



Maydm

Web Development

# Day 1: Welcome!

Introductions to the Class, HTML, & CSS

# Today's Schedule

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## Morning:

- Intro to Maydm & instructors
- Icebreaker
- Class expectations & surveys
- Web languages & HTML
- Your first web page

## Afternoon:

- Intro to CSS
- Text & background colors
- Margin & padding
- Update Fan Page with CSS

# Introductions & Icebreaker

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# Classroom Expectations

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# Pre-survey

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# Program Overview

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By the end of the program, you will:

- Know the three languages of the web -- HTML, CSS, JavaScript
- Create a portfolio of projects that demonstrate what you've learned
- Know how to use a text editor to write code from scratch
- Understand the basics of using the Command Line

# Dealing with Frustration

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Learning to code is just like any other new skill. Sometimes you might get frustrated. THAT'S OKAY! It's normal! You are learning something completely new!

Things to try:

- Close the computer and take a few deep breaths
- Stand up and shake it out
- Work on something else
- Journal about your frustration



# Journaling

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We will be writing in our journals everyday!  
Write your name on the inside of the front cover.

Prompts:

- What are your expectations for the next three weeks?
- What are you excited about, and what are you concerned about?
- List 2 goals for the program.

# Class Resources

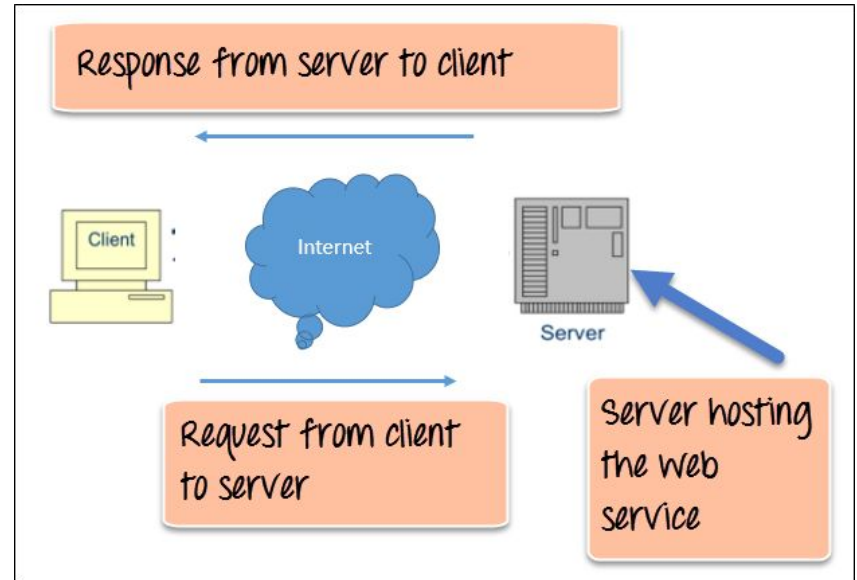
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- Go to: <https://github.com/Maydm/web-dev/>
- Click on the MAD folder
- Bookmark this page! There are exercises and sample code here that we will be using through the program.

# What is the Internet?

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- The Internet is a network of billions of computers that are connected together.
- Each web page is a set of files that are **hosted** on a computer, known as a **server**, somewhere in the world.
- When you visit a web page, the server sends those files to your web browser, also known as the **client**.
- Your browser reads those files and displays the web page on your computer or device.



# Languages of the Web

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- HTML -- Hyper Text Markup Language
  - The skeleton of web pages
  - It provides the content of pages
- CSS -- Cascading Style Sheets
  - The face of web pages
  - It styles the content and makes it look good
- JavaScript
  - The muscular system of web pages
  - It animates the content and provides interactivity

# CodePen

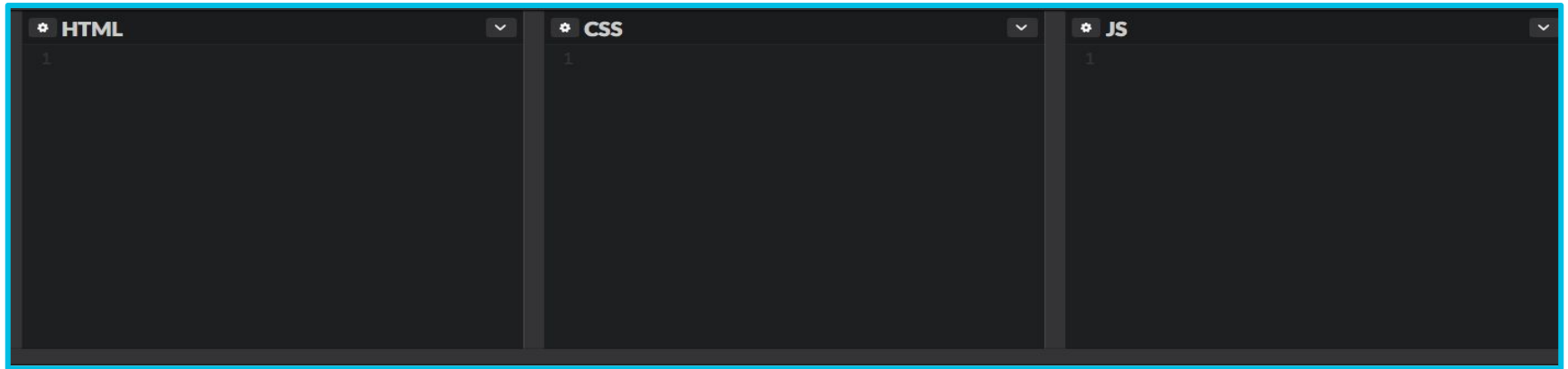
---

- Head to [\*\*codepen.io\*\*](https://codepen.io) and sign up for an account.
- Once you have an account, check out the front page of CodePen to see some cool “Pens” people have made.
- Play around with the Pens and break them!
- If you really like a Pen, you can “fork” it -- this will save a copy of the Pen so you can play with it and adapt it!

# Languages of the Web

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Create a new Pen on CodePen. You will have three panes for the three languages.



# Find these keys!



Angle  
brackets <>  
are used in  
HTML.

Curly  
brackets {},  
square  
brackets [],  
semicolons,  
& colons  
are used in  
CSS & JS.

# HTML

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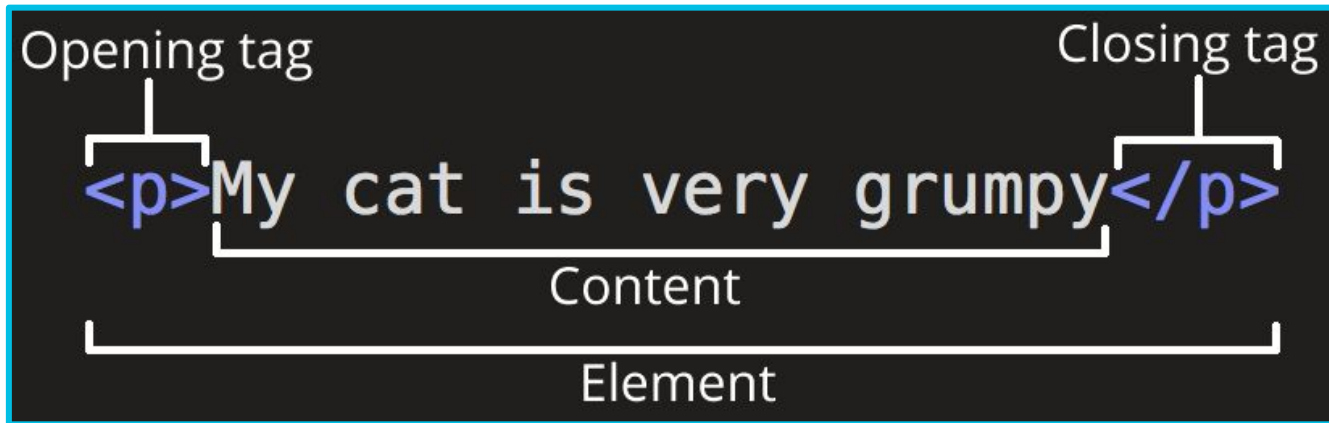
HTML files are made up of **<tags></tags>** that work together to build a web page.

Most tags require an opening **<tag>** and a closing **</tag>**.



# HTML Tags

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Let's try out some different types of tags! Start by writing a title.

# Headings & Paragraphs

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In the HTML column add:

```
<h1> Title </h1>
```

*\* Push enter to start a new line after a closing tag.*

*\* This makes your code easier to read later!*

```
<p> We put regular text in these paragraph tags. </p>
```

```
<p> They will get stacked on top of each other. </p>
```

# Example Code

```
HTML
1 <h1>Biking to Work in Milwaukee</h1>
2 <p>Milwaukee is a great place to live and
  work. Right now, some people bike to work,
  but there is potential for even more workers
  to bike to work. </p>
3 <p> This website is to help increase the
  number of people biking to work. </p>
4
```

# Headings, continued

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Heading tags are used to mark sections of the page. They should be used in sequential order.

```
<h1>Title of the Page</h1>
```

```
<h2>Section Title</h2>
```

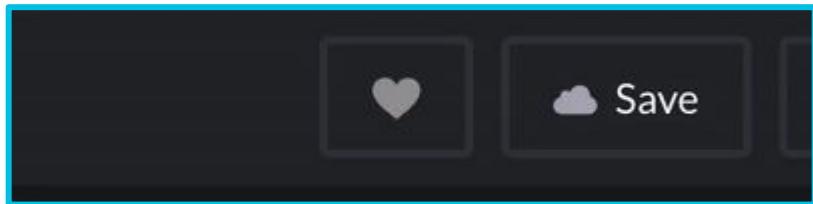
```
  <h3>Subsection</h3>
```

```
  <h3>Another Subsection</h3>
```

\* Add a section title using `<h2></h2>`

# Save Your Work!

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Autosave will enable the first time you click save. Once enabled, it will save your Pen every 30 seconds!

Make sure you save! You could lose ALL of your changes if something happens.



# Underlining `<u></u>`

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`<p>We can use <u>nested tags</u> to add to our pages</p>`

The `<u></u>` tags are nested because they are ***inside*** the `<p></p>` tags.

\* Underline a word or sentence.

## Bold text `<b></b>`

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`<p>We can add emphasis with <b>bold text</b></p>`

\* Make one word **bold**.

# Example Code

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```
HTML
1 <h1>Biking to Work in Milwaukee</h1>
2 <p>Milwaukee is a <u>great</u> place to live
  and work. Right now, some people bike to
  work, but there is potential for even more
  workers to bike to work. </p>
3 <p> This website is to help <b>increase
  </b>the number of people biking to work.
  </p>
4
```



# Ordered Lists <ol></ol>

We can make ordered (numbered) lists:

```
<ol>  
  <li>This is the first item in the list</li>  
  <li>This is the second item</li>  
</ol>
```

\* Add an ordered list to your page with at least two items.

# Unordered Lists <ul></ul>

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We can also make bulleted lists:

```
<ul>  
  <li>The UL list item uses the same tag</li>  
  <li>Another item</li>  
</ul>
```

\* Add a bulleted list to your page with at least two items.

# Links to Other Sites

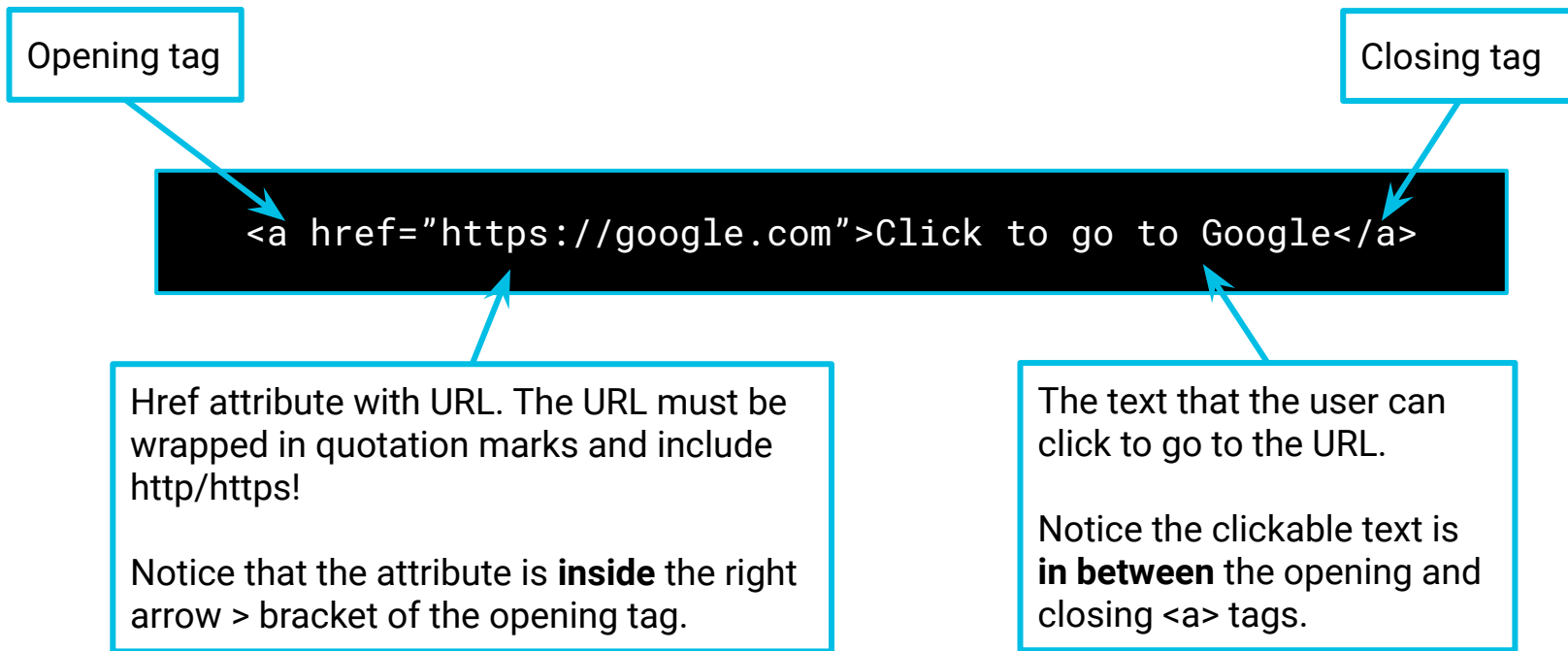
---

Anchor tags `<a href="">`provide links`</a>` to other sites and are an important part of a web page!

Anchor elements can take several **attributes**. An attribute provides additional information about an element.

The most important one is the **href** (hypertext reference) attribute which provides the URL to the link.

# Anatomy of an Anchor Tag



# Links to Other Sites

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```
<a href="https://google.com">Google</a>
```

- \* Add an anchor tag on your page.

# Adding images

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Use `<img />` tags to embed images into the page. Image tags are called **self-closing** tags because the forward slash is in the opening tag instead of having a separate closing tag.

Ex:

```

```

# Adding images

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`<img />` elements can take several **attributes**.

The **src** attribute tells the browser where to find the image file. It is required for images.

The **alt** attribute supplies a text description of the image. It isn't required but it's important to include for screen readers so visually impaired users can know what the image depicts.

# Anatomy of an Image Element

Opening tag

Closing tag

```

```

The source URL for the image. Just like the <a> tag, the URL must be wrapped in quotation marks and include http/https!

The text for the screen reader to explain what the image is.



# Adding Images

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Find an image you like on Google.

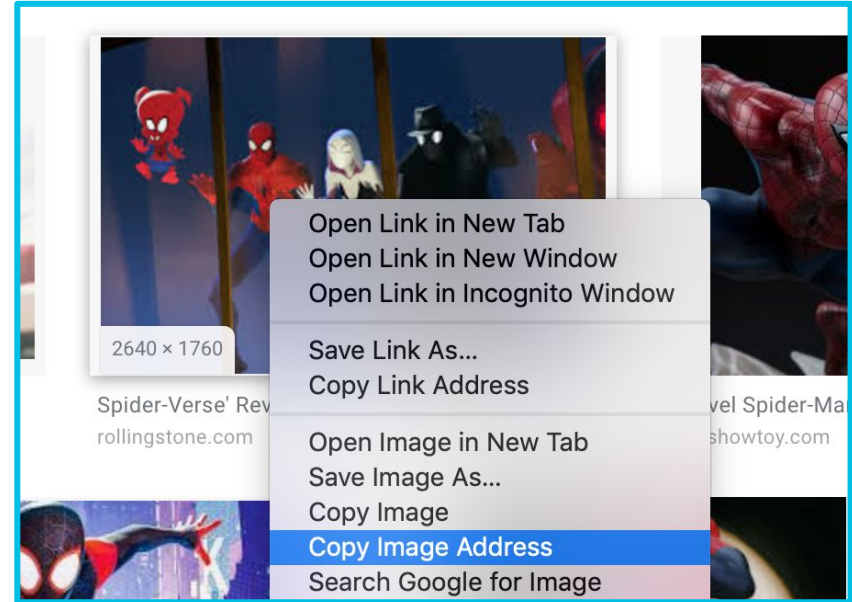
Right click then click "Copy Image Address."

In HTML pane add:

```

```

Paste the image address in  
between the quotation marks.



# Organizing HTML

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There are several tags that are good for organizing code:

- The section tag **<section></section>** is used to organize related content on a page.
- The division tag **<div></div>** is used to group content for styling.
- The span tag **<span></span>** is used to style text within another element.

Important: None of these tags affect the layout of the page on their own! The grouping makes it easier to keep the code readable and add styling later.

# Organizing HTML

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Example:

```
<section>  
  <h2>Section Title</h2>  
  <div>  
    Some content in this section.  
    <span>This sentence is very important!</span>  
    And now we go back to regular text.  
  </div>  
</section>
```

# Our Page So Far

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So far we've just been adding HTML elements to the page, and it probably looks pretty weird.

That's okay! Before you can make it look cool, you have to know how to use the basics of HTML. We'll learn about styling with CSS soon!

# Kahoot! Quiz

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# Project: Creating a Fan Page

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Using the given [starter code](#), adapt the HTML to create a fan page. The page can be about whatever you like!

Ideas:

- Your favorite subject or hobby
- Your favorite book, movie, or TV show
- Your pet
- Your favorite place

# Project: Creating a Fan Page

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Start by “forking” the Pen so you can have your own copy of the code.

**Remember to save your work!**

For now, don't worry about any of the styling or CSS, just add your own content to the HTML elements you are given.

We'll learn a little about styling with CSS after we've added the content.

<https://codepen.io/DisplacedTexan/pen/aMLZrE?editors=1000>

# Work time

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- Give your page a title and add some text to the sections
- Add your own text to the <p> tags
- Add some items to the <ol> and <ul> lists
- Replace the image with one you found on Google
  - Right click on the image and choose “Copy Image Address”
  - Paste the address (URL) in between the quotation marks

```

```



# CSS: Cascading Style Sheets

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CSS lets us add style to our pages using **selectors**, **properties**, and **attributes**.

Styles can include:

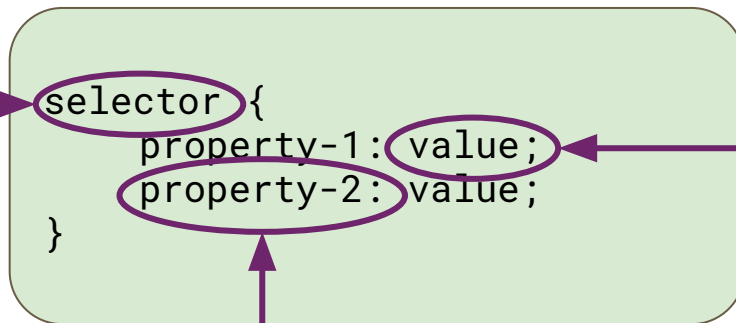
- Color -- text, background, borders
- Font type and size
- Position and layout

Remember, our HTML gave us the content. CSS is what gives it the style!

# Anatomy of a CSS statement

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The **selector** is WHERE the CSS will change the HTML.

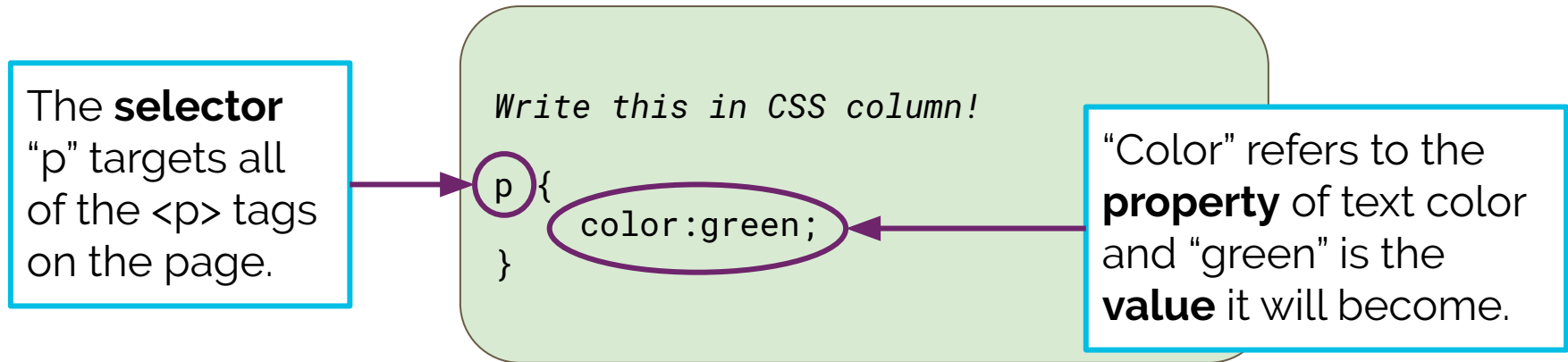


The **value** is HOW CSS will change the element.

The **property** is WHAT the CSS will change, like background color or font type.

# CSS selectors: HTML types

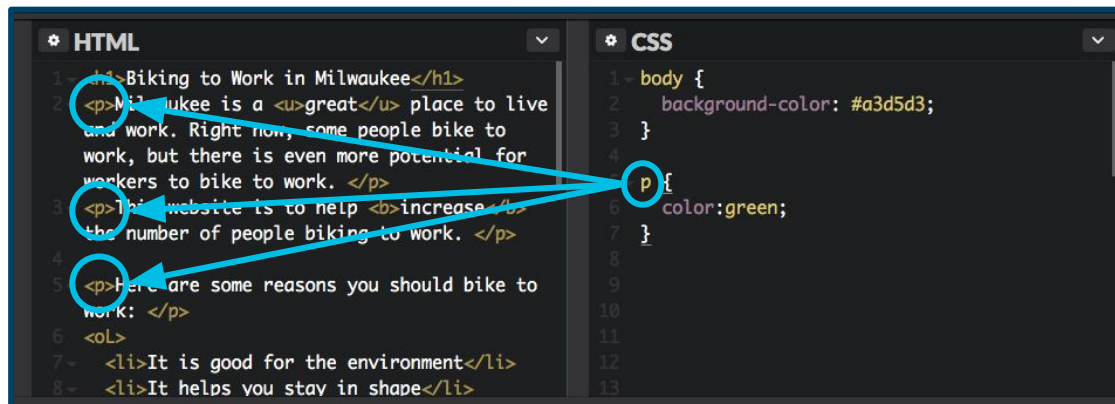
HTML element types are the most generic CSS selector.



# Example Code

Everything inside the curly braces `{ }` is called a **declaration**.

The declaration applies to all of the text inside of any `<p>` tags on the page.



```
HTML
1 <h1>Biking to Work in Milwaukee</h1>
2 <p>Milwaukee is a <u>great</u> place to live
  and work. Right now, some people bike to
  work, but there is even more potential for
  workers to bike to work. </p>
3 <p>This website is to help <b>increase</b>
  the number of people biking to work. </p>
4
5 <p>Here are some reasons you should bike to
  work: </p>
6 <ol>
7   <li>It is good for the environment</li>
8   <li>It helps you stay in shape</li>
  </ol>

CSS
1 body {
2   background-color: #a3d5d3;
3 }
4
5 p {
6   color: green;
7 }
8
9
10
11
12
13
```

## Biking to Work in Milwaukee

Milwaukee is a great place to live and work. Right now, some people bike to work, but there is even more potential for workers to bike to work.

This website is to help **increase** the number of people biking to work.

Here are some reasons you should bike to work:

1. It is good for the environment
2. It helps you stay in shape
3. You can skip rush hour traffic!

# Adding Colors

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Colors can be added by using a named color or by using the hexadecimal code. Hex codes are represented by numbers 0-9 and letters a-f.

```
p {  
  color: red;  
}
```

```
p {  
  color: #ff0000;  
}
```

These are the same color!

# Changing Text Alignment

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```
body {  
    font-size: 30px;  
    background-color: red;  
}  
  
p {  
    text-align: center;  
}
```

Text align can be:

Left

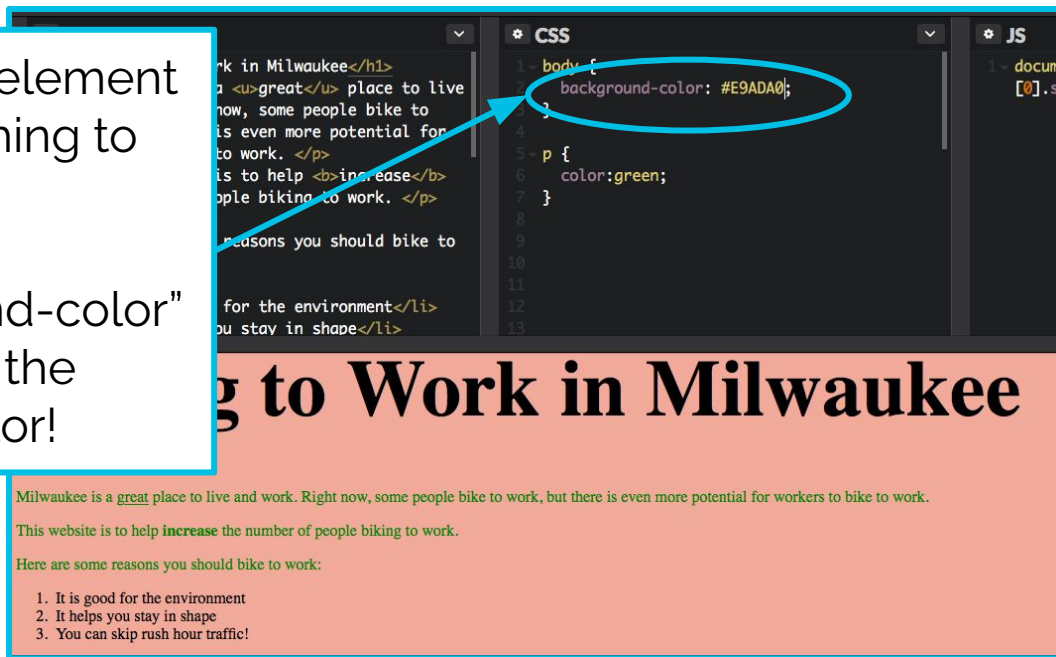
Center

Right

# Changing background color

Use the “body” element to apply something to the entire page.

Use “background-color” to change, yep, the background color!



# Work Time

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On the fan page you've started, add some CSS using HTML types as the selector.

You can use color, background-color, and text-align to style the different HTML tags on your website.

For inspiration on colors to use, check out:

<http://htmlcolorcodes.com/color-names>



# CSS selectors: Classes

What if you want some `<p>` tags to have a different color? You can add a class to that `<p>` tag!

Classes are more specific than HTML types.

## HTML

```
<p class="red">This text will be  
red!</p>
```

```
<p>This text will be our default  
color!</p>
```

## CSS

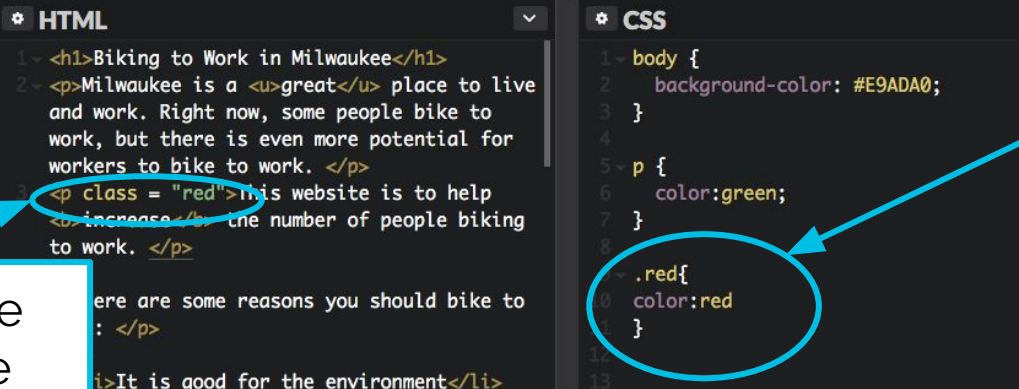
```
p {  
    color: green;  
}  
.red {  
    color: red;  
}
```

# CSS selectors: Classes

In CSS, a class name starts with a period like this:

```
.red {  
  color: red;  
}
```

The class name goes inside the angle brackets `<>` as an attribute:  
`<p class="red">`



```
HTML  
1 <h1>Biking to Work in Milwaukee</h1>  
2 <p>Milwaukee is a <u>great</u> place to live  
  and work. Right now, some people bike to  
  work, but there is even more potential for  
  workers to bike to work. </p>  
3 <p class = "red">This website is to help  
  <u>increase</u> the number of people biking  
  to work. </p>  
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```

# Work time

---

Add CSS class (or two!) to something on your page!

Remember, you know how to use color,  
background-color, and text-align.

# CSS selectors: IDs

What if you want one particular `<p>` tag to have a different color? Add a unique ID to that `<p>` tag!

IDs are the most specific CSS selector.

## HTML

```
<p id="blue">This text will be  
blue!</p>  
  
<p class="red">This text will be  
red!</p>  
  
<p>This text will be our default  
color!</p>
```

## CSS

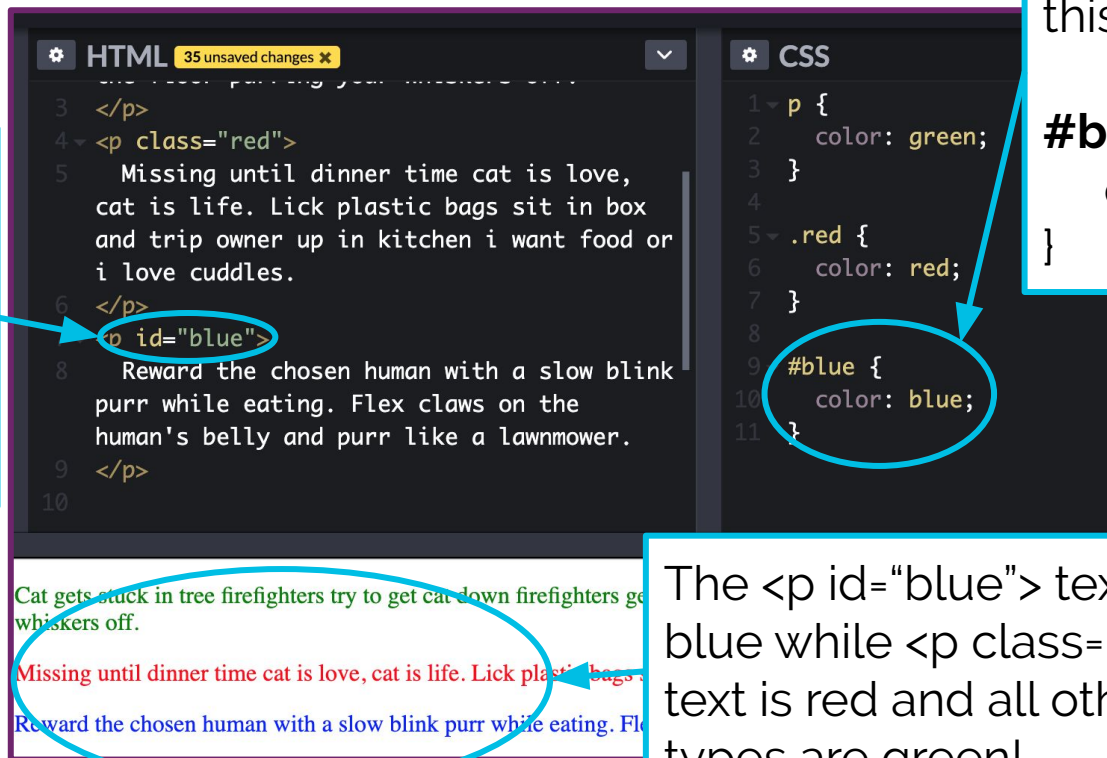
```
p {  
    color: green;  
}  
.red {  
    color: red;  
}  
#blue {  
    color: blue  
}
```

# CSS selectors: IDs

The ID goes inside the angle brackets `<>` as an attribute:  
`<p id="blue">`

In CSS, an ID with a hashtag like this:

```
#blue {  
    color: blue;  
}
```



# Margin & Padding

---

- Margin and padding determine how much space an element uses
- Can use pixels (px) or percentage (%) for sizing
  - Why might it be better to use a percentage instead of pixels?
- Margin/padding can apply to all sides, to the vertical or horizontal sides, or to any of the sides (top, bottom, left, right)

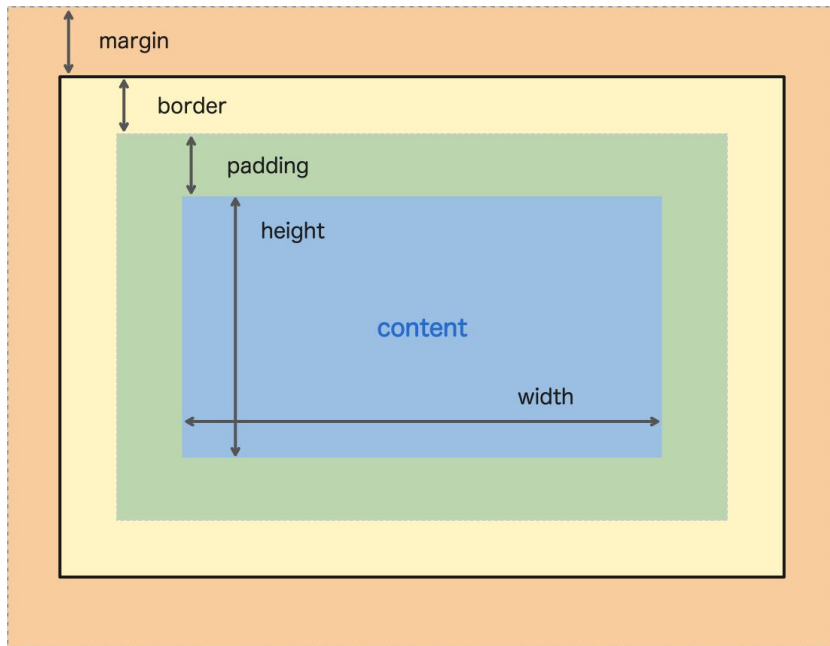
```
p { margin: 10px; }           // applies to ALL sides
p { margin: 10px 0; }        // applies to vertical sides only
p { margin: 0 10px; }        // applies to horizontal sides only
p { margin-top: 10px; }       // applies to top side only
p { margin-left: 10px; }      // applies to left side only
p { margin: 10px 0 0 10px; }  // applies to top, right, bottom, left
```

# Margin & Padding

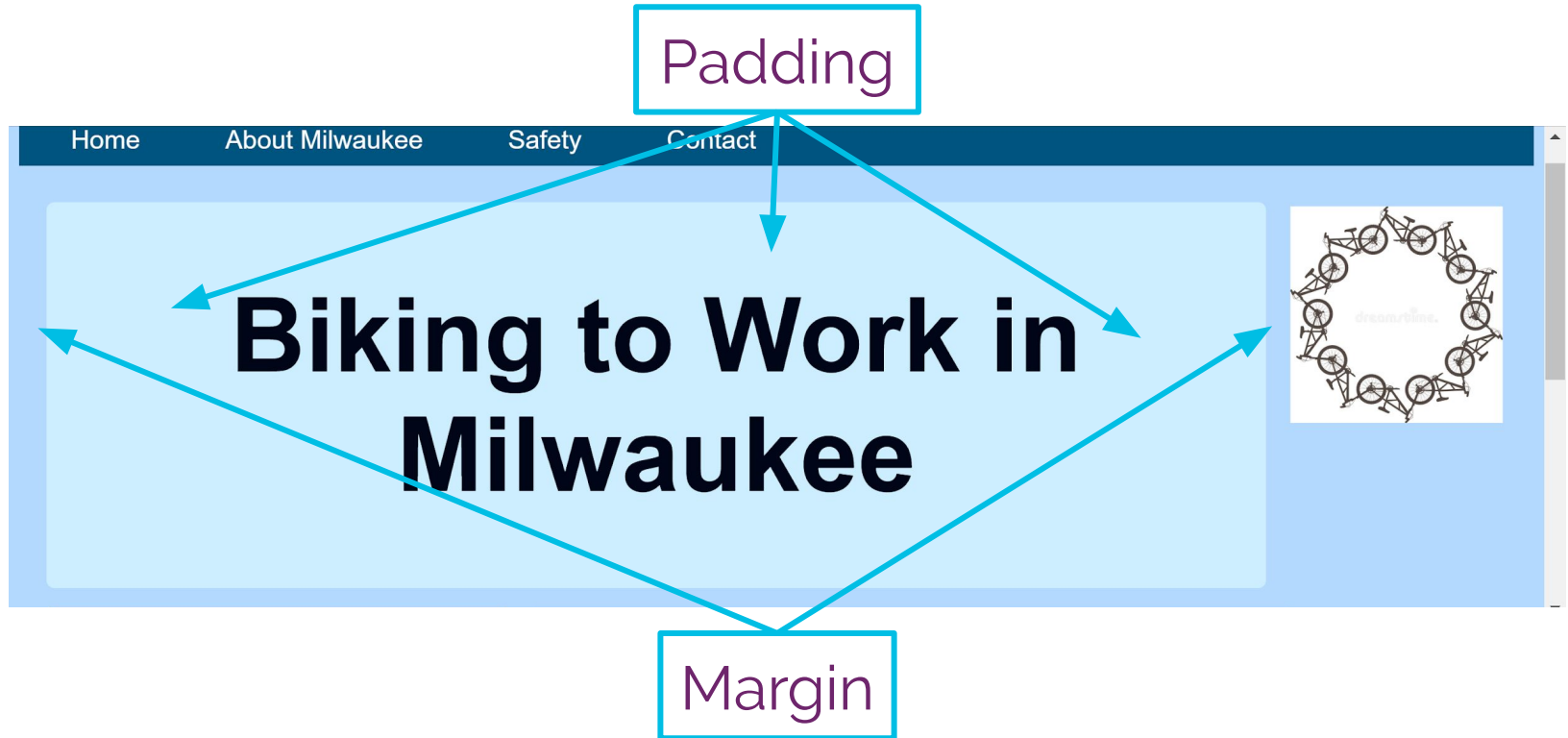
---

Margin & padding work together to determine the element's size and placement on the page.

Margin determines how close the next elements is (**outside** of the element). Padding determines how close the content **inside** the element is to the border.



# Margin & Padding





# Work time

---

Add an ID (or two!) to something on your page!

Remember, you know how to use color, background-color, text-align, margin, and padding.

# Rockwell Automation Contest

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Calling All Innovators, Builders and Makers  
Between the Ages of 8-17 to Dream BIG with the

"You Make It" Challenge

# Rockwell Automation Contest

---

Over the course of this program, think about what YOU could build!

If you have an idea, you'll have some time to work on it at the end of the program!

# Reflection

---

Write in your journal about how you feel or what you learned today.

Prompts:

- Was there anything that surprised you today? Why?
- Did something challenge you today? How did you deal with it?
- What kind of features would you like to add to your fan page?