

Web Development



Day 1: Welcome!

Introductions to the Class, HTML, & CSS



Today's Schedule

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



Classroom Expectations



Pre-survey



Program Overview

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

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

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 two weeks?
- What are you excited about, and what are you concerned about?
- List 2 goals for the program.



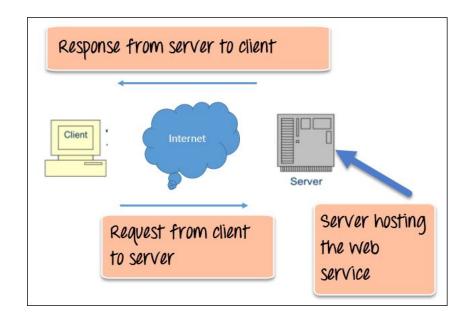
Class Resources

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



What is the Internet?

- 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

- HTML -- <u>Hyper Text Markup Language</u>
 - 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



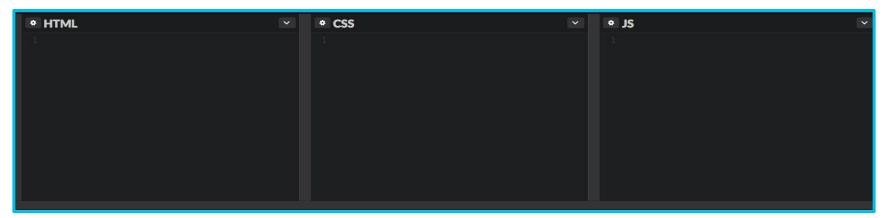
CodePen

- Head to <u>codepen.io</u> 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

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





Find these keys!



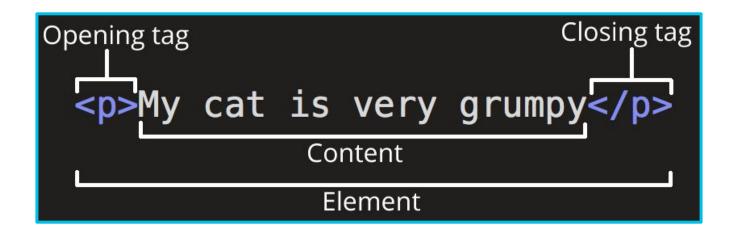
HTML

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



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



Headings & Paragraphs

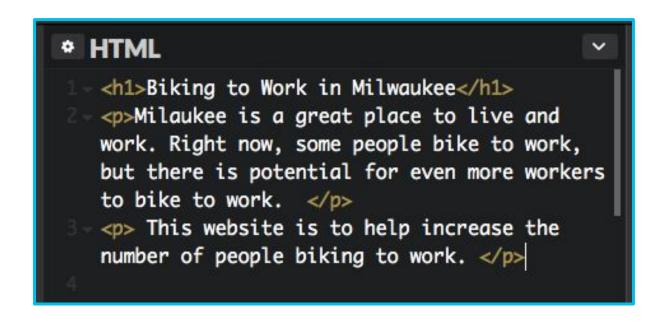
```
In the HTML column add:
```

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

- * Push enter to start a new line after a closing tag.
- * This makes your code easier to read later!
- We put regular text in these paragraph tags.
- They will get stacked on top of each other.



Example Code





Headings, continued

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

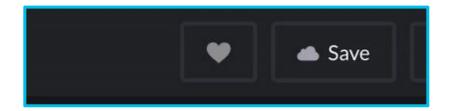
```
<h1>Title of the Page</h1>
```

```
<h2>Section Title</h2>
    <h3>Subsection</h3>
    <h3>Another Subsection</h3>
```

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



Save Your Work!



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>

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

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

* <u>Underline</u> a word or sentence.



Bold text

We can add emphasis with bold text

* Make one word bold.



Example Code

```
* HTML
   <h1>Biking to Work in Milwaukee</h1>
   Milaukee 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. 
   This website is to help <br/>increase
   </b>the number of people biking to work.
```



Ordered Lists

```
We can make ordered (numbered) lists:
< 10>
  This is the first item in the list
  This is the second item
* Add an ordered list to your page with
at least two items.
```



Unordered Lists

```
We can also make bulleted lists:
<111>
  The UL list item uses the same tag
  Another item
* Add a bulleted list to your page with
at least two items.
```



Links to Other Sites

Anchor tags provide links 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

Opening tag

Closing tag

Click to go to Google

Href attribute with URL. The URL must be wrapped in quotation marks and include http/https!

Notice that the attribute is **inside** the right arrow > bracket of the opening tag.

The text that the user can click to go to the URL.

Notice the clickable text is **in between** the opening and closing <a> tags.



Links to Other Sites

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

* Add an anchor tag on your page.



Adding images

Use 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:
```

```
<img src="http://example.gif" alt="This is an
example gif" />
```



Adding images

 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 text for the screen the <a> tag, the URL must be wrapped in reader to explain what the quotation marks and include http/https! image is.



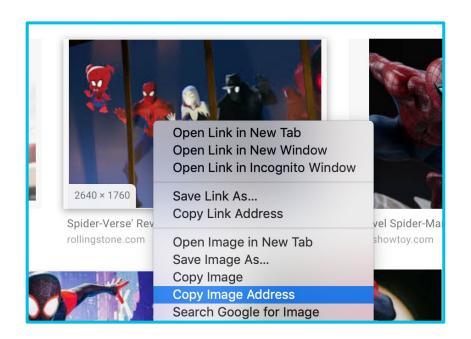
Adding Images

Find an image you like on Google.

Right click then click "Copy Image Address."

In HTML pane add:

Paste the image address <u>in</u> <u>between</u> the quotation marks.





Organizing HTML

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 is used to style text within another element.

<u>Important</u>: 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

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



Our Page So Far

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!



Project: Creating a Fan Page

Using the given <u>starter code</u>, adapt the HTML to create a fan page. The page can be about whatever you like!

<u>Ideas:</u>

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



Project: Creating a Fan Page

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



Worktime

- Give your page a title and add some text to the sections
- Add your own text to the tags
- Add some items to the and 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

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

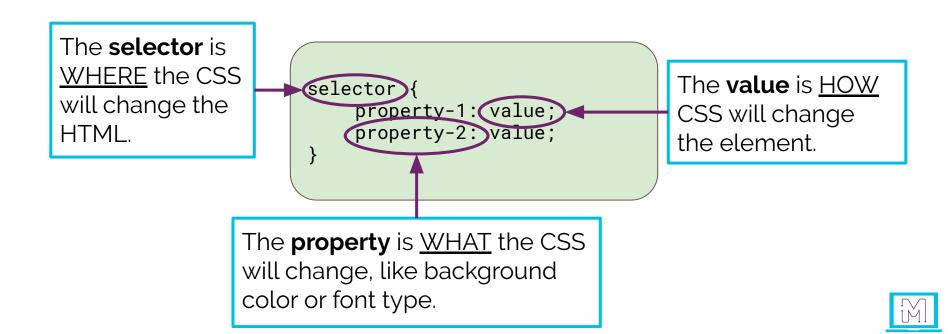
Styles can include:

- 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!

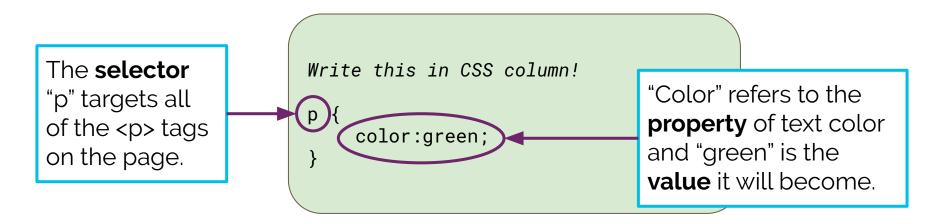


Anatomy of a CSS statement



CSS selectors: HTML types

HTML element types are the most generic CSS selector.

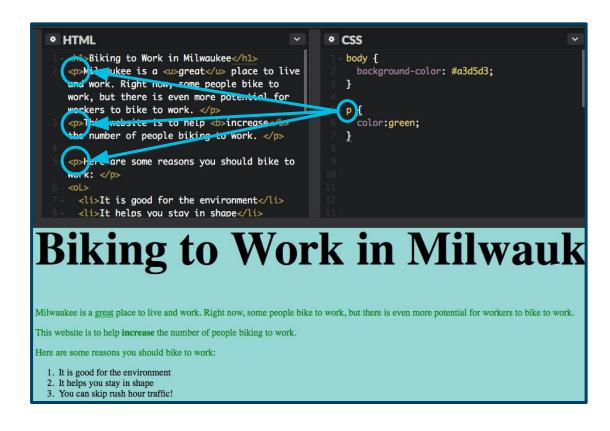




Example Code

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

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





Adding Colors

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;
}

These are the same color!
```



Changing Text Alignment

```
body {
    font-size: 30px;
    background-color: red;
                                   Text align can be:
р
                                    Left
    text-align: center;
                                            Center
                                                     Right
```



Changing background color

* CSS * JS rk in Milwaukee</h1> Use the "body" element docum a <u>great</u> place to live background-color: #E9ADA0 [0].s now, some people bike to to apply something to is even more potential for to work. is to help ingrease color:green; the entire page. ople biking to work. reasons you should bike to Use "background-color" for the environment ou stay in shape to change, yep, the to Work in Milwaukee background color! 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!



Work Time

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 tags to have a different color? You can add a class to that tag!

Classes are more specific than HTML types.

HTML

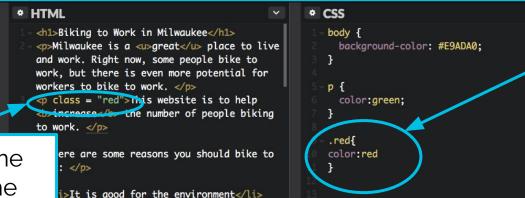
```
This text will be
red!
This text will be our default
color!
```

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:

king to Work in Milwaul

The text is now red while other text stays green!

Militaukee is a great place to live and work. Right now, some people of the to work, but there is even n

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

Here are some reasons you should hike to work.



Worktime

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 tag to have a different color? Add a unique ID to that tag!

IDs are the most specific CSS selector.

HTML

```
This text will be
blue!
This text will be
red!
This text will be our default
color!
```

CSS

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



CSS selectors: IDs

whiskers off.

The ID goes inside the angle brackets <> as an attribute:

```
* CSS
HTML 35 unsaved changes *
                                                  p {
                                                    color: green;
 Missing until dinner time cat is love,
 cat is life. Lick plastic bags sit in box
                                                   .red {
 and trip owner up in kitchen i want food or
                                                    color: red:
 i love cuddles.
 p id="blue">
                                                  #blue {
   Reward the chosen human with a slow blink
                                                    color: blue;
 purr while eating. Flex claws on the
 human's belly and purr like a lawnmower.
```

Cat gets stuck in tree firefighters try to get car down firefighters ge

Missing until dinner time cat is love, cat is life. Lick place bags

Reward the chosen human with a slow blink purr while eating. Flo

In CSS, an ID with a hashtag like this:

#blue {
 color: blue;

The text is now blue while text is red and all other types are green!



Margin & Padding

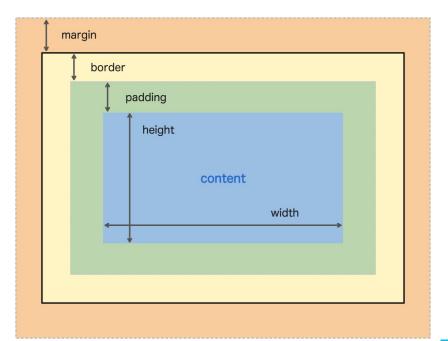
- Margin and padding determine how much space an element uses
- Can use pixels (px) or percentage (%) for sizing
 - Why might it be better to use a percentage instead of pixels?
- Margin/padding can apply to all sides, to the vertical or horizontal sides, or to any of the sides (top, bottom, left, right)



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





Worktime

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

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

If you forgot how then remember to Google your question



Rockwell Automation Contest

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?

