

J220

Coding for Journalists

LECTURER

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PROMPTS

Go to class website
(<https://journ220.github.io>) and
download lecture materials for
today.

start Zoom recording + captions

Agenda

Announcements

Homework review + How much time

CSS Selectors

BREAK

JavaScript

Homework

Announcements

April 17: SAJA presents + GitHub + Study Hall 🍕

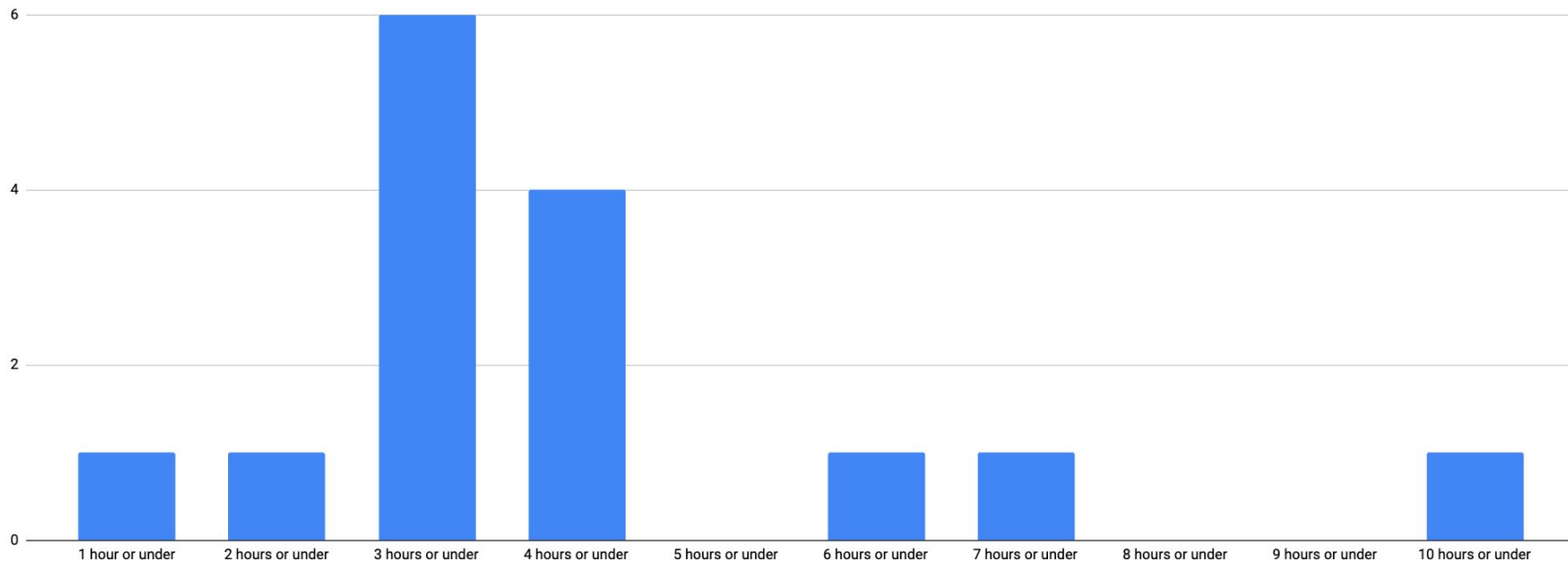
April 24: Career panel

- **Nancy Deville**, Editorial Project Manager at The Atlantic
- **Gabe Hongsdusit**, Visual Designer at The Markup
- **Evan Wagstaff**, Director of Newsroom Engineering at Hearst Newspapers

May 1: Final class: Presentations

How much time spent on J220 last week

Week 04-03: Number of students grouped by hours spent outside of lecture and office hours



Homework Review: Best practices

include

simple-grid.css

above main.css

single-column

layouts

```
<!-- omitted for space -->
```

```
<head>
```

```
  <meta charset="utf-8">
```

```
  <meta name="viewport"
```

```
content="width=device-width,initial-scale=1">
```

```
  <title>Title TK</title>
```

```
  <meta name="description" content="Description TK">
```

```
<!-- styles -->
```

```
  <link rel="stylesheet" href="./styles/simple-grid.css">
```

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

```
<!-- we'll learn the javascript below today -->
```

```
  <script defer src="./scripts/main.js"></script>
```

```
</head>
```

```
<!-- omitted for space -->
```

Homework Review: Best practices

include

simple-grid.css

above main.css

single-column

layouts

Use a combo of percentage, max-width, and auto margins, NOT in html/body:

```
html, body {  
  font: normal 16px/1.2 'Helvetica', sans-serif;  
}  
  
.container {  
  width: 90%;  
  max-width: 650px;  
  margin: auto;  
}
```

What questions do you have?

CSS Selectors

CSS Selectors

Open zipfile

CSS Selectors

#headline

.byline

p.canAdopt

- Logic: If the element is a p tag with the class of canAdopt
- Syntax: No spacing between tag and class name

figure img

- Logic: If the img is nested inside a figure
- Syntax: Spacing between both tags

CSS Selectors

`.kittenInfo .canAdopt`

- Logic: If the second class is nested in an element with the first class)
- Syntax: One space between classes

`.kittenInfo, .canAdopt`

- Logic: If the element contains either class)
- Syntax: A comma between classes

`.kittenInfo.canAdopt`

- Logic: If an element has both classes listed
- Syntax: No space between classes

Break

Meet back in 15 minutes.

start Zoom recording + captions

Intro to JavaScript

JavaScript

`main.js`, `defer`, `async`

comments

`alert()`

select and **change**
element

interact with element

debug with
`console.log()`

What is the DOM?

Use JavaScript to implement scrollytellers, provide interactivity on a page, or otherwise make a website dynamic.

Learning JavaScript is usually harder than learning HTML/CSS.

JavaScript is NOT Java.

JavaScript

main.js, defer, async

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console.log()

What is the DOM?

You can place **main.js** in a **scripts/** folder.

Include **main.js** in **index.html** by placing the following line in the **<head>** tag:

```
<!DOCTYPE html>
<html class="html" lang="en">
<head>
  <meta charset="utf-8">
  <!-- omitting content for space -->
  <link rel="stylesheet" href="./styles/main.css">
  <script defer src="./scripts/main.js"></script>
</head>
<!-- omitting content for space -->
```

JavaScript

main.js, defer, async

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console.log()

What is the DOM?

```
<script defer src="./scripts/main.js"></script>
```

Use the **async** keyword to run **main.js** as soon as **main.js** is downloaded. The rest of the HTML will continue to be parsed at the same time.

Use the **defer** keyword to run **main.js** after the browser has parsed the HTML file.

If you don't use a keyword, **main.js** will run before the rest of the HTML is parsed.

Open lecture materials

JavaScript

main.js, defer, async

comments

alert()

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console.log()

What is the DOM?

Use **two forward slashes** for a single-line comment or a **slash and asterisk combo** for multi-line comments.

```
// Here's a comment. It will only work on one line.  
// If you write a new line of text, that text  
// will not be commented unless you start the new  
// lines with two slashes.
```

```
/*  
This is a comment with multiple line breaks.  
See?  
Everything within the slash-and-asterisk combo will be  
commented out.  
*/
```

JavaScript

main.js, defer, async

comments

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What is the DOM?

Use **two forward slashes** for a single-line comment or a **slash and asterisk combo** for multi-line comments.

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// Here's a comment. It will only work on one line.  
// If you write a new line of text, that text  
// will not be commented unless you start the new  
// lines with two slashes.
```

```
/*  
This is a comment with multiple line breaks.  
See?  
Everything within the slash-and-asterisk combo will be  
commented out.  
*/
```

Open main.js

JavaScript

main.js, defer, async

comments

alert()

select and **change**
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interact with element

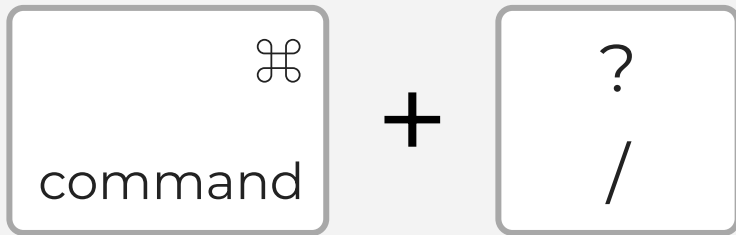
debug with
console.log()

What is the DOM?

Sublime Text tip: Use

 **command** – **forward slash**

to comment out code. You can also
select multiple lines of code and
comment them all out at once.



Open lecture materials

JavaScript

main.js, defer, async

comments

alert()

select and **change**
element

interact with element

debug with
console.log()

What is the DOM?

Write the following in **main.js**:

```
// Open a dialog box  
alert("Hello, world!");
```

Our first line of JavaScript!

Open lecture materials

JavaScript

main.js, defer, async

comments

alert()

select and **change**
element

interact with element

debug with
console.log()

What is the DOM?

Knowing the difference between HTML tags, **class**, and **id** is very important in JavaScript.

Remember: use **class** when you want to apply a style to multiple elements. Use **id** when you want to style ONE element. Use tags when you want to style every element using that tag.

JavaScript

main.js, defer, async

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alert()

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debug with
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What is the DOM?

Selecting an element by *id*:

```
document.getElementById(id);
```

Example:

HTML

```

```

JavaScript

```
document.getElementById('heroImage');
```

Note: In CSS, you would use a hash # to select an *id*. You don't do this in JavaScript!

JavaScript

main.js, defer, async

comments

alert()

select and **change**
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debug with
`console.log()`

What is the DOM?

Selecting an element with CSS *querySelector*:

```
document.querySelector(query);
```

Example:

HTML

```

```

JavaScript

```
document.querySelector('#heroImage');
```

This will select the **FIRST** element that matches the CSS query.

JavaScript

main.js, defer, async

comments

alert()

select and **change**
element

interact with element

debug with
console.log()

What is the DOM?

How would we select...

HTML

```
<!-- ... -->
<body>
  <h1>Main headline</h1>

  <h2 id="subhed-1">This is my first subhed</h2>
  <p>Lorem ipsum dolor sit amet, adipiscing elit.</p>

  <h2 id="subhed-2">This is my second subhed</h2>
  <p>Lorem ipsum dolor sit amet, adipiscing elit.</p>

<!-- ... -->
```

JavaScript

main.js, defer, async

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What is the DOM?

How would we select...

HTML

```
<!-- ... -->
<body>
  <h1>Main headline</h1>

  <h2 id="subhed-1">This is my first subhed</h2>
  <p>Lorem ipsum dolor sit amet, adipiscing elit.</p>

  <h2 id="subhed-2">This is my second subhed</h2>
  <p>Lorem ipsum dolor sit amet, adipiscing elit.</p>
<!-- ... -->
```

JavaScript

```
document.querySelector('h1');
```

JavaScript

main.js, defer, async

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console.log()

What is the DOM?

How would we select...

HTML

```
<!-- ... -->
<body>
  <h1>Main headline</h1>

  <h2 id="subhed-1">This is my first subhed</h2>
  <p>Lorem ipsum dolor sit amet, adipiscing elit.</p>

  <h2 id="subhed-2">This is my second subhed</h2>
  <p>Lorem ipsum dolor sit amet, adipiscing elit.</p>
<!-- ... -->
```

JavaScript

```
document.getElementById('subhed-1');
document.querySelector('#subhed-1');
```

JavaScript

main.js, defer, async

comments

alert()

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console.log()

What is the DOM?

How would we select...

HTML

```
<!-- ... -->
<body>
  <h1>Main headline</h1>

  <h2 id="subhed-1">This is my first subhed</h2>
  <p>Lorem ipsum dolor sit amet, adipiscing elit.</p>

  <h2 id="subhed-2">This is my second subhed</h2>
  <p>Lorem ipsum dolor sit amet, adipiscing elit.</p>
<!-- ... -->
```

JavaScript

```
document.querySelector('p');
```

JavaScript

main.js, defer, async

comments

alert()

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What is the DOM?

How would we select...

HTML

```
<!-- ... -->
<body>
  <h1>Main headline</h1>

  <h2 id="subhed-1">This is my first subhed</h2>
  <p>Lorem ipsum dolor sit amet, adipiscing elit.</p>

  <h2 id="subhed-2">This is my second subhed</h2>
  <p>Lorem ipsum dolor sit amet, adipiscing elit.</p>
<!-- ... -->
```

JavaScript

```
document.querySelector('p:nth-of-type(2)');
```

JavaScript

main.js, defer, async

comments

alert()

select and **change**
element

interact with element

debug with
console.log()

What is the DOM?

Now that you can select an element, you can change it:

HTML

```
<h1>Main headline</h1>
```

JavaScript

```
document.querySelector('h1').innerHTML = 'This is my  
headline.';
```

HTML in browser

```
<h1>This is my headline.</h1>
```

Open lecture materials

JavaScript

main.js, defer, async

comments

alert()

select and **change**
element

interact with element

debug with
console.log()

What is the DOM?

You can also change the color of your headline in JavaScript instead of CSS:

JavaScript

```
document.querySelector('h1').innerHTML = 'This is my  
headline.';  
  
document.querySelector('h1').style.color = 'red';
```

Open lecture materials

JavaScript

main.js, defer, async

comments

alert()

select and **change**
element

interact with element

debug with
console.log()

What is the DOM?

Use an event listener to make something happen when you interact with an element. Below, we “listen” for a “click” on an element with an ID of “alert”:

```
document.getElementById('alert').addEventListener('click',  
function(event) {  
    alert('Hello!');  
});
```

We call the functions inside the event listeners “**event handlers**.”

Open lecture materials

JavaScript

main.js, defer, async

comments

alert()

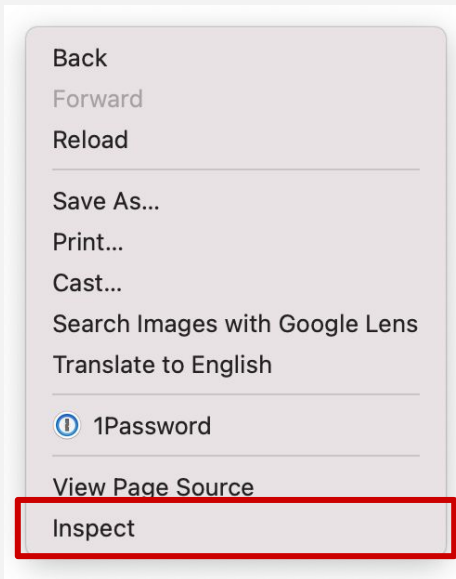
select and **change**
element

interact with element

debug with
`console.log()`

What is the DOM?

Right-click in your browser window and
select **Inspect**:



JavaScript

main.js, defer, async

comments

alert()

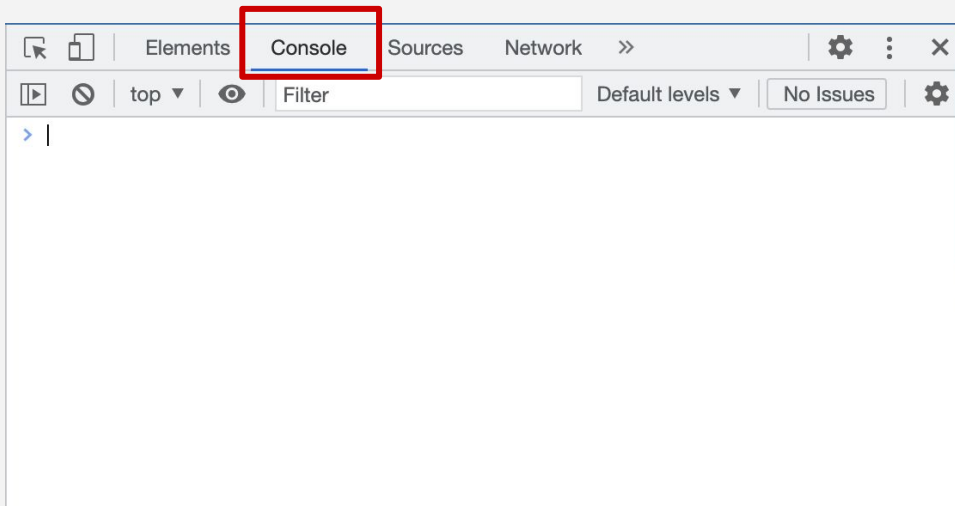
select and **change**
element

interact with element

debug with
`console.log()`

What is the DOM?

In the resulting panel, click on the **Console** tab:



JavaScript

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What is the DOM?

Going back to the previous “interact” exercise, try out the different lines of code and see what happens in the Console tab of your browser window.

```
console.log(document.getElementById('alrt'));  
console.log(document.getElementById('alert'));  
console.log(document.getElementById('alert').clientWidth);  
console.log(document.getElementById('alert').clientHeight);
```

Open lecture materials

JavaScript

main.js, defer, async

comments

alert()

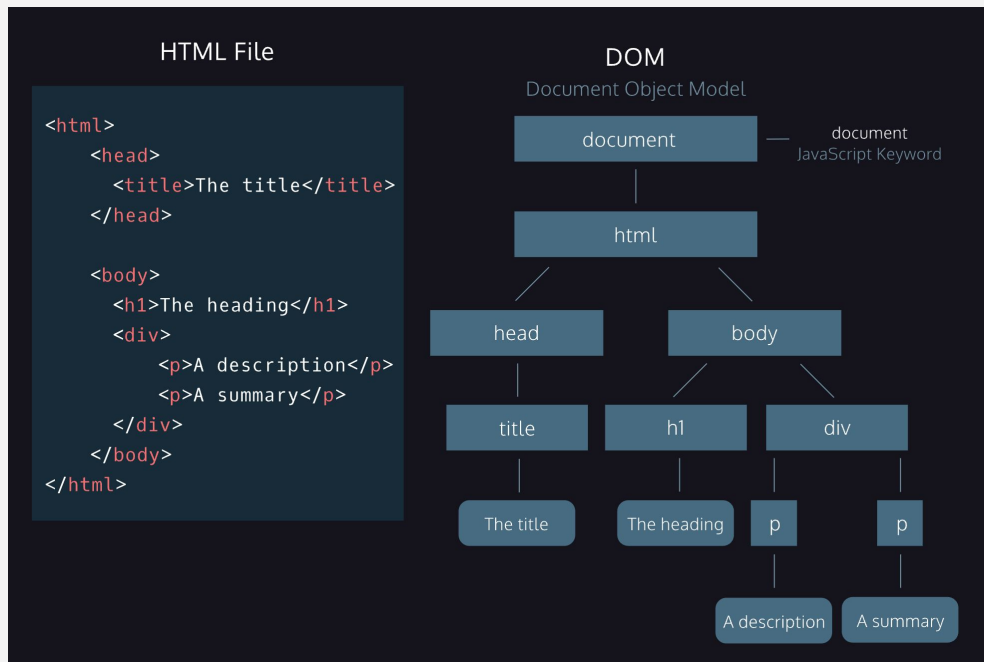
select and **change**
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What is the DOM?

DOM stands for **D**ocument **O**bject
Model.



JavaScript

`main.js`, `defer`, `async`

`comments`

`alert()`

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debug with
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What is the DOM?

It's the representation of a web document as a **data structure**.

You'll have to understand the DOM in order to do more complex things in JavaScript. If you want to understand data structures, take J233 in the fall!

Change or access an element with the various methods listed here:

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

Homework

<https://journ220.github.io>

- **April 17 food survey**
- **Assignment 04-10:** CSS/JavaScript
- **Project wireframes are due this week**
- Download GitHub Desktop
- Optional reading
 - <https://css-tricks.com/the-great-divide/>