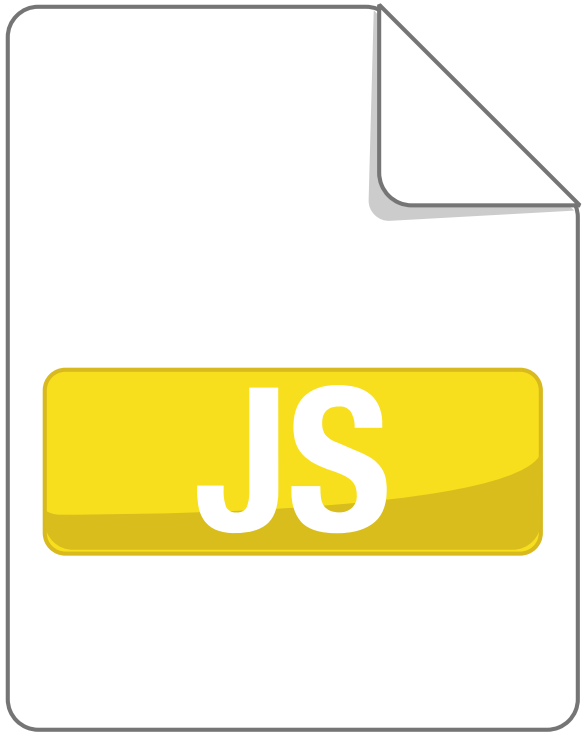
HTML provides the ***structure*** for your web pages

Cascading Style Sheets



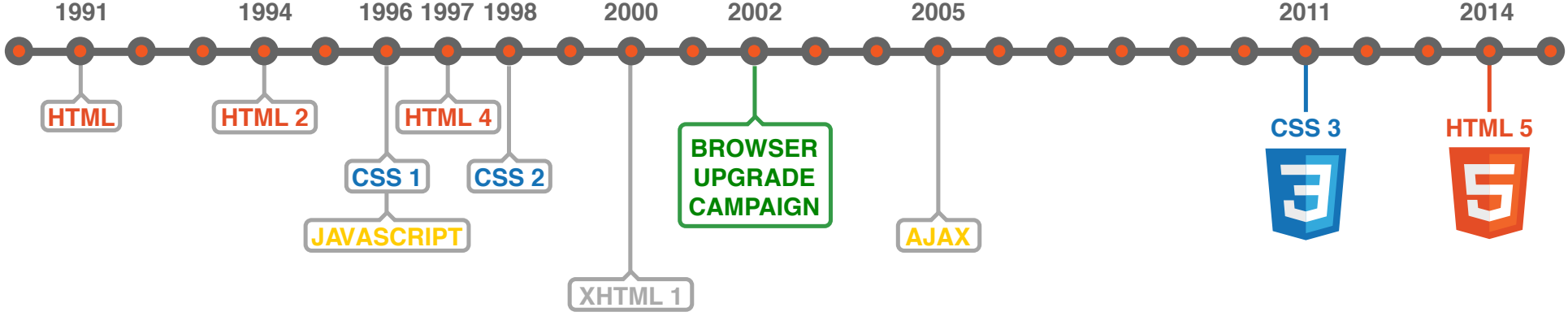
CSS defines how the elements of the web page should ***look***

Javascript



Javascript is used to add ***interactivity***

History of Web Standards



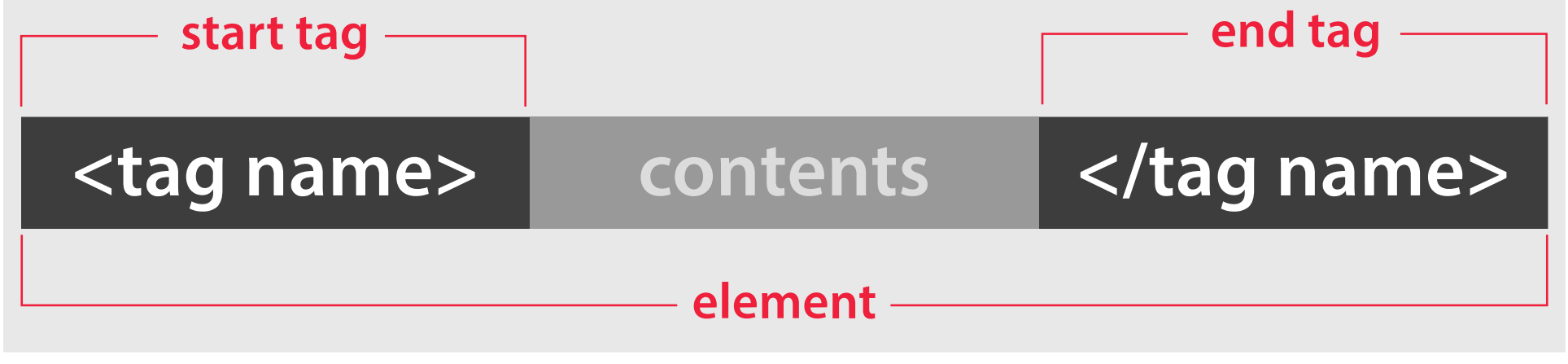
Part 1

Objectives: Part 1

- Describe the anatomy of a web page and create the basic structure of a page in HTML
- Apply HTML tags to web page content
- Style web pages with CSS
- Link external CSS files

HTML Basics

HTML Syntax



HEADS UP: Some tags only have a start tag.

HTML Syntax


may be optional or required
<tag name
attribute name = "value"
>
start tag

What's up DOC?

- The HTML5 doctype tells the browser to behave **strictly** according to the standards
- Case-insensitive but conventionally written as:

```
<!DOCTYPE html>
```

Anatomy of a Web Page

Every HTML page has the same foundational structure

```
<!DOCTYPE html>
<html>
<head>
    <title>Your Title Here</title>
</head>
<body>
    Your Content Here
</body>
</html>
```

Content Tags

Your content needs structure too! Content tags are used to delineate different page contents. They go in between the `<body> ... </body>` tags in your html page.

Content Tags

Heading Tags

```
<h1>Largest Heading</h1>

<h2> . . . </h2>

<h3> . . . </h3>

<h4> . . .</h4>

<h5> . . . </h5>

<h6>Smallest Heading</h6>
```

Content Tags

Text Elements

```
<p>paragraph text</p>
```

Content Tags

Unordered list

```
<ul>...</ul>
```

Content Tags

List item

```
<ul>
    <li>Item</li>
    <li>Another Item</li>
</ul>
```

Content Tags

Links

```
<a href="url">Link Text</a>
```

General Assembly Press Release

Block Elements

Block elements *block* other elements from sitting next to them.

```
<p>I'm a block element.</p>
<div>So am I!</div>
```

I'm a block element.

So am I!

Inline Elements

Inline elements wrap inside their containing elements.

```
<span>I'm an inline element.</span>
<a href="#top">I am too!</div>
```

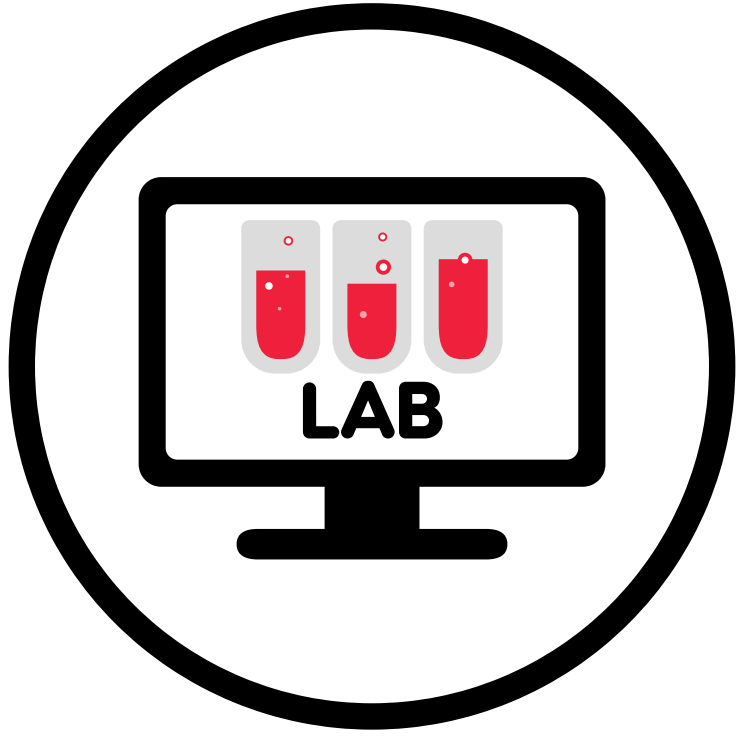
I'm an inline element. I am too!

Breaking up Your Page

- header
- nav
- main
- aside
- section
- div
- footer

Helpful Inline Tags

- span
- strong
- em
- a
- code
- img



Cookie Recipe HTML

Lab Setup

https://github.com/jmeade11/crashcourse

1. Go to the URL above
2. Click the green **Clone or download button**
3. Click the link to **Download ZIP**
4. Uncompress the crashcourse-master.zip file and move it to your desktop
5. Open the crashcourse-master and navigate to the labs folder

lab1

Lab Tasks

https://github.com/jmeade11/crashcourse/labs

1. In Sublime Text, choose **File>Open** and open the the labs folder
2. Expand the lab folder, then expand the **lab1** folder and click on the index.html file to open it
3. Add your HTML boilerplater
4. Copy the recipe from the online instructions and paste it in the body
5. Use what you've learned to add tags to the recipe
6. Control + click on the file in Finder and choose **Open With** > **Chrome** to review your work

CSS Basics

Selectors, Properties and Values (Oh My!)

```
selector {
  property: value;
}
```

CSS Selectors

Selectors target the elements you want to style

- **Element Tags**
- Combinators
- Classes & IDs
- Attributes
- Pseudo Classes

Properties

Properties are the styles you want to apply

- border
- color
- background-color

Values

Properties each have a set of specific values that they can accept

- border has values for the width, color and style
- color and background-color accept a color value

Style Tag

CSS **can** be added to your HTML page with a style tag.

```
<!DOCTYPE html>
<head>
  <title>My Page Title</title>
  <style><!--Style tags only go inside your head tags-->
    h1 {
      color: blue;
    }
  </style>
</head>
<body>
  ...
```

CSS Example

```
<style>
  h1 {
    color: darkblue;
    font-family: sans-serif;
  }
  h2 {
    color: maroon;
    font-family: sans-serif;
  }
  body {
    background-color: lightgray;
    border: 5px solid darkblue;
    padding: 5px;
  }
</style>
```

HEADS UP: Property names and values are case-sensitive!

CSS Properties

Color Properties

The `color` property sets the font color.

```
/* make the fonts on the
   page blue */

body {
  color: blue;
}
```

`background-color` sets the background color.

```
/* make the page background
   a light blue */

body {
  background-color: aliceblue;
}
```

CSS Properties

Border Properties

```
/* border is shorthand for:
   border-width
   border-style
   border-color */

ul {
  border: 1px solid darkgray;
}
```

Borders can be set for all sides or individually. For example, border-bottom can be used as the shorthand for the bottom border only. Properties can be specified individually as well, such as: border-top-style.

Font Properties

```
/* font is shorthand for:
    font-style, font-variant,
    font-weight, font-size,
    line-height, font-family; */
p {
  font: bold 16px sans-serif;
}
```

Several font-related properties can be set. The font property combines them into a single shorthand property.

HEADS UP: The shorthand notation requires at least the font-family and font-size, *and* font-family must be specified last.

CSS Basics

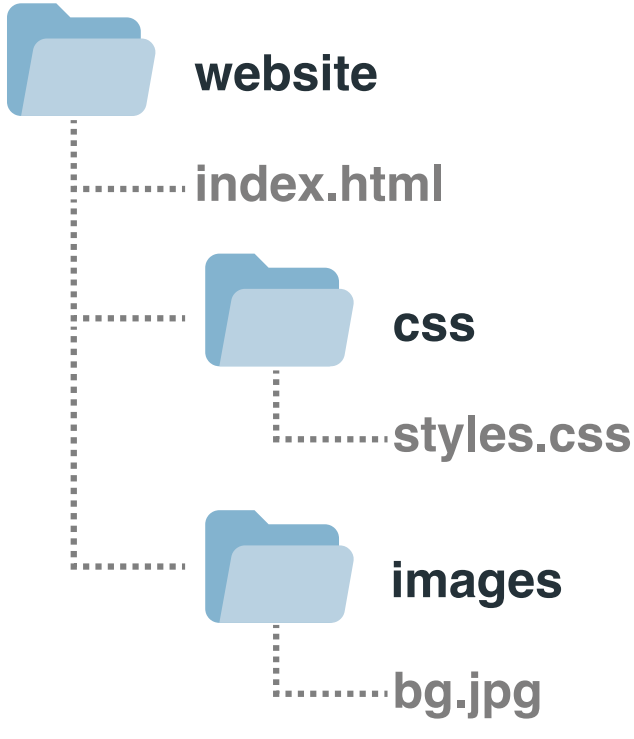
External Style Sheets

Linking Files

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

HEADS UP: No <style> tags are used!

Linking Files Relatively



- index.html → styles.css:

```
href="css/styles.css"
```

- styles.css → bg.jpg:

```
"../images/bg.jpg"
```

Linking a Stylesheet

Give Yourself a Hand!

Is it lunchtime yet?

Part 2

Quick Review

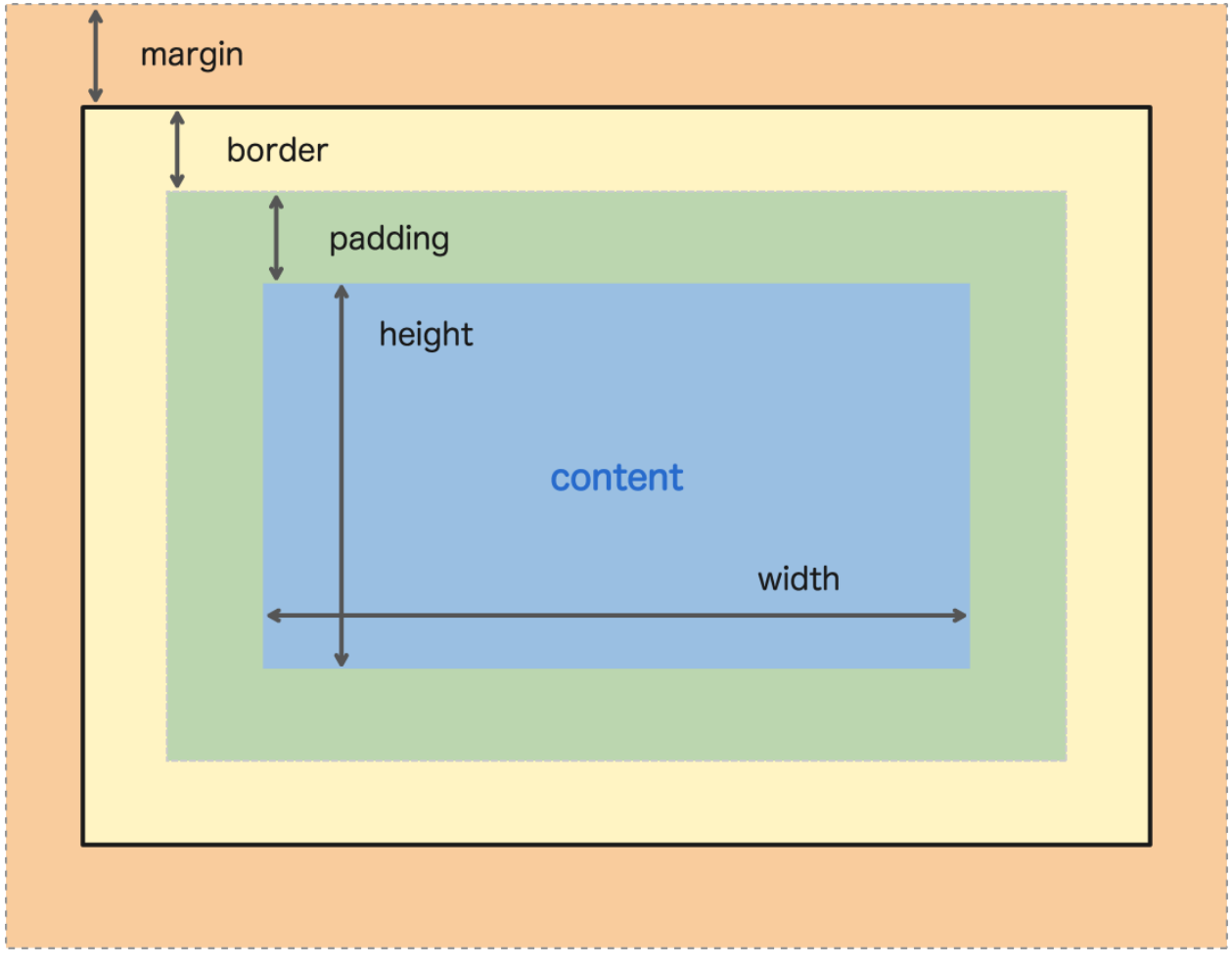
- Describe the different parts of an HTML page
- What is the doctype used for?
- What tag is used to link to an external stylesheet?

Objectives: Part 2

- Apply margins, padding and borders to elements
- Use fixed and relative units to adjust the height and width of elements
- Add colors with transparency
- Add images to the page and background

Applying Margins and Padding

The CSS Box Model

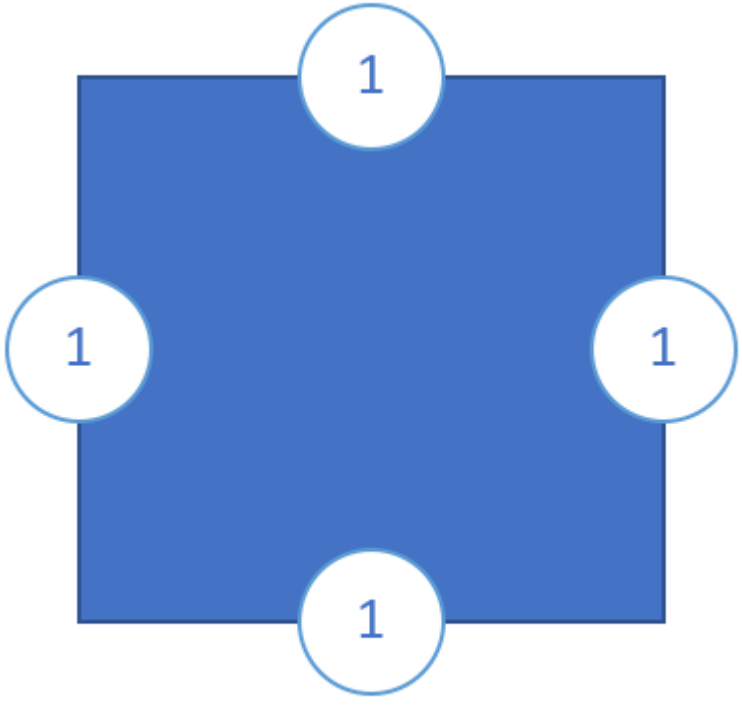


Margin & Padding

```
div {
  padding-top: 16px;
  padding-right: 30px;
  padding-bottom: 16px;
  padding-left: 30px;
}
```

```
div {
  margin-top: 24px;
  margin-right: 16px;
  margin-bottom: 24px;
  margin-left: 16px;
}
```

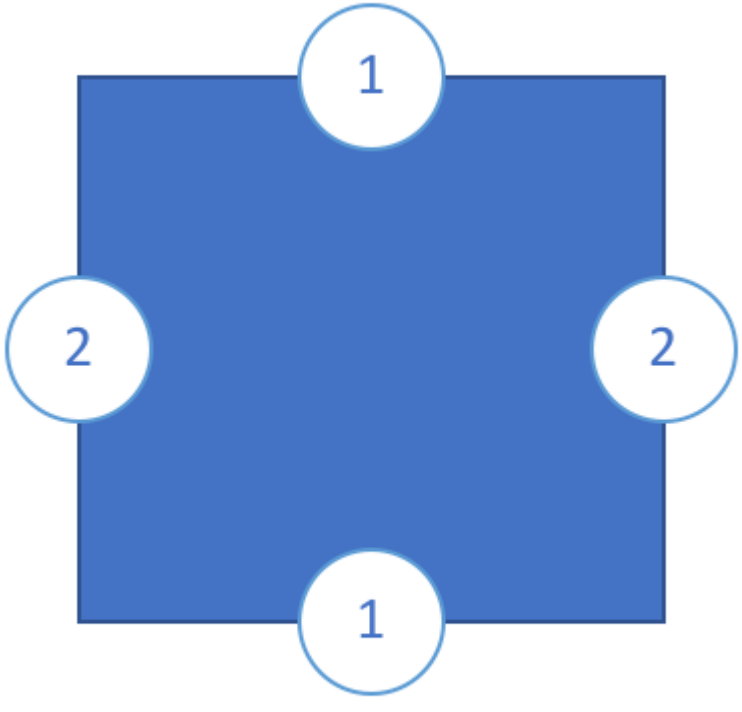
Shorthand Version




```
div {
  margin: 20px;
}
```

All sides the same!

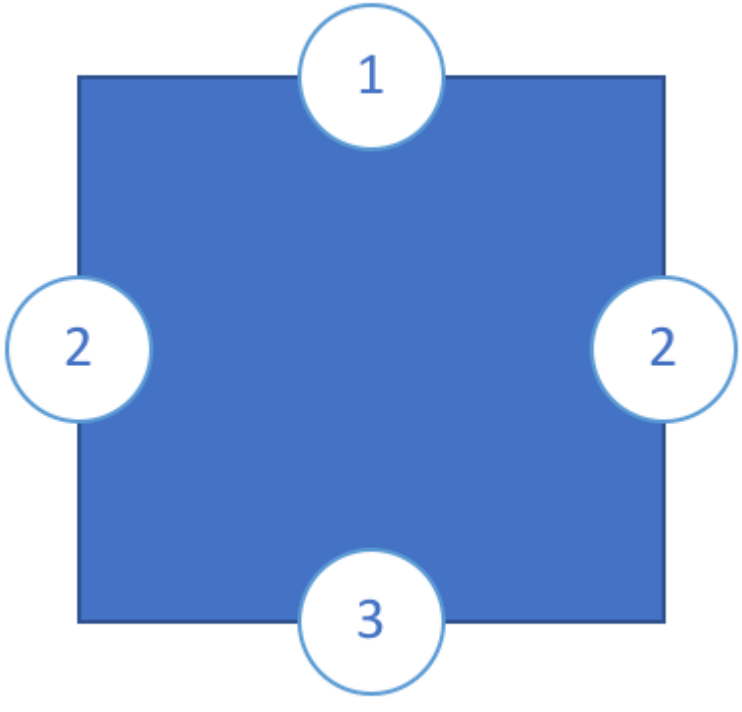
Shorthand with 2 Values




```
div {
  margin: 20px 50px;
}
```

Top/Bottom - Right/Left

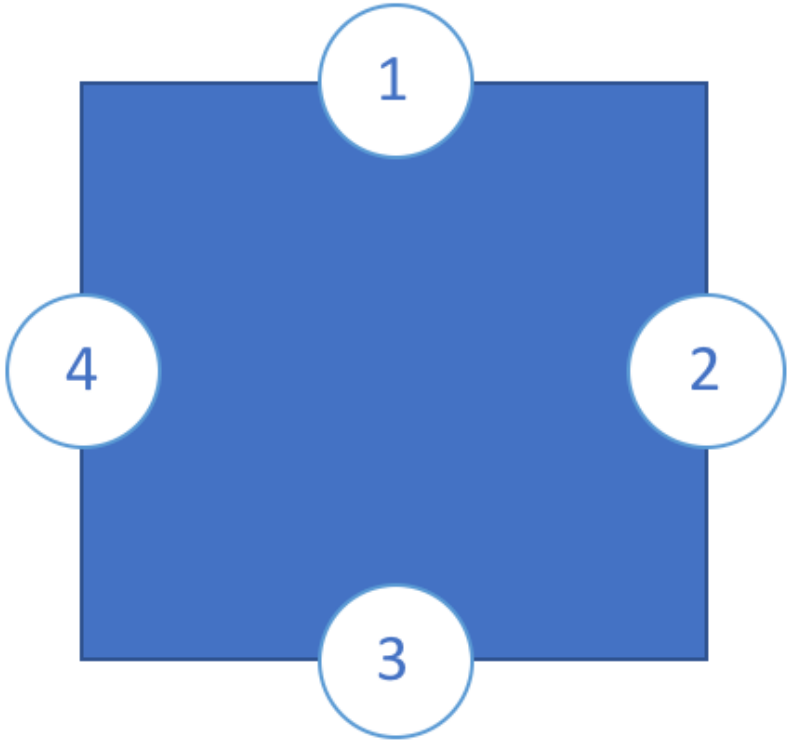
Shorthand with 3 Values




```
div {
  margin: 20px 50px 10px;
}
```

Top - Right/Left - Bottom

Shorthand with 4 Values




```
div {
  margin: 12px 20px 8px 10px;
}
```

If you have ***trouble*** remembering:
Top - **R**ight - **B**ottom - **L**eft

Units of Measure

Value	Description
px:	A fixed (aka absolute) value in pixels
em:	Relative to the font-size of the element (2em = 2 x the size of the current font)
rem:	Relative to the root element font-size
vh:	% of the viewport height (50vh = 50% of the viewport height)
vw	% of the viewport width
vmax	% of viewport's larger dimension
vmin	% of viewport's smaller dimension
%	It depends 💩

* Not comprehensive.

Heights & Widths

Height and width applies only to **block** elements.

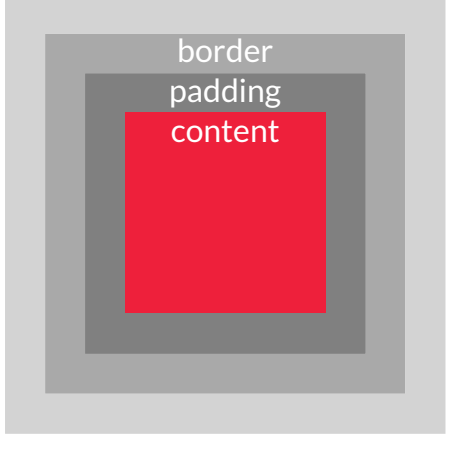
```
div {
  height: 50vh;
  width: 50vh;
}

span {
  height: 50px; /* THIS DOES NOT WORK */
}
```

Content vs. Padding Box

Content Box

220px



Border Box

140px

Each box height and width is set to **100px** with padding and margin set to **20px**.

The difference is **box-sizing**!

Box-sizing

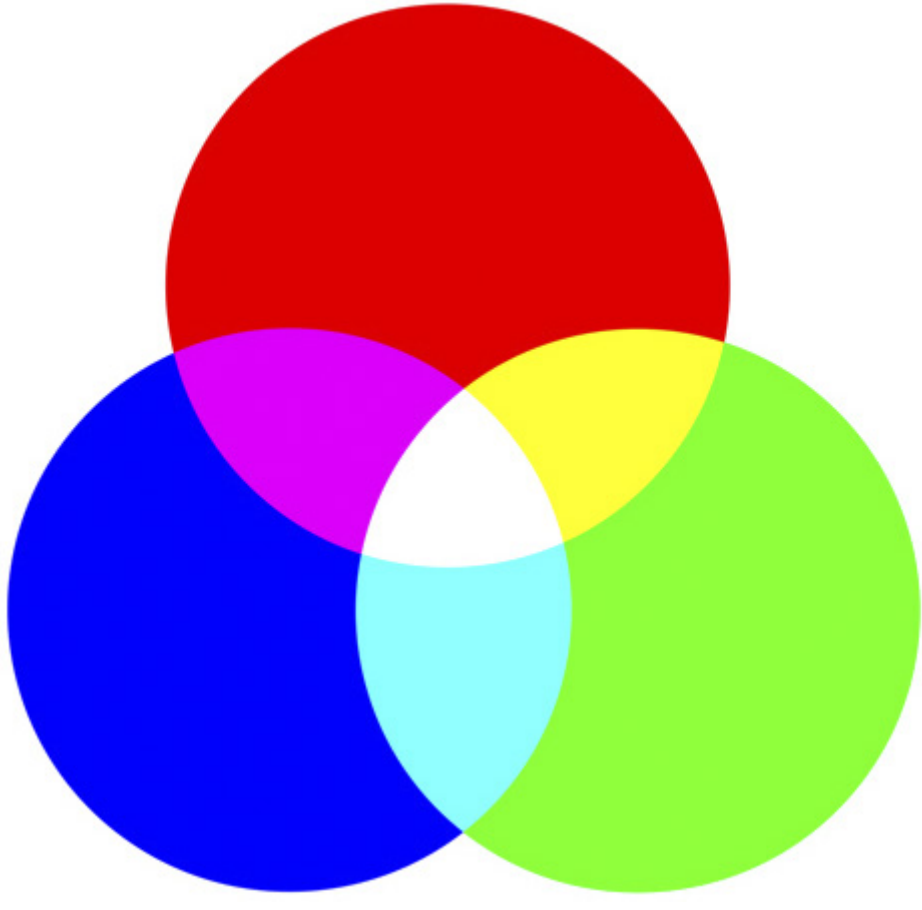
```
/* This special selector means apply this to everything! */

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

Margins, Padding & Borders

Colors

RGB Makes All Colors



Color Values

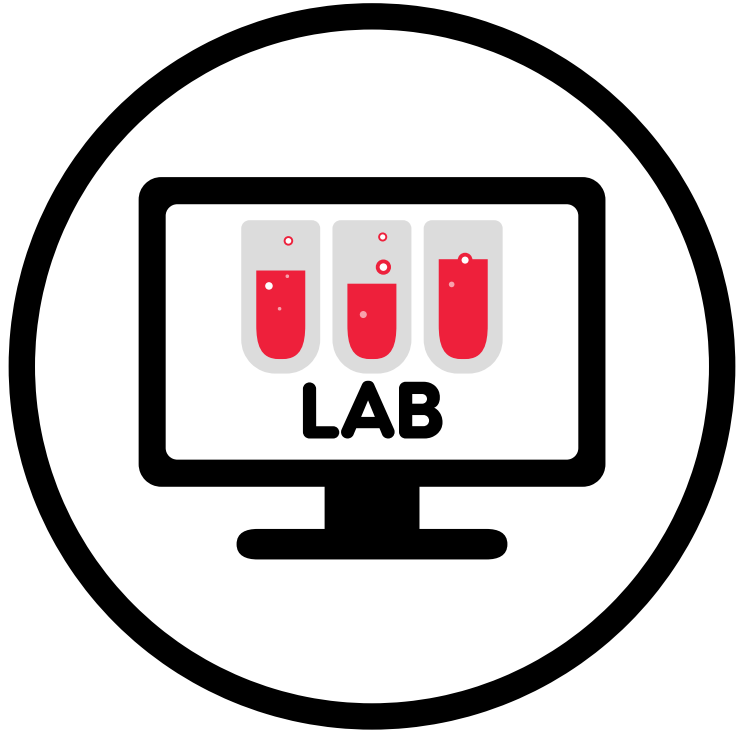
- Keyword
- RGB & RGBA
- HSL & HSLA
- Hexadecimal

🚩 **Alpha channels** are in values from 0 to 1, where zero is transparent and 1 is 100% opaque.

```
/* Keyword Syntax */
h1 {
  background-color: gray;
}

/* RGB & HSL Syntax */
p {
  color: rgba(0,0,0,1);
  border: 2px solid hsl(0,0%,0%);
}

/* Hexadecimal Syntax */
div {
  background: #ff0000;
}
```



Cookie Recipe CSS Basics

lab2

Lab Task

https://github.com/jmeade11/crashcourse/

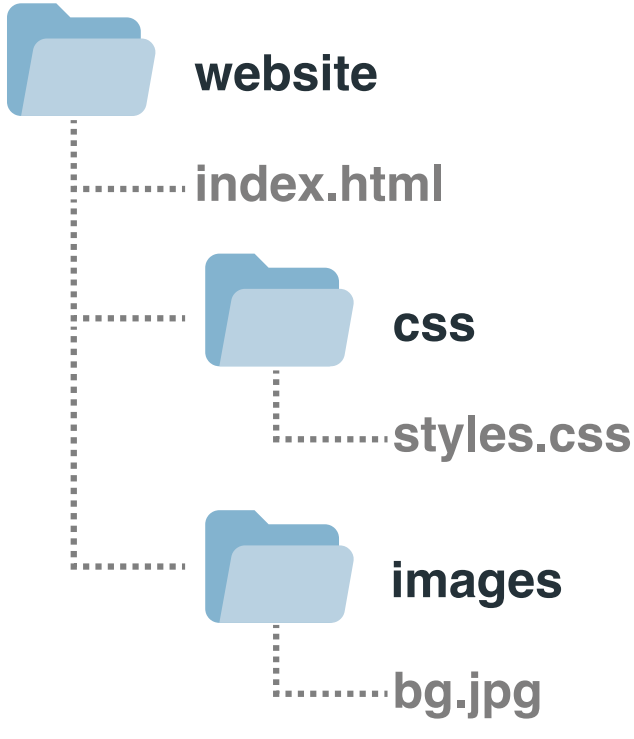
1. Set the background color for the html element to the color moccasin.
2. Style the link color as chocolate.
3. Add a solid, 15px wide, chocolate colored border around the body.
4. Set the body background color to oldlace and font color set to saddlebrown.
5. Add 20px of space between the border and the text on the body.
6. Change the h1 font-size 4rem.
7. Make the "MMMMMM COOKIES!!!!" bold.
8. BONUS Make more of the html background-color show around the outside of the body border.

Working with Images

Adding Images to Your Page

- Images can be added with the `<img>` tag in HTML **or** in the background via CSS
- Background images are design elements only and are ignored by screen-readers

Linking Files Refresher



- index.html → bg.jpg:

```
<img src="images/bg.jpg">
```

- styles.css → bg.jpg:

```
url("../images/bg.jpg")
```

Content Images

- The `<img>` tag has no closing tag
- The `src` attribute links the file and is required
- The `alt` attribute is used by screenreaders and for SEO

```
<img src="images/dogs.jpg" alt="A picture of my dogs">
```

Background Images

Background images are added through CSS

```
/*  The background-image property places
    the image in the background */

selector {
  background-image: url('path/to/file');
}
```

FYI: Elements can have multiple stacked backgrounds

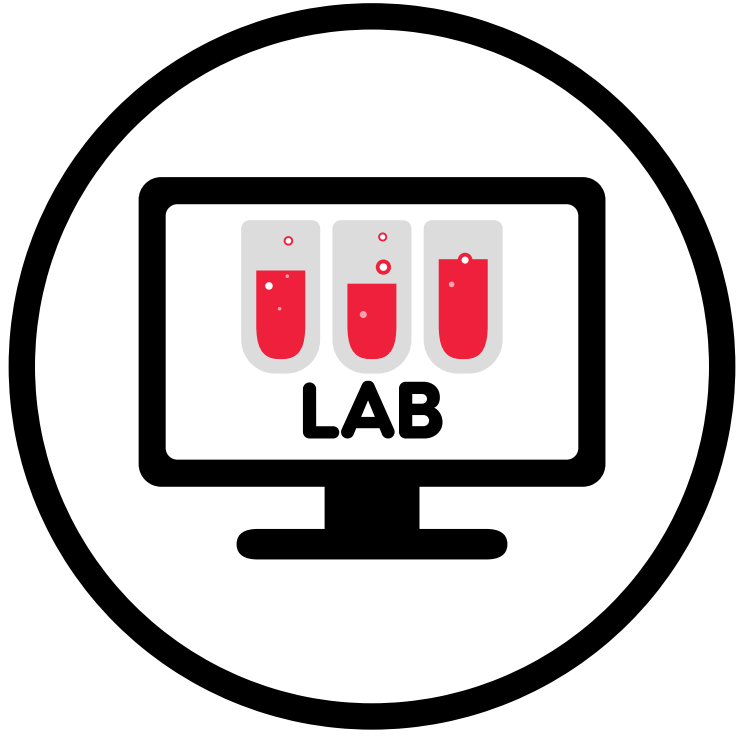
Background Properties

- `background-repeat`: tile the image or place once
- `background-position`: position the image in its containing element
- `background-attachment`: scroll with the page or remain fixed in one place
- `background-size`: the size of the image in the background
- `background-clip`: crop the image at the content-box, border-box or padding-box
- `background-origin`: place the image origin at the content-box, border-box or padding-box

Background Image Syntax

```
header {
  background-image: url('../images/bg.jpg');
  background-size: cover;
}
section { /* Multiple Backgrounds */
  background-image: url('../images/logo.png'), url('../images/bg.jpg');
  background-repeat: no-repeat, repeat;
  background-position: bottom right, top left;
}
main { /* Shorthand Format */
  background: url('../images/logo.png')
              no-repeat
              bottom right / 30%
              fixed;
}
```

Working with Images



Cookie Recipe Images

lab3

Lab Task

https://github.com/jmeade11/crashcourse/

1. Grandma is pretty happy but thinks her recipe page could use some pizzaz. Open the the index.html and the styles.css files in the lab4 folder.
2. Insert the cookie image into the page above the first heading.
3. Set the image width to be 100% so it scales to fit the width of its container.
4. Set the font family for the page to be sans-serif.

Phew! You made it...

You've earned a break

Part 3

Quick Review

- What is one type of color value?
- Can you describe the box model?
- What tag do you use to add an image to your HTML?

Objectives: Part 3

- Use classes, IDs, and combinators to apply styles
- Understand how styles inherit/cascade
- Describe how conflicting styles are applied

CSS Classes & IDs

Selector Types

- Element Tags
- **Classes & IDs**
- Combinators
- Attributes
- Pseudo Classes & Pseudo Elements

Classes & IDs

- Classes and IDs allow us to target elements without having to use the tag as a selector
- You can combine them with other selectors

IDs

- An ID may only be used once on a page
- An element may only have one ID

```
<div id="extra-special">
```

```
#extra-special {
  ...
}
```

Classes

- Classes are reusable as many times as you want
- An element can have as many classes as you want

```
<div class="big primary">
```

```
.primary {
  ...
}
.big {
  ...
}
```

Using Classes & IDs

Combinators

Using Combinators

- Descendant: space
- Child: >
- General Sibling: ~
- Adjacent Sibling: +

Using CSS Combinators

Game Time! CSS Diner

Cascading & Inheritance

CSS Cascades

- CSS properties inherit their values from their ancestors
- Properties can be overridden when you provide a rule that has more specificity
- Any rules that are not specifically overridden continue to be inherited

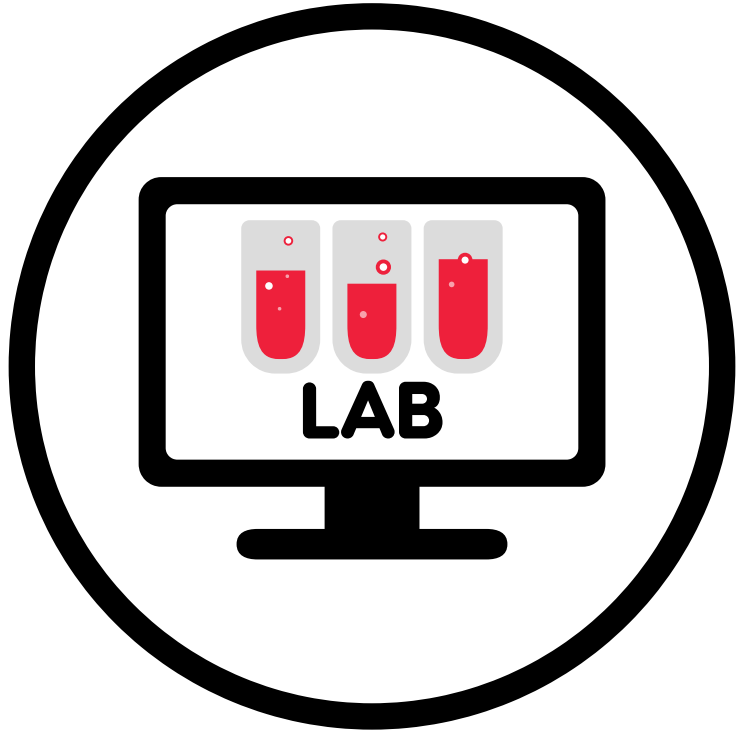
Selector Weighting

1. Inline Styles (highest)
2. IDs
3. Classes & Attributes
4. Element Tags

When Specificity Matters

- For identical rules, the last declaration for wins!
- Styles added directly to an element are the last that will be rendered.
- One exception is the special `!important` attribute.
- The more specific the rule the more importance it is given.
- When there are multiple rules that contradict one another, the specificity and weighting rules are applied.

Demystifying Cascade



Cookie Recipe Classes & IDs

lab4

Lab Task

https://github.com/jmeade11/crashcourse/

1. Grandma is pretty much over-the-moon now. Let's do a few clean up tasks in our CSS and HTML. Open the index.html and styles.css files in lab4 folder.
2. The h1 is centered, but we want to also center the h4 tag that credits grandma and the paragraph with the link at the bottom of the page.
3. Let's group each of the main areas of the recipe (ingredients, instructions, and nutrition) inside a set of section tags.
4. Give each one a corresponding id.
5. Make the list of ingredients only italic

Another one done!

Get coffee to power through the last part!

Part 4

Quick Review

- What does cascade mean?
- What selector is weighted highest?
- Is there any way to override a style attribute on a tag?

Objectives: Part 4

- Use floats to have more control over your layout
- Be aware of more modern methods for layout control
- Review some helpful shorthand properties

CSS Floats

What is Float?

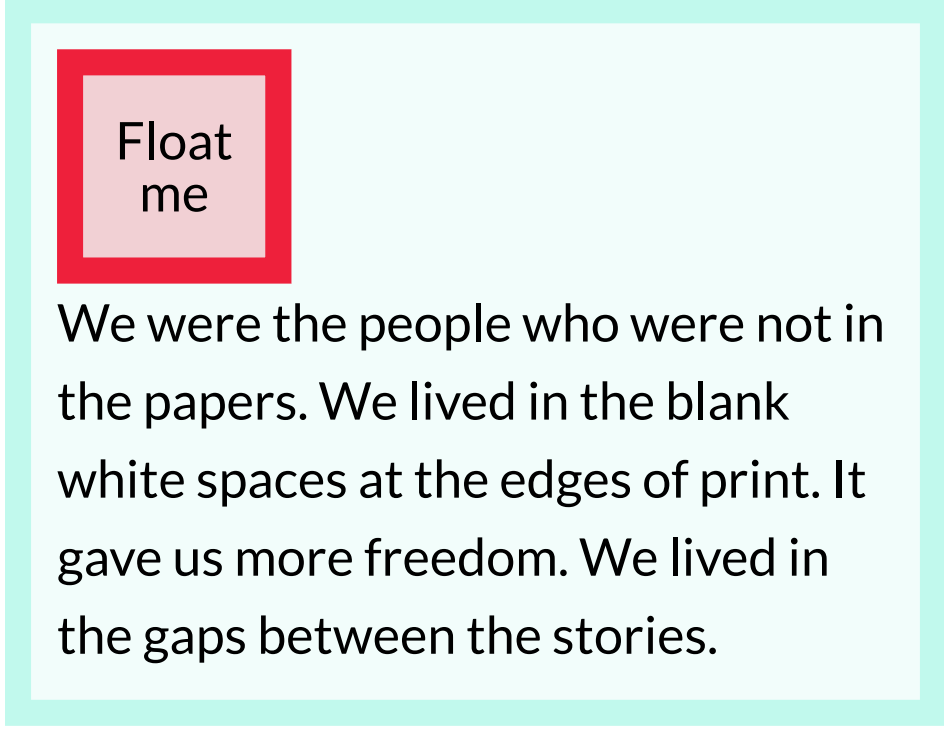
Float places an element on the left or right of its container and allows other elements to wrap around it.

Float Examples

```
div { float: none; }
```

```
div { float: left; }
```

```
div { float: right; }
```



Float Property

The `float` property accepts the values:

- `right`
- `left`
- `none` (default)
- `initial` (resets to the default)
- `inherit` (gets its value from its ancestor)

Make it Stop!

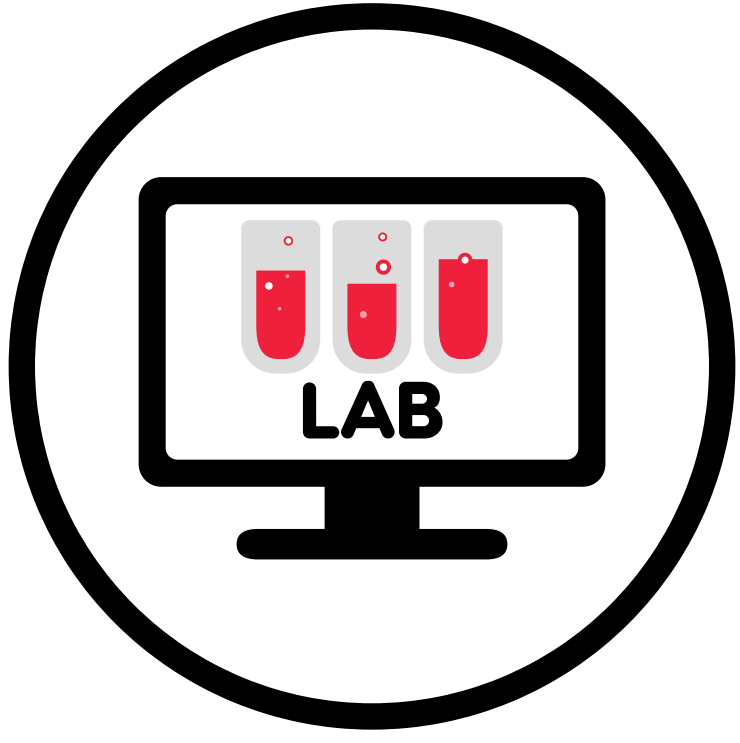
Everything after the floated element in your markup will float. To cause elements to stop wrapping, use the ***clear*** property to the first element you want to go on its own line.

Clear Property

The `clear` property accepts the values:

- `right`
- `left`
- `both`
- `none` (default)
- `inherit` (gets its value from its ancestor)

Floating Elements



Cookie Recipe Floats

lab5

Lab Task

https://github.com/jmeade11/crashcourse/

1. Grandma says it would be a lot easier to read the recipe if you could see both the ingredients list and instructions at the same time. Let's open up the css and html files in the lab5 folder and make her happy.
2. You'll need to set both the ingredients and instruction sections to be 50% in width and then float them both to the left, so they fit next to one another.
3. Make sure you address the nutrition section so that it doesn't float with the other sections.
4. Lastly, let's give the nutrition section some additional padding, but just on top! Make it 20px.

Go Do Awesome Things!

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