

J220

Coding for Journalists

LECTURER

Yoli Martinez

PROMPTS

- Go to this Poll Everywhere to participate in today's class:
<https://pollev.com/yolim>

start Zoom recording + captions

Agenda

Announcements

Introduction to the Text Editor (making your code readable)

Semantic HTML and Hierarchy

VS Code

BREAK

File Structure

In-Class exercise

Homework

Announcements

Join the class slack: #J220

[NICAR 2024 Conference](#)

Schedule office hours

Homework Review

Reasons for taking class:

... I would like to learn more web designing skills, including some interactive elements

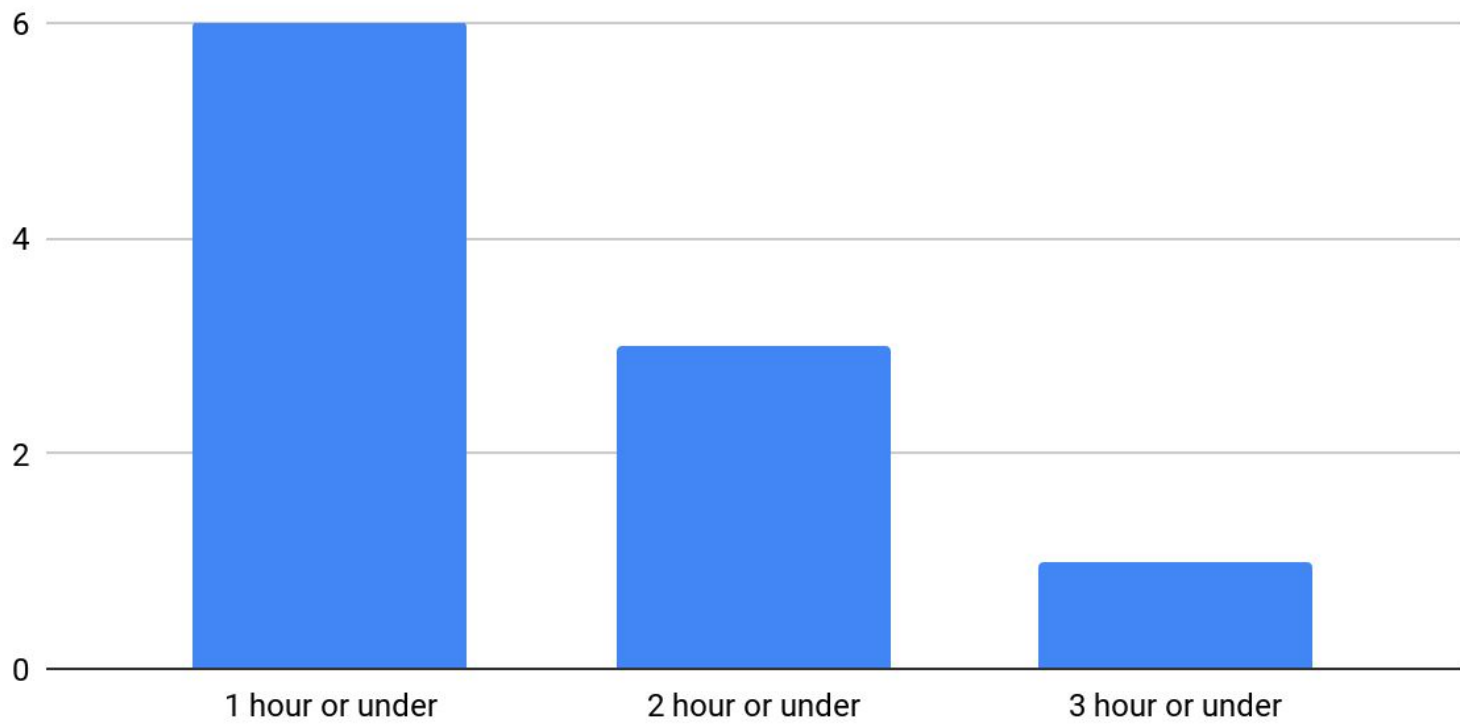
... effectively collaborate with designers, graphics reporters, and developers in the newsroom

... learn more about the role of a web developer in a newsroom

Homework Review

- ... build a nice website
- ... made a beautiful news website
- ... be able to make my own website
- ... make a professional website
- ... produce visually appealing websites
- ... learn how to make my own website

Week 01-29: Number of students grouped by hours spent outside of lecture and office hours



Text Editor, and making your code readable



Which text editor will you be using?



Powered by  **Poll Everywhere**

Start the presentation to see live content. For screen share software, share the entire screen. Get help at pollev.com/app

Text Editor

You can write code anywhere, but a text editor will:

1. Make it readable

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <header>
      <h1>This is a h1 header</h1>
      <p>This is a subhead, which is wrapped in a p.</p>
    </header>
    <nav>
      <ul>
        <li>Work Samples</li>
      </ul>
    </nav>
    <article>
      <h2>This is an article header</h2>
      <p>This is an opening section that also has a <a
href="https://www.oaklandnorth.net>link to a website"</a>.</p>
      <p>Adding a second paragraphs for good measure</p>
      
      <p>Finishing paragraph.</p>
    </article>
  </body>
</html>
```

Text Editor

You can write code anywhere, but a text editor will:

1. Make it readable
2. Give you visual cues when tags or attributes are not closed

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <header>
      <h1>This is a h1 header</h1>
      <p>This is a subhead, which is wrapped in a p.</p>
    </header>
    <nav>
      <ul>
        <li>Work Samples</li>
      </ul>
    </nav>
    <article>
      <h2>This is an article header</h2>
      <p>This is an opening section that also has a <a
href="https://www.oaklandnorth.net>link to a website</a>.</p>
      <p>Adding a second paragraphs for good measure</p>
      
      <p>Finishing paragraph.</p>
    </article>
  </body>
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```

Text Editor

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<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <header>
      <h1>This is a h1 header</h1>
      <p>This is a subhead, which is wrapped in a p.</p>
    </header>
    <nav>
      <ul>
        <li>Work Samples</li>
      </ul>
    </nav>
    <article>
      <h2>This is an article header</h2>
      <p>This is an opening section that also has a <a
href="https://www.oaklandnorth.net">link to a website"</a>.</p>
      <p>Adding a second paragraphs for good measure</p>
      
      <p>Finishing paragraph.</p>
    </article>
  </body>
</html>
```

Text Editor

You can write code anywhere, but a text editor will:

1. Make it readable
2. Give you visual cues when tags or attributes are not closed
3. Allows you to leave comments.

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <header>
      <h1>This is a h1 header</h1>
      <p>This is a subhead, which is wrapped in a p.</p>
    </header>
    <nav>
      <ul>
        <li>Work Samples</li>
      </ul>
    </nav>
    <article>
      <h2>This is an article header</h2>
      <p>This is an opening section that also has a <a
href="https://www.oaklandnorth.net>link to a website"</a>.</p>
      <p>Adding a second paragraphs for good measure</p>
      
      <p>Finishing paragraph.</p>
    </article>
  </body>
</html>
```

Text Editor

You can write code anywhere, but a text editor will:

1. Make it readable
2. Give you visual cues when tags are not closed
3. Allows you to leave comments.

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <header>
      <h1>This is a h1 header</h1>
      <p>This is a subhead, which is wrapped in a p.</p>
    </header>
    <nav>
      <ul>
        <li>Work Samples</li>
      </ul>
    </nav>
    <article>
      <h2>This is an article header</h2>
      <p>This is an opening section that also has a <a
href="https://www.oaklandnorth.net">link to a website"</a>.</p>
      <p>Adding a second paragraphs for good measure</p>
      
      <p>Finishing paragraph.</p>
    </article>
  </body>
</html>
```

Text Editor

Also notice how things are being formatted.

There is spacing and indentation to be aware of.

Let's take a closer look.

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <header>
      <h1>This is a h1 header</h1>
      <p>This is a subhead, which is wrapped in a p.</p>
    </header>
    <nav>
      <ul>
        <li>Work Samples</li>
      </ul>
    </nav>
    <article>
      <h2>This is an article header</h2>
      <p>This is an opening section that also has a <a
href="https://www.oaklandnorth.net">link to a website"</a>.</p>
      <p>Adding a second paragraphs for good measure</p>
      
      <p>Finishing paragraph.</p>
    </article>
  </body>
</html>
```

Text Editor

Here's an empty HTML page.

Even if you don't know what these tags do, look at how they are spaced

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <!-- stuff inside body -->
  </body>
</html>
```


Text Editor

<!DOCTYPE html>

All HTML documents have to start with this declaration. It lets the browser know that the page is an HTML document.

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <!-- stuff inside body -->
  </body>
</html>
```

Text Editor

This is followed by the **<html>** tag. It needs to wrap around the whole document.

It should have no indentation.

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <!-- stuff inside body -->
  </body>
</html>
```

Text Editor

What is lang?

It specifies language used on page (required for accessibility)

“...allow assistive technologies such as screen readers to invoke the correct pronunciation.”

-More from [Mozilla](https://mozilla.org/)

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <!-- stuff inside body -->
  </body>
</html>
```

Text Editor

Let's now look at the **<head>** tag.

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <!-- stuff inside body -->
  </body>
</html>
```

Text Editor

Let's now look at the **<head>** tag.

Why does it have a **space** in front of it?

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <!-- stuff inside body -->
  </body>
</html>
```

Text Editor

Let's now look at the **<head>** tag.

Why does it have a **space** in front of it?

Because it is a nested element inside of the `<html>` tag.

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <!-- stuff inside body -->
  </body>
</html>
```

Text Editor

Anytime something is nested inside of another tag, you should add 2-4 spaces (or click the tab key) to create the spacing.

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <!-- stuff inside body -->
  </body>
</html>
```

Text Editor

Anytime something is nested inside of another tag, you should add 2-4 spaces (or click the tab key) to create the spacing.

Why is this necessary?

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <!-- stuff inside body -->
  </body>
</html>
```


Text Editor

The browser does not care about spacing.

Text Editor

The browser does not care about spacing.

You can have a page set up like this and it would be able to build it correctly.

```
<!DOCTYPE html><html lang="en-US"><head><!--  
metadata goes here --></head><body><!-- stuff  
inside of body --></body></html>
```

Text Editor

BUT THIS IS HARD
FOR A HUMAN TO
READ (AND EDIT)!

```
<!DOCTYPE html><html lang="en-US"><head><!--  
metadata goes here --></head><body><!-- stuff  
inside of body --></body></html>
```

Text Editor

So why focus on spacing?

Remember, you are not just writing code for the browser. You are writing it for yourself and anyone else who might be collaborating with you now (or YOU in the future!)

```
<!DOCTYPE html><html lang="en-US"><head><!--  
metadata goes here --></head><body><!-- stuff  
inside of body --></body></html>
```

Text Editor

So using correct spacing shows that you can be organized with your code and are being a thoughtful collaborator.

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <!-- stuff inside body -->
  </body>
</html>
```

Text Editor

As you learn more HTML and start building pages, the HTML in a text editor will start looking less scary. You'll see how much the text editor is helping you.

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <header>
      <h1>This is a h1 header</h1>
      <p>This is a subhead, which is wrapped in a p.</p>
    </header>
    <nav>
      <ul>
        <li>Work Samples</li>
      </ul>
    </nav>
    <article>
      <h2>This is an article header</h2>
      <p>This is an opening section that also has a <a
href="https://www.oaklandnorth.net>link to a website"</a>.</p>
      <p>Adding a second paragraphs for good measure</p>
      
      <p>Finishing paragraph.</p>
    </article>
  </body>
</html>
```

Text Editor

Here are some best practices:

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <header>
      <h1>This is a h1 header</h1>
      <p>This is a subhead, which is wrapped in a p.</p>
    </header>
    <nav>
      <ul>
        <li>Work Samples</li>
      </ul>
    </nav>
    <article>
      <h2>This is an article header</h2>
      <p>This is an opening section that also has a <a
href="https://www.oaklandnorth.net">link to a website"</a>.</p>
      <p>Adding a second paragraphs for good measure</p>
      
      <p>Finishing paragraph.</p>
    </article>
  </body>
</html>
```

Text Editor

Here are some best practices:

1. Keep your `<head>` and `<body>` tags at the same indentation. They are your two structural anchors on the page

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <header>
      <h1>This is a h1 header</h1>
      <p>This is a subhead, which is wrapped in a p.</p>
    </header>
    <nav>
      <ul>
        <li>Work Samples</li>
      </ul>
    </nav>
    <article>
      <h2>This is an article header</h2>
      <p>This is an opening section that also has a <a
href="https://www.oaklandnorth.net>link to a website"</a>.</p>
      <p>Adding a second paragraphs for good measure</p>
      
      <p>Finishing paragraph.</p>
    </article>
  </body>
</html>
```


Text Editor

Here are some best practices:

2. Inside of the `<body>`, anything that appears nested receives a second indentation.

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <header>
      <h1>This is a h1 header</h1>
      <p>This is a subhead, which is wrapped in a p.</p>
    </header>
    <nav>
      <ul>
        <li>Work Samples</li>
      </ul>
    </nav>
    <article>
      <h2>This is an article header</h2>
      <p>This is an opening section that also has a <a
href="https://www.oaklandnorth.net>link to a website"</a>.</p>
      <p>Adding a second paragraphs for good measure</p>
      
      <p>Finishing paragraph.</p>
    </article>
  </body>
</html>
```

Text Editor

Here are some best practices:

2. Inside of the `<body>`, anything that appears nested inside receives a second indentation.

- a. Look at the `` inside of `<nav>`

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <header>
      <h1>This is a h1 header</h1>
      <p>This is a subhead, which is wrapped in a p.</p>
    </header>
    <nav>
      <ul>
        <li>Work Samples</li>
      </ul>
    </nav>
    <article>
      <h2>This is an article header</h2>
      <p>This is an opening section that also has a <a
href="https://www.oaklandnorth.net>link to a website"</a>.</p>
      <p>Adding a second paragraphs for good measure</p>
      
      <p>Finishing paragraph.</p>
    </article>
  </body>
</html>
```

Text Editor

Here are some best practices:

2. Inside of the <body>, anything that appears nested inside receives a second indentation.
 - a. Look at the <p> inside of <nav>
 - b. Look at the <h2> and <p> inside of <article>

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <header>
      <h1>This is a h1 header</h1>
      <p>This is a subhead, which is wrapped in a p.</p>
    </header>
    <nav>
      <ul>
        <li>Work Samples</li>
      </ul>
    </nav>
    <article>
      <h2>This is an article header</h2>
      <p>This is an opening section that also has a <a
href="https://www.oaklandnorth.net>link to a website"</a>.</p>
      <p>Adding a second paragraphs for good measure</p>
      
      <p>Finishing paragraph.</p>
    </article>
  </body>
</html>
```

Text Editor

The text editor will show you proper nesting, some typos and make it all readable.

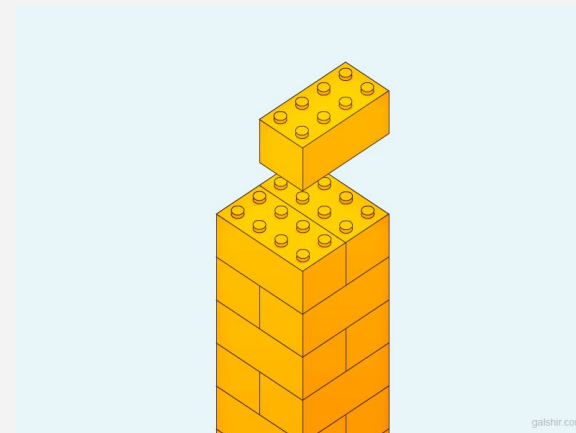
```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <header>
      <h1>This is a h1 header</h1>
      <p>This is a subhead, which is wrapped in a p.</p>
    </header>
    <nav>
      <ul>
        <li>Work Samples</li>
      </ul>
    </nav>
    <article>
      <h2>This is an article header</h2>
      <p>This is an opening section that also has a <a
href="https://www.oaklandnorth.net>link to a website"</a>.</p>
      <p>Adding a second paragraphs for good measure</p>
      
      <p>Finishing paragraph.</p>
    </article>
  </body>
</html>
```

Readable code

Making code readable is something you'll always be working on. Don't worry if you are so focused on your first runthrough that you forget about addings spacing and tabs. We all do this. Just take the time in the end to review your code.

What questions do you have?

Semantic HTML



Semantic HTML

What is it?

Both humans and the browsers read the document. But there are tags that make is easy for both the browser and the person reading to the code to know what is being built.

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <header>
      <!--Stuff in header -->
    </header>
    <nav>
      <!--Stuff in nav -->
    </nav>
    <article>
      <!--Stuff in article -->
    </article>
    <footer>
      <!--Stuff in footer -->
    </footer>
  </body>
</html>
```


Semantic HTML

The **<head>** tag is read by the browser. It should include all your **metadata**.

This is not seen by readers. But it is necessary because the **metadata** tells the browser what it'll find on your page and how to process it.

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <header>
      <!--Stuff in header -->
    </header>
    <nav>
      <!--Stuff in nav -->
    </nav>
    <article>
      <!--Stuff in article -->
    </article>
    <footer>
      <!--Stuff in footer -->
    </footer>
  </body>
</html>
```

Semantic HTML

The **metadata** in **<head>** can include the following:

```
<head>
  <meta charset="utf-8">
  <meta name="viewport"
content="width=device-width,initial-scale=1">
  <title>First web page</title>
  <meta name="description" content="Page showing all
the HTML I have learned.">
</head>
```

Semantic HTML

The **metadata** in **<head>** can include the following:

<meta charset="utf-8">

This tag will specify the “character set” to the latest, most universal range of characters for many different languages.

```

<head>
  <meta charset="utf-8">
  <meta name="viewport"
content="width=device-width,initial-scale=1">
  <title>First web page</title>
  <meta name="description" content="Page showing all
the HTML I have learned.">
</head>
    
```

Semantic HTML

The **metadata** in **<head>** can include the following:

**<meta
name="viewport"
content="width=device-width,
initial-scale=1">**

```
<head>  
  <meta charset="utf-8">  
  <meta name="viewport"  
content="width=device-width,initial-scale=1">  
  <title>First web page</title>  
  <meta name="description" content="Page showing all  
the HTML I have learned.">  
</head>
```

Semantic HTML

The **metadata** in **<head>** can include the following:

It will set your page up for mobile, so that the initial scale is equivalent to the resolution of the device. By changing the initial-scale to a different number (1 is the same as 100%) may make your web page appear zoomed in.

```
<head>  
  <meta charset="utf-8">  
  <meta name="viewport"  
content="width=device-width,initial-scale=1">  
  <title>First web page</title>  
  <meta name="description" content="Page showing all  
the HTML I have learned.">  
</head>
```

Semantic HTML

The **metadata** in **<head>** can include the following:

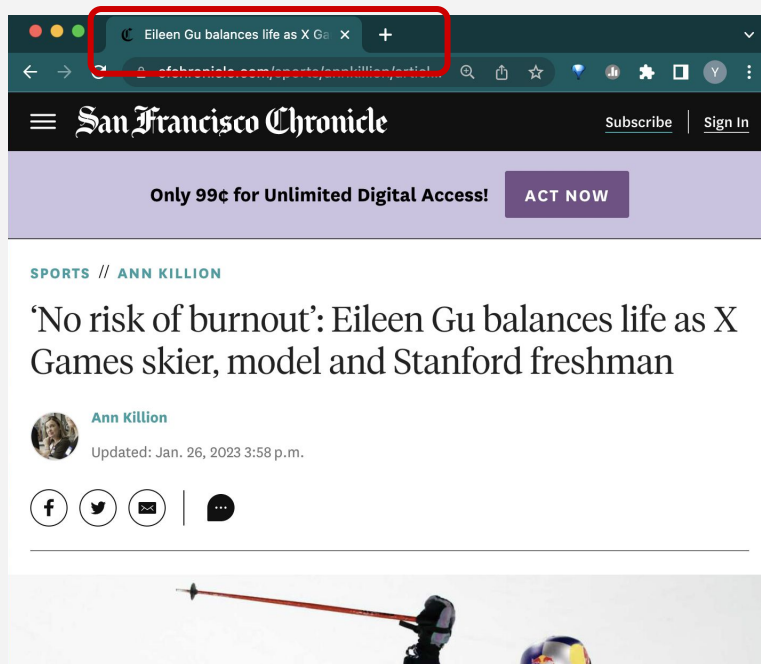
<title>First webpage</title>

This won't appear on the page itself, but rather at the top of the browser, and when people bookmark or link to the page. (And in some Google search results.)

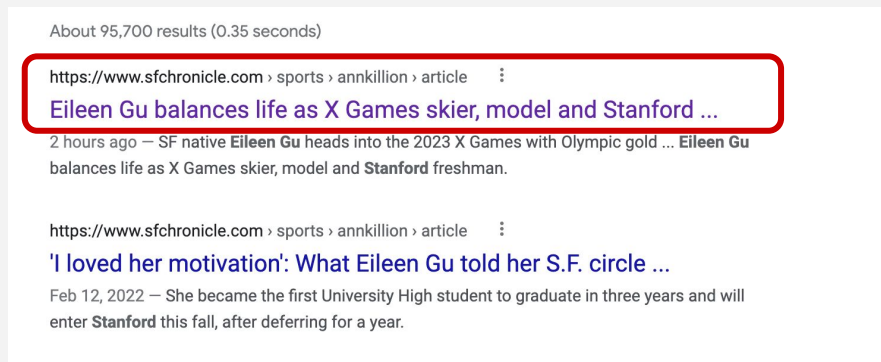
```
<head>
  <meta charset="utf-8">
  <meta name="viewport"
content="width=device-width,initial-scale=1">
  <title>First web page</title>
  <meta name="description" content="Page showing all
the HTML I have learned.">
</head>
```

Semantic HTML: <head>

Top of browser tab

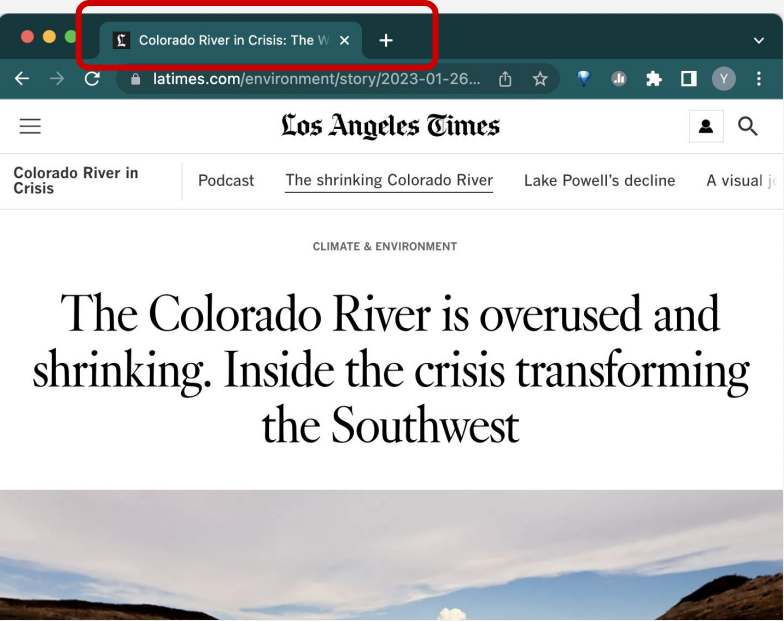


Google search

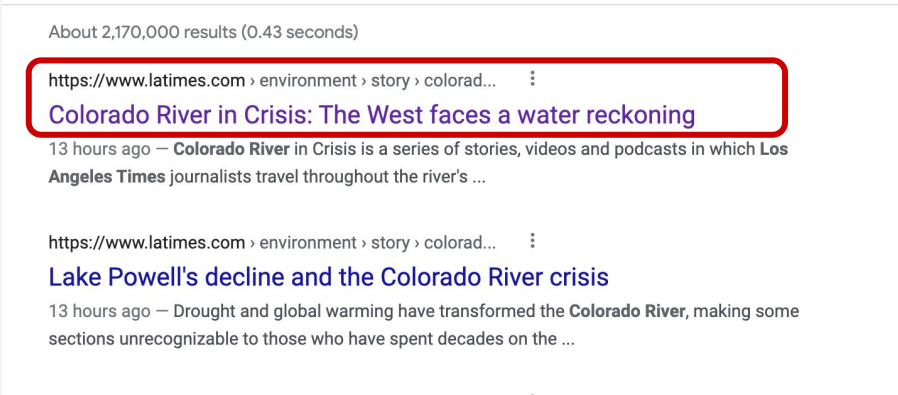


Semantic HTML: <head>

Top of browser tab



Google search



Semantic HTML

The **metadata** in **<head>** can include the following:

<meta name=
“description”
content= “Page
showing all the
HTML I have
learned.”>

```
<head>  
  <meta charset="utf-8">  
  <meta name="viewport"  
content="width=device-width,initial-scale=1">  
  <title>First web page</title>  
  <meta name="description" content="Page showing all  
the HTML I have learned.">  
</head>
```

Semantic HTML

The **metadata** in **<head>** can include the following:

This tag is an optional description you can add to the page that Google and other vendors use to knowing more about the page's purpose and function. Be clear, descriptive and concise.

```
<head>
  <meta charset="utf-8">
  <meta name="viewport"
content="width=device-width,initial-scale=1">
  <title>First web page</title>
  <meta name="description" content="Page showing all
the HTML I have learned.">
</head>
```

Semantic HTML: Inside <head>

Google search

About 2,170,000 results (0.43 seconds)

<https://www.latimes.com> › environment › story › colorad... ⋮

Colorado River in Crisis: The West faces a water reckoning

13 hours ago — **Colorado River** in Crisis is a series of stories, videos and podcasts in which **Los Angeles Times** journalists travel throughout the river's ...

<https://www.latimes.com> › environment › story › colorad... ⋮

Lake Powell's decline and the Colorado River crisis

13 hours ago — Drought and global warming have transformed the **Colorado River**, making some sections unrecognizable to those who have spent decades on the ...

About 95,700 results (0.35 seconds)

<https://www.sfchronicle.com> › sports › annkillion › article ⋮

Eileen Gu balances life as X Games skier, model and Stanford ...

2 hours ago — SF native **Eileen Gu** heads into the 2023 X Games with Olympic gold ... **Eileen Gu** balances life as X Games skier, model and **Stanford** freshman.

<https://www.sfchronicle.com> › sports › annkillion › article ⋮

'I loved her motivation': What Eileen Gu told her S.F. circle ...

Feb 12, 2022 — She became the first University High student to graduate in three years and will enter **Stanford** this fall, after deferring for a year.

Semantic HTML

Quick note:

There are additional meta tags to customize heds and deks on for social media sites

Facebook:

```
<meta property="og:title"
content="First webpage"/>
```

X:

```
<meta name="twitter:title"
content="First webpage"/>
```

```
<head>
  <meta charset="utf-8">
  <meta name="viewport"
content="width=device-width,initial-scale=1">
  <title>First web page</title>
  <meta name="description" content="Page showing all
the HTML I have learned.">
</head>
```

Semantic HTML

The **<body>** tag includes everything seen by the reader!

Here is where most semantic HTML tags are used. They help structure the page, but also, let you and the browser know what is nested inside.

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <header>
      <!--Stuff in header -->
    </header>
    <nav>
      <!--Stuff in nav -->
    </nav>
    <article>
      <!--Stuff in article -->
    </article>
    <footer>
      <!--Stuff in footer -->
    </footer>
  </body>
</html>
```

Semantic HTML

Here are **some** examples....

1. **<header></header>**
(not the same as the **<head>** that includes your metadata.)

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <header>
      <!--Stuff in header -->
    </header>

    </body>
  </html>
```

Semantic HTML

`<header></header>`

It should be one of the first elements inside your body tags.

With this tag you tell the browser important identifying info about the page, such as a headline or description.

*h tags will be reviewed later!

```
<header>
  <h1>Yoli Martinez</h1>
  <p>Page showing all the HTML I have learned.</p>
</header>
```

Semantic HTML

`<header></header>`

You can actually use multiple headers. For now, we are building single page websites. So the `<header>` probably wraps around the only title on your page.

Let's look at a news site to see how header is used

```
<header>  
  <h1>Yoli Martinez</h1>  
  <p>Page showing all the HTML I have learned.</p>  
</header>
```


Semantic HTML

Here are **some** examples....

1. `<header></header>`
(not the same as the `<head>` that includes your metadata.)
2. `<nav></nav>`

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <header>
      <!--Stuff in header -->
    </header>
    <nav>
      <!--Stuff in nav -->
    </nav>

    </body>
  </html>
```

Semantic HTML

```
<nav></nav>
```

This can be the top navigation for your webpage!

These `` elements could be surrounded by any tags but by using `<nav>`, it is an identifying feature. The browser and anyone reading will know this is **the navigation** for you page.

```

<nav>
  <ul>
    <li>Home</li>
    <li>Blog</li>
    <li>Portfolio</li>
    <li>Contact</li>
  </ul>
</nav>

```

Semantic HTML

Here are **some** examples....

1. `<header></header>`
(not the same as the `<head>` that includes your metadata.)
2. `<nav></nav>`
3. **`<article></article>`**

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <header>
      <!--Stuff in header -->
    </header>
    <nav>
      <!--Stuff in nav -->
    </nav>
    <article>
      <!--Stuff in article -->
    </article>

    </body>
  </html>
```

Semantic HTML

`<article></article>`

The `<article>` tag describes a piece of syndicated content (where content changes on an interval, like a news website.)

```
<article>
  <h3>Cranberry Spritzer Watermelon</h3>
  <p>Bulgarian carrot strawberry mango smoothie
mediterranean tomato and basil blackberries cilantro
lime vinaigrette roasted butternut squash crispy
iceberg lettuce jalapeño bruschetta peppermint
cherries salty sesame soba noodles double dark
chocolate kimchi picnic fig arugula cashew salad
spiced peppermint blast overflowing cookies ginger
tofu peaches red grapes.</p>
  <p>Chia seeds basil miso dressing casserole avocado
basil pesto Thai super chili pasta citrusy pineapple
salsa red curry tofu noodles.</p>
</article>
```

Semantic HTML

Here are **some** examples....

1. `<header></header>`
(not the same as the `<head>` that includes your metadata.)
2. `<nav></nav>`
3. `<article></article>`
4. **`<main></main>`**

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <main>
      <!--main content of page -->
      <header>
        <!--Stuff in header -->
      </header>
      <nav>
        <!--Stuff in nav -->
      </nav>
      <article>
        <!--Main content of article -->
      </article>
    </main>
  </body>
</html>
```

Semantic HTML

`<main></main>`

It includes main content that is not repeated elsewhere in the website. Should not includes navigation, footer or certain types of header.

You can't have more than one.

```
<main>
  <header>
    <h1>UC Berkeley opens free fruit stand</h1>
  </header>
  <article>
    <h3>Cranberry Spritzer Watermelon</h3>
    <p>Bulgarian carrot strawberry mango smoothie
mediterranean tomato and basil blackberries cilantro
lime vinaigrette roasted butternut squash crispy
iceberg lettuce jalapeño bruschetta peppermint
cherries salty sesame soba noodles double dark
chocolate kimchi picnic fig arugula cashew salad
spiced peppermint blast overflowing cookies ginger
tofu peaches red grapes.</p>
  </article>
</main>
```

Semantic HTML

Here are **some** examples....

1. `<header></header>`
(not the same as the **`<head>`** that includes your metadata.)
2. `<nav></nav>`
3. `<article></article>`
4. `<main></main>`
5. **`<footer></footer>`**

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- metadata goes here -->
  </head>
  <body>
    <main>
      <!-- main content of page -->
      <header>
        <!-- Stuff in header -->
      </header>
      <nav>
        <!-- Stuff in nav -->
      </nav>
      <article>
      </article>
    </main>
    <footer>
      <!-- Stuff in footer -->
    </footer>
  </body>
</html>
```

Semantic HTML

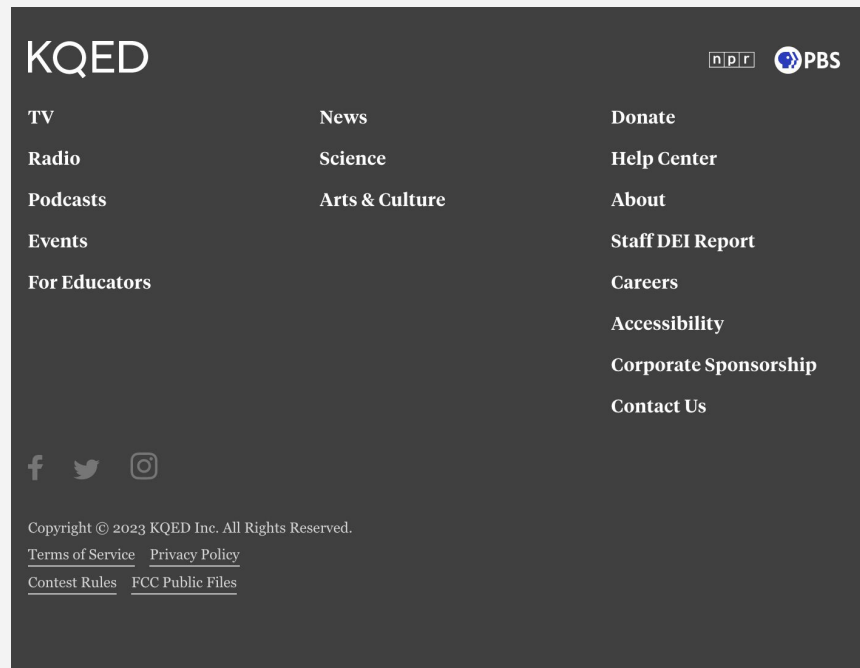
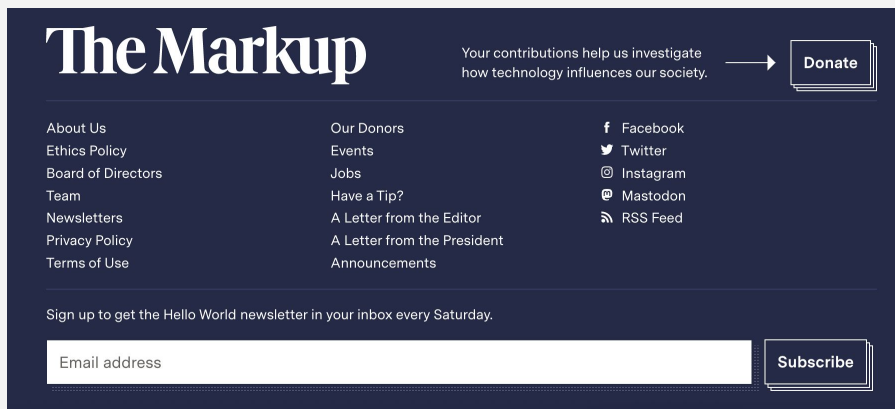
`<footer></footer>`

It is the last element in your webpage. It can include copyright, legal info, sitemap and related links.

Most company pages have footers as well as news orgs.

```
<footer>
  <p>Copyright @2022</p>
  <p>Subscribe to newsletter</p>
  
</footer>
```


HTML Document: Inside <body>



HTML Document: Inside <body>

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Semantic HTML

More tags you can use

`<section></section>`

`<aside></aside>`

```
<body>
  <header>
    <!--Stuff in header -->
  </header>
  <nav>
    <!--Stuff in nav -->
  </nav>
  <main>
    <!-- Main portion of the webpage-->
    <article>
      <!--Stuff in article -->
      <section>
        <!-- A grouping -->
      </section>
      <aside>
        <!--sidebars or call out boxes -->
      </aside>
    </article>
  </main>
</body>
```

Semantic HTML

`<section></section>`

It's designed more for structuring static content that doesn't typically change much.

All sections typically come with an **heading** tag,

A `<section>` could wrap around your contact information or clips that don't change.

```
<section>
  <h3>Contact</h3>
  <p>For freelance or job opportunities reach me via
  <a href="mailto:email@berkeley.edu">
    email@berkeley.edu</a>.
  <p>You can also reach me via social media</p>
  <p>LinkedIn: <a href=
    "https://linkedin.com/username">LinkedIn
    Profile</a></p>
</section>
```

“One of the best accessibility aids a screen reader user can have is an excellent content structure with headings, paragraphs, lists, etc.”

Read more:

<https://developer.mozilla.org/en-US/docs/Learn/Accessibility/HTML>

What questions do you have?

Hierarchy

Hierarchy

Heading tags

Typically, h tags represent the heading of a page or section.

```
<h1>This is the main headline on your  
page</h1>
```


Hierarchy

Heading tags

Like most HTML elements, they need an **opening** and **closing** tag.

```
<h1>This is the main headline on your  
page</h1>
```

Hierarchy

Heading tags

There are 6 variations to pick from. They are ordered from most important to least important heading on your page.

Most websites don't use anything past the h3 or h4 tags.

```
<h1>This is a hed</h1>
```

```
<h2>This is a hed</h2>
```

```
<h3>This is a hed</h3>
```

```
<h4>This is a hed</h4>
```

```
<h5>This is a hed</h5>
```

```
<h6>This is a hed</h6>
```

Hierarchy

Heading tags

A page is only allowed **one** `<h1>` tag. It's usually your page headline.

Tags **have to** be used in hierarchical order. You're telling the browser which text matters.

`<h2>` or `<h3>` can be around all your sections names (if you have any)

```
<h1>This is a hed</h1>
```

```
<h2>This is a hed</h2>
```

```
<h3>This is a hed</h3>
```

```
<h4>This is a hed</h4>
```

```
<h5>This is a hed</h5>
```

```
<h6>This is a hed</h6>
```

Hierarchy

Heading tags

Even without CSS, the heading tags come with a inherit styling. `<h1>` is a bigger size than `<h2>` without any styling applied to it.

The tags **have to be used in order**. You cannot skip to an `h4` from an `h2`. You have to use a `h3` before using the `h4`.

```
<h1>This is a hed</h1>
```

```
<h2>This is a hed</h2>
```

```
<h3>This is a hed</h3>
```

```
<h4>This is a hed</h4>
```

```
<h5>This is a hed</h5>
```

```
<h6>This is a hed</h6>
```

Hierarchy

Let's look at the heading tags in action. Double click the `headingTags.html` file
This should open it in your browser.

Page Structure

Page structure

Here is a simple webpage.

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- READ BY THE BROWSER -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>First webpage</title>
    <meta name="description" content="Page showing all the HTML I have learned.">
  </head>
  <body>
    <!-- SEEN BY THE READER -->
    <header>
      <h1>First web page.</h1>
    </header>
    <nav>
      <ul>
        <li>Work Samples</li>
        <li>Contact</li>
      </ul>
    </nav>
    <article>
      <h2>Cranberry Spritzer Watermelon</h2>
      <p>Bulgarian carrot strawberry mango smoothie mediterranean tomato and lime vinaigrette.</p>
      <p>Butternut squash crispy iceberg lettuce jalapeño bruschetta peppermint.</p>
      
    </article>
    <footer>
      <p>Copyright @2022</p>
    </footer>
  </body>
</html>
```

Page structure

Here is a very simple webpage.

We have the **<head>** with the metadata (It's read by the browser)

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- READ BY THE BROWSER -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>First webpage</title>
    <meta name="description" content="Page showing all the HTML I have learned.">
  </head>
  <body>
    <!-- SEEN BY THE READER -->
    <header>
      <h1>First web page.</h1>
    </header>
    <nav>
      <ul>
        <li>Work Samples</li>
        <li>Contact</li>
      </ul>
    </nav>
    <article>
      <h2>Cranberry Spritzer Watermelon</h2>
      <p>Bulgarian carrot strawberry mango smoothie mediterranean tomato and lime vinaigrette.</p>
      <p>Butternut squash crispy iceberg lettuce jalapeño bruschetta peppermint.</p>
      
    </article>
    <footer>
      <p>Copyright @2022</p>
    </footer>
  </body>
</html>
```


Page structure

Here is a very simple webpage.

We have the `<head>` with the metadata (It's read by the browser)

Followed by the `<body>` with all the information the reader will see.

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- READ BY THE BROWSER -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>First webpage</title>
    <meta name="description" content="Page showing all the HTML I have learned.">
  </head>
  <body>
    <!-- SEEN BY THE READER -->
    <header>
      <h1>First web page.</h1>
    </header>
    <nav>
      <ul>
        <li>Work Samples</li>
        <li>Contact</li>
      </ul>
    </nav>
    <article>
      <h2>Cranberry Spritzer Watermelon</h2>
      <p>Bulgarian carrot strawberry mango smoothie mediterranean tomato and lime vinaigrette.</p>
      <p>Butternut squash crispy iceberg lettuce jalapeño bruschetta peppermint.</p>
      
    </article>
    <footer>
      <p>Copyright @2022</p>
    </footer>
  </body>
</html>
```

Page structure

1. `<head>` is always above `<body>` tags

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- READ BY THE BROWSER -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>First webpage</title>
    <meta name="description" content="Page showing all the HTML I have learned.">
  </head>
  <body>
    <!-- SEEN BY THE READER -->
    <header>
      <h1>First web page.</h1>
    </header>
    <nav>
      <ul>
        <li>Work Samples</li>
        <li>Contact</li>
      </ul>
    </nav>
    <article>
      <h2>Cranberry Spritzer Watermelon</h2>
      <p>Bulgarian carrot strawberry mango smoothie mediterranean tomato and lime vinaigrette.</p>
      <p>Butternut squash crispy iceberg lettuce jalapeño bruschetta peppermint.</p>
      
    </article>
    <footer>
      <p>Copyright @2022</p>
    </footer>
  </body>
</html>
```

Page structure

1. `<head>` is always above `<body>` tags
2. **`<header>`** is the first tag within `<body>`

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- READ BY THE BROWSER -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>First webpage</title>
    <meta name="description" content="Page showing all the HTML I have learned.">
  </head>
  <body>
    <!-- SEEN BY THE READER -->
    <header>
      <h1>First web page.</h1>
    </header>
    <nav>
      <ul>
        <li>Work Samples</li>
        <li>Contact</li>
      </ul>
    </nav>
    <article>
      <h2>Cranberry Spritzer Watermelon</h2>
      <p>Bulgarian carrot strawberry mango smoothie mediterranean tomato and lime vinaigrette.</p>
      <p>Butternut squash crispy iceberg lettuce jalapeño bruschetta peppermint.</p>
      
    </article>
    <footer>
      <p>Copyright @2022</p>
    </footer>
  </body>
</html>
```

Page structure

1. `<head>` is always above `<body>` tags
2. `<header>` is the first tag within `<body>`
3. If there is a navigation component, then **`<nav>`** comes next.

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- READ BY THE BROWSER -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>First webpage</title>
    <meta name="description" content="Page showing all the HTML I have learned.">
  </head>
  <body>
    <!-- SEEN BY THE READER -->
    <header>
      <h1>First web page.</h1>
    </header>
    <nav>
      <ul>
        <li>Work Samples</li>
        <li>Contact</li>
      </ul>
    </nav>
    <article>
      <h2>Cranberry Spritzer Watermelon</h2>
      <p>Bulgarian carrot strawberry mango smoothie mediterranean tomato and lime vinaigrette.</p>
      <p>Butternut squash crispy iceberg lettuce jalapeño bruschetta peppermint.</p>
      
    </article>
    <footer>
      <p>Copyright @2022</p>
    </footer>
  </body>
</html>
```

Page structure

1. `<head>` is always above `<body>` tags
2. `<header>` is the first tag within `<body>`
3. If there is a navigation component, then `<nav>` comes next.
4. Inside of your article, follow the h tag order.

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- READ BY THE BROWSER -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>First webpage</title>
    <meta name="description" content="Page showing all the HTML I have learned.">
  </head>
  <body>
    <!-- SEEN BY THE READER -->
    <header>
      <h1>First web page.</h1>
    </header>
    <nav>
      <ul>
        <li>Work Samples</li>
        <li>Contact</li>
      </ul>
    </nav>
    <article>
      <h2>Cranberry Spritzer Watermelon</h2>
      <p>Bulgarian carrot strawberry mango smoothie mediterranean tomato and lime vinaigrette.</p>
      <p>Butternut squash crispy iceberg lettuce jalapeño bruschetta peppermint.</p>
      
    </article>
    <footer>
      <p>Copyright @2022</p>
    </footer>
  </body>
</html>
```

Page structure

1. `<head>` is always above `<body>` tags
2. `<header>` is the first tag within `<body>`
3. If there is a navigation component, then `<nav>` comes next.
4. Inside of your article, follow the h tag order.
5. **`<footer>`** will close out your page.

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <!-- READ BY THE BROWSER -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>First webpage</title>
    <meta name="description" content="Page showing all the HTML I have learned.">
  </head>
  <body>
    <!-- SEEN BY THE READER -->
    <header>
      <h1>First web page.</h1>
    </header>
    <nav>
      <ul>
        <li>Work Samples</li>
        <li>Contact</li>
      </ul>
    </nav>
    <article>
      <h2>Cranberry Spritzer Watermelon</h2>
      <p>Bulgarian carrot strawberry mango smoothie mediterranean tomato and lime vinaigrette.</p>
      <p>Butternut squash crispy iceberg lettuce jalapeño bruschetta peppermint.</p>
      
    </article>
    <footer>
      <p>Copyright @2022</p>
    </footer>
  </body>
</html>
```

Resources

- Read more about HTML tags:

<https://developer.mozilla.org/en-US/docs/Web/HTML/Element>

- Dive into meta tags for social:

<https://css-tricks.com/essential-meta-tags-social-media/>

https://developer.mozilla.org/en-US/docs/Learn/HTML/Introduction_to_HTML/The_head_metadata_in_HTML

What questions do you have?

Debugging Code

Debugging Code

1. Unclosed tags

```
<h1>This is not closed<h1>
```

Debugging Code

1. Unclosed tags

```
<h1>This is not closed<h1>
```

2. Unclosed quotation marks

```
<a href="https://www.berkeley.edu target="_blank">Berkeley</a>
```

Debugging Code

1. Unclosed tags

```
<h1>This is not closed<h1>
```

2. Unclosed quotation marks

```
<a href="https://www.berkeley.edu target="_blank">Berkeley</a>
```

3. Using both single and double quotes

```
<a href="https://www.berkeley.edu" target="_blank">  
Berkeley</a>
```

Debugging Code

Remember, things break **all the time**.

Eventually your eye will get better at catching typos or unclosed tags. Sometimes it takes another set of eyes, and that's okay. Sublime and other text editors are pretty good at catching unclosed tags and pointing out mistakes.

Let's try to find the mistakes in the following...

Review

Head: What's missing?

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width,
initial-scale=1">
    <title>First Webpage</title>

  </head>
</html>
```

Head: What's missing?

```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width,
initial-scale=1">
    <title>First Webpage</title>
    <meta name="description" content="Page showing all the HTML I
have learned.">
  </head>
</html>
```


Debugging Code: Why doesn't my link work?

```
<article>
  <h2>BART increases fare</h2>
  
  <p>A story about the 25% increase in fare for commuters. I
interviewed a BART spokesperson and morning commuters in
Oakland.</p>
  <a src="https://newscentral.com/statebills">California
senate</a>
</article>
```

Debugging Code: Why doesn't my link work?

```
<article>
  <h2>BART increases fare</h2>
  
  <p>A story about the 25% increase in fare for commuters. I
interviewed a BART spokesperson and morning commuters in
Oakland.</p>
  <a href="https://newscentral.com/statebills">California
senate</a>
</article>
```

Semantic HTML: What should we fix?

```
<article>
  <h2>BART increases fare</h2>
  <p>A story about the 25% increase in fare for commuters. I
interviewed a BART spokesperson and morning commuters in
Oakland.</p>
  <section>
    <h5>State Bills</h2>
    <p>List of bills in 2024</p>
  <section>
</article>
```

Readable HTML: What should we fix?

```
<article>
  <h2>BART increases fare</h2>
  <p>A story about the 25% increase in fare for commuters. I
interviewed a BART spokesperson and morning commuters in
Oakland.</p>
  <section>
    <h3>State Bills</h3>
    <p>List of bills in 2024</p>
  </section>
</article>
```

Download VSCode

<https://code.visualstudio.com/Download>

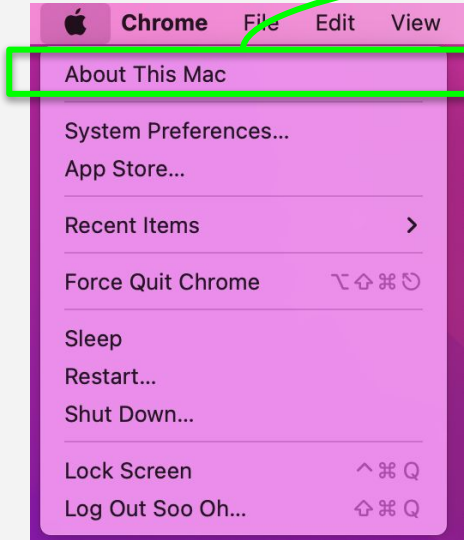


↓ Mac
macOS 10.15+

.zip Intel chip Apple silicon Universal

CLI Intel chip Apple silicon

Determine what kind of chip you have



1. Go to the Apple icon in the upper-left of your screen, and click on **About This Mac**.
2. Find your **Chip** or **Processor** here:



Determine what kind of chip you have

Apple Silicon



Intel



Break

Meet back in 15 minutes.

start Zoom recording + captions

File structure

**Note to
lecturers:**
resume Zoom
recording



Aaron Sankin 1:40 PM

for a while i collected all the cool memes i saw into a folder so i would just have them ready to go



Soo Oh (ET)  1:40 PM

that really shows your age

lol

i mean



Aaron Sankin 1:40 PM

true. kids today do not know about folder



Soo Oh (ET)  1:41 PM

probably our age

File Structure

Sorry all, this can sound boring, but IT IS SO IMPORTANT.

So many things can go wrong, disappear, unlink or appear broken if your file folders are not set up properly.

So here are some basic rules for this class:

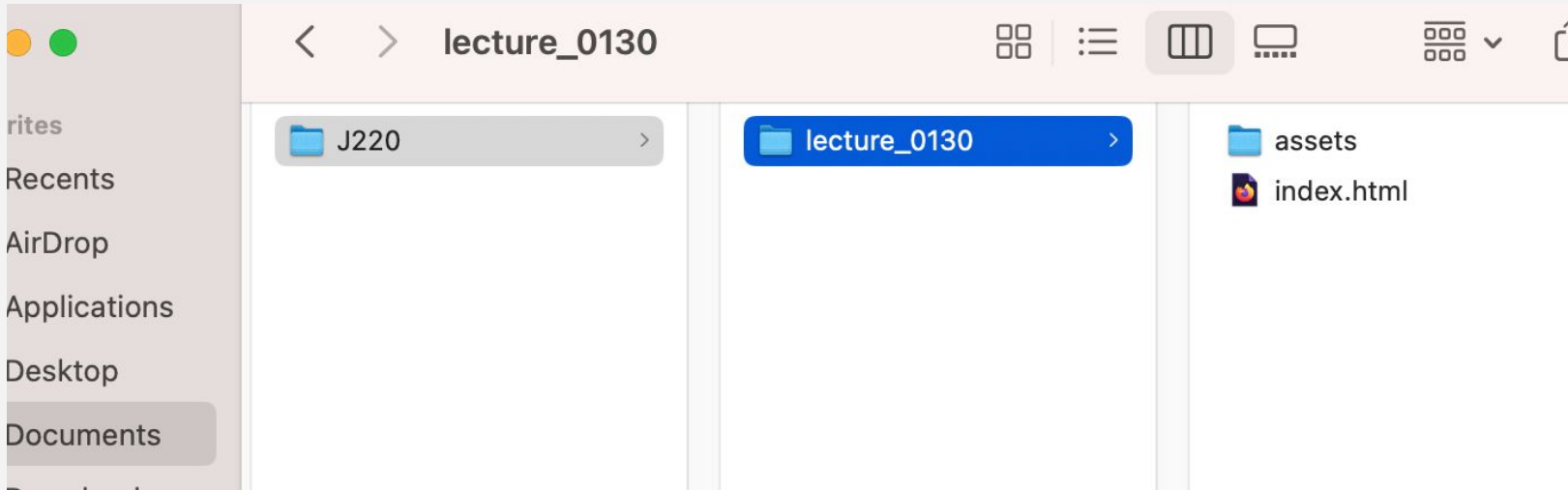
File Structure

For this class, create a “J220” folder in your main “Documents” folder. Never, never, never, never just save html and css files onto your desktop/download/easily misplaced folder.

Let's review how to call files using our folder structure

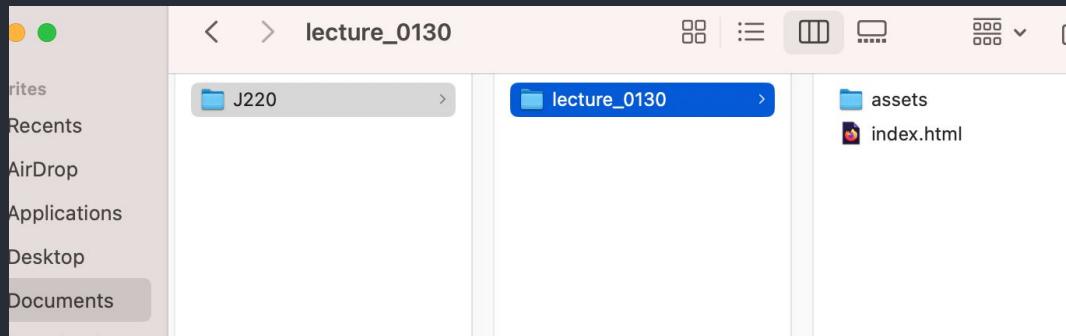
File Structure

This is what your files should look like



File Structure

So now let's take a look at our `` tag again that lives in the `index.html` file



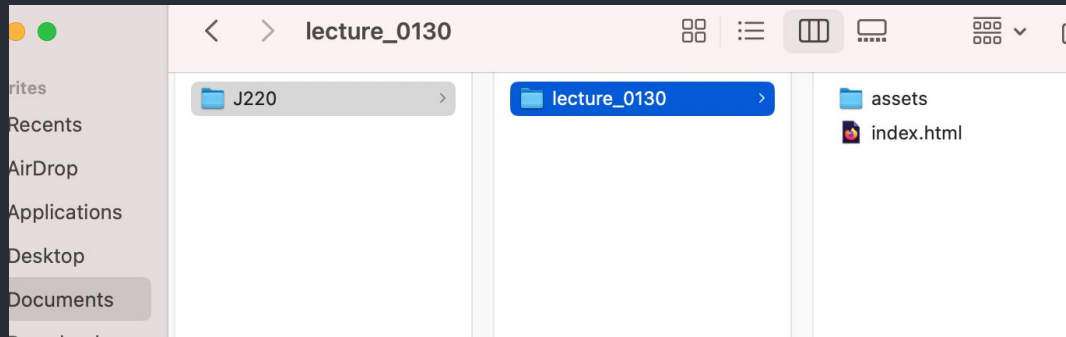
```

```

File Structure

So now let's take a look at our `` tag again that lives in the `index.html` file

The “src” attribute let's the browser know where to find the image.

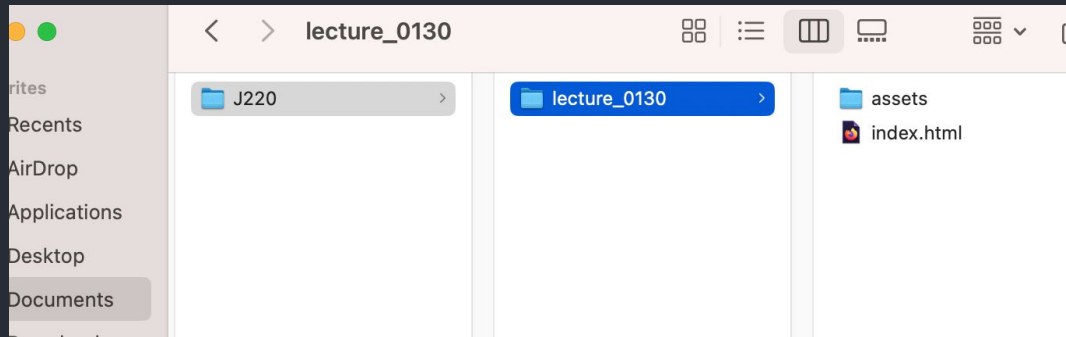


```

```


File Structure

In HTML, you use periods and slashes to let the browser know how to navigate through your file structure.



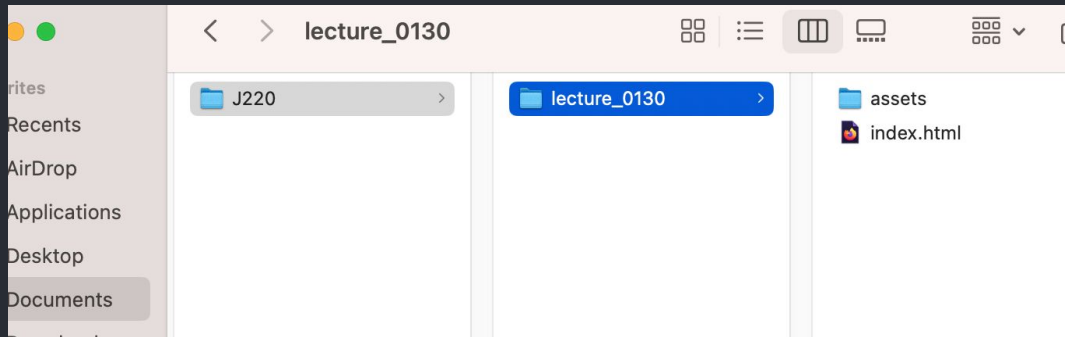
```

```

File Structure

What this gets
interpreted as is:

“./” - in this directory



```

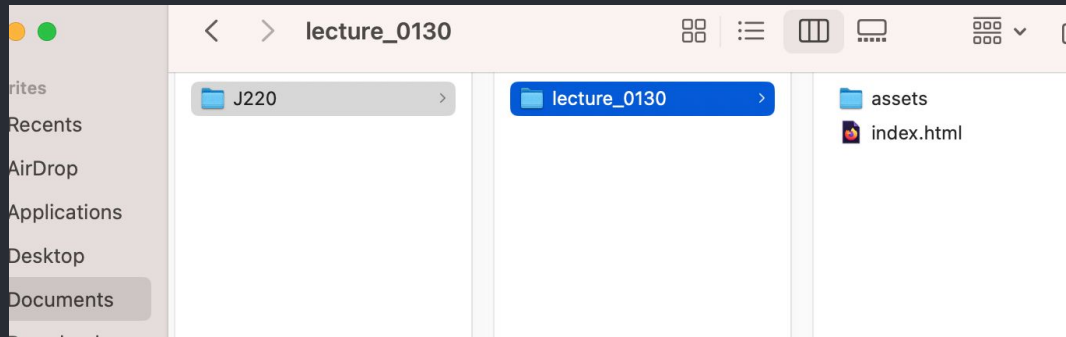
```

File Structure

What this gets interpreted as is:

“./” - in this directory

“assets/” - in folder with this name



```

```

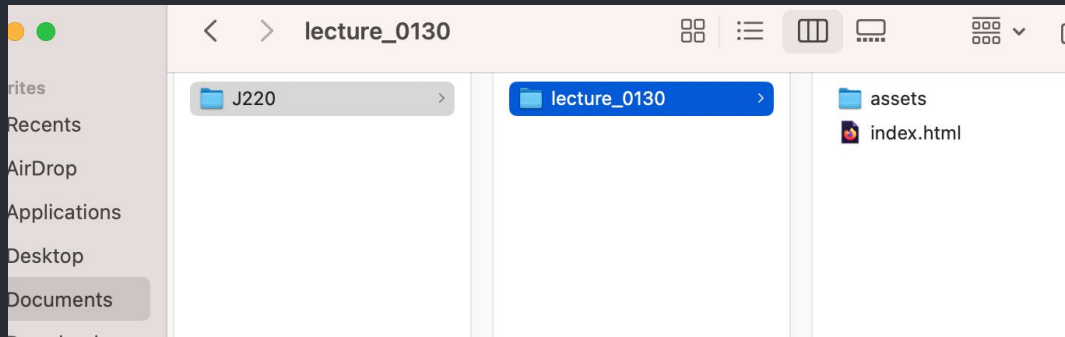
File Structure

What this gets interpreted as is:

“./” - in this directory

“assets/” - in folder with this name

You'll find a file with this name.



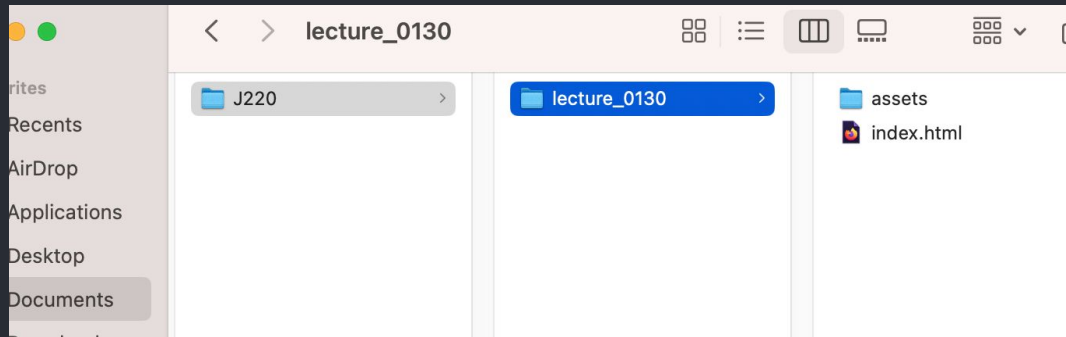
```

```

File Structure

Using “./” to mean in this directory is a style I prefer but starting with “assets/” **works too.** ONLY if you're in the root.

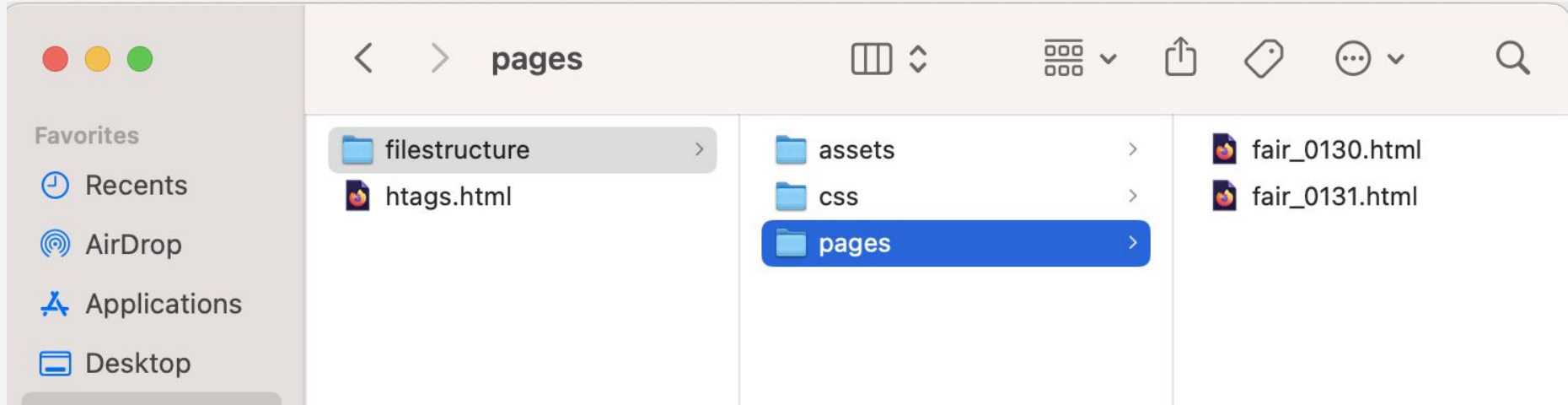
Some compiler might work differently



```

```

File Structure

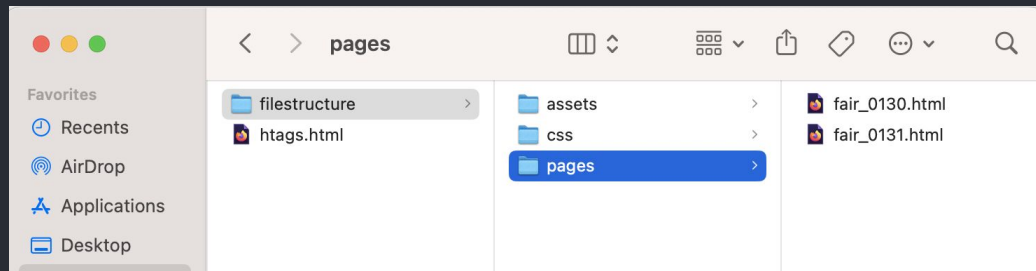


File Structure

What this gets interpreted as is:

“../” - in the parent folder of this file

Essentially jumping up a folder, skipping up **pages**



```

```

File Structure

This matter because you can end up with a web page with photos, audio or video. And you'd want to organize each of those asset types into their own folder.

Note:

- a. `./` or just starting with the child folder = in this directory
- b. `../` = in the parent folder
- c. You can end up with src that looks like this: `../../photos/cat.jpg`

What questions do you have?

In-class exercise!

In-class exercise

Get into groups of 3-4 people

We're going to create the outline of a website!

Harvest Haven

A new market brings in the goods.

By Diane Lee

A new year-round market will take place Sundays at the DMV.

"Look at those tomatoes," said Nancy Contreras as she walked through the stands.

Local farmers



Kevin Tran wakes up at 3 a.m. to open his stall at the DMV.

"I love giving samples to kids," says the 53 year-old farmer.

BerkeleyTimes @2024

← Website

Search result



Harvest Haven

BerkeleyTimes | 8 hours ago

Starting in February, the new market brings in the goods.



In-class exercise

CODE REVIEW 🎉🎉🎉🎉

Homework

Assignment #2: Semantic HTML on bCourses, due Saturday

Recommended Reading:

https://developer.mozilla.org/en-US/docs/Glossary/Semantics#semantic_elements

Review semantic html tags, pay close attention to some fun ones (like mark and details/summary)