Software Engineering Immersive Remote

Introduction to Class and Web Technologies

GENERAL ASSEMBLY

Agenda

- Setting Up Software
- Class Expectations
- Overview of HTML, CSS, Javascript
- Introduction to Command Line

Our Schedule

Unit	Duration	Skills	Project
Front-End Fundamentals	7 weeks	HTML, CSS, Javascript	Website with API Call
Full Stack Development	6 weeks	Express, MongoDB	Full-Stack App
React	4 weeks	React	React + Express
Second Language	4 weeks	New Language and API development	React + Second Server
Capstone	3 weeks	Independent Learning	Capstone Project

Using Slack

1. Use the right channel for your message
    a. The lessons channel is for questions during lessons
    b. The homework channel is for questions on homework assignments
        i. Avoid putting entire answers as replies to questions. Give leading questions instead.
        ii. You can be each other's most valuable resource. Use the homework channel!
    c. The party channel is for sharing fun content and blowing off steam
    d. The outcomes channel is for all things outcomes related
2. Use threads to reply to messages and keep channels clean
3. Important resources and links may be **pinned** to the channel

Visual Studio Code

Download here: https://code.visualstudio.com/download

You can add **extensions** to help with specific languages and frameworks.

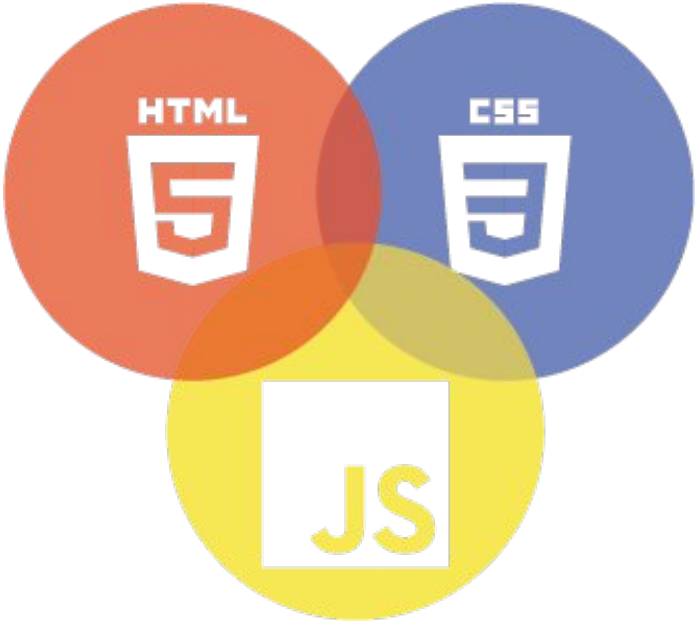
Use the folder view when working on projects to easily navigate.

You can even open a terminal with control + ~ and execute code.

We may use the **liveShare** extension to share code and collaborate in real time.

Foundations of the Web: HTML, CSS, and Javascript

- HTML Documents provide the structure of web pages
- Cascading Style Sheets, or CSS, tell the browser what the page should look like
- Javascript provides functionality to the page, including response to user input



HTML Elements and Relationships

The basic unit of a webpage is an *Element*.

Elements can contain other elements, such as a <ul> list containing <li> items. The containing element is referred to as the *parent* element, in relation to its *children* elements. Two elements sharing the same direct parent are *siblings*.

The relationships between elements are important to the structure of the page, and for applying style. It is important to indent to make these relationships clear.

Good Indenting

```
<div>
    <h1>Numbers I know</h1>
    <ul>
        <li>1</li>
        <li>2</li>
        <li>3</li>
    </ul>
</div>
```

No Indenting

```
<div>
<h1>Numbers I know</h1>
<ul>
<li>1</li>
<li>2</li>
<li>3</li>
</ul>
</div>
```


Solo Exercise:

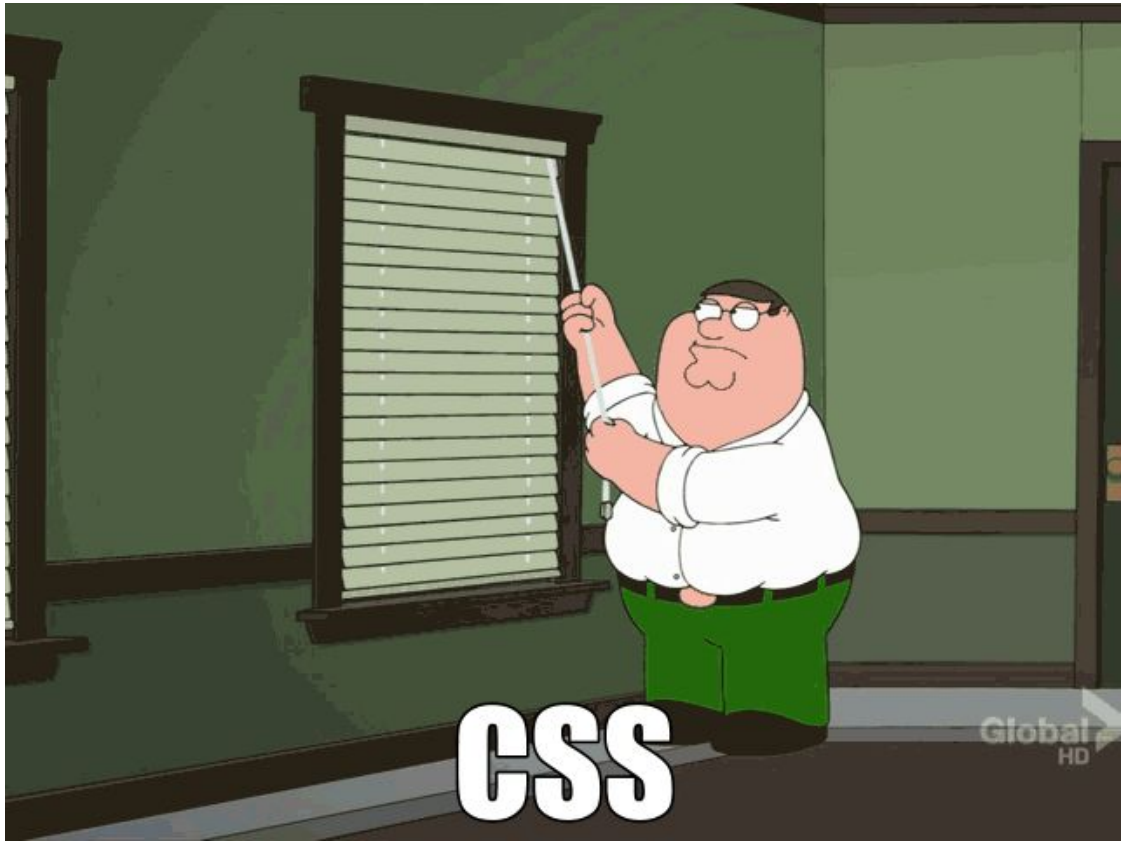
Thinking About HTML Structure

10 minutes

Create an HTML-style representation of a real place or object. Think about the relationship between elements, such as parent-child and siblings. All programming will require you to think about breaking things down into smaller parts. Pay attention to indenting to clarify relationships!

```
<grocery-store>
    <doors></doors>
    <checkout-section>
        <aisle></aisle>
        <aisle></aisle>
        <aisle></aisle>
    </checkout-section>
</grocery-store>
```

CSS: Cascading Style Sheets



CSS Rules and Specificity

CSS takes the form of rules applied to specific elements. The first part of any CSS rule is the **selector**, which defines which elements will follow the rule. If two selectors match the same element, the more specific selector wins.

- An **element selector** targets all elements with the given tag name.
  - Element selectors include p, h1, li, ul, div, body, and so on.
- A **class selector** targets elements with the given class.
  - It is more specific than the element selector, and the most common
  - Provide the name of the class after a period: **.class-name**
- An **id selector** targets elements with the given id.
  - Even more specific than classes, intended for just ONE element
  - Provide the name of the id after a hashtag: **#id-name**

Parent Selectors

Remember when we said that the relationship between HTML elements would be important for CSS purposes? Instead of giving every element a class to target, you can use **parent selectors** to target all children of specific elements.

`.trip-detail p` would target all paragraph elements inside of an element with the class name of trip-detail

There are dozens of CSS selectors based on elements relationships to other elements. Not all are worth memorizing, but knowing the pattern is important!

CSS Rules

Once you've selected elements, you can define style rules to apply to them. The rule below would make all p tags 24px and blue. Note the syntax of providing an attribute, then a value, separated by a colon and ended with a semicolon.

```
p {
    font-size: 24px;
    color: blue;
}
```

Solo Exercise:

Edit A Website

10 minutes

You can use Chrome's dev tools to edit the css rules of any website you visit! This will be an invaluable tool when creating and editing the style of your own website- note that any changes made in the browser will not be saved to the file.

Right-click on any element at any website, and click "Inspect Element." From there, you can change any aspect of the page in your browser by typing in new rules and values.

Tinkering around with websites in a sandbox is an important way to learn!

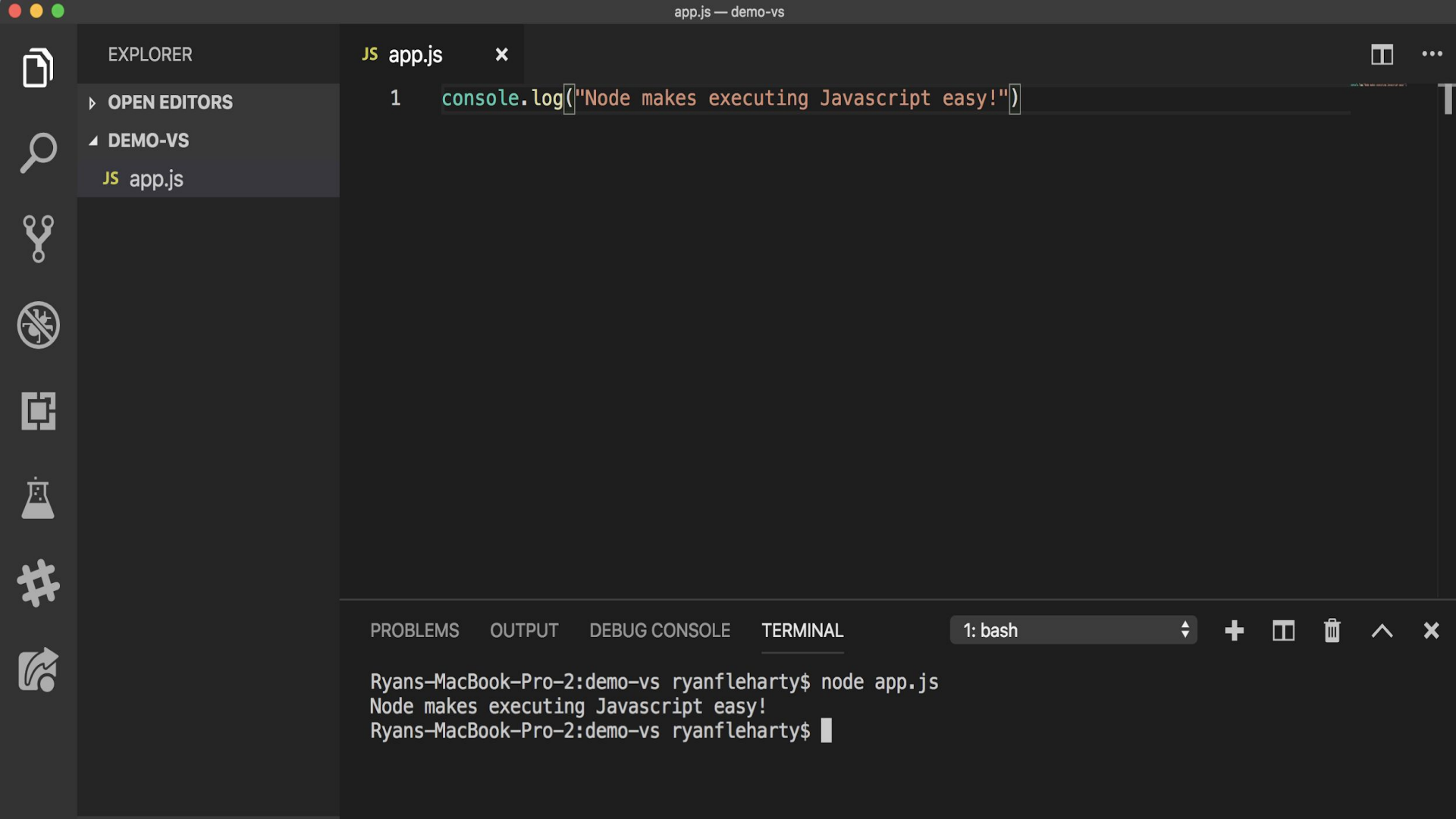
Executing Javascript

Javascript provides the programming logic and much of the responsive behavior users experience from web applications.

Chrome's dev-tools also provide a Javascript console, in which we can execute any Javascript code we want. Most often, Javascript is run in the browser by linking a Javascript file in a **<script src="path/to/file.js"></script>** tag.

We can also use **node** to run Javascript files directly from our terminal.

`https://nodejs.org/en/download/`


app.js — demo-vs
EXPLORER
OPEN EDITORS
DEMO-VS
app.js
app.js
1 console.log("Node makes executing Javascript easy!")
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
1: bash
Ryans-MacBook-Pro-2:demo-vs ryanfleharty$ node app.js
Node makes executing Javascript easy!
Ryans-MacBook-Pro-2:demo-vs ryanfleharty$

Solo Exercise:

Javascript Data Types and Variables

10 minutes

Follow the link to the codePen provided below and complete the three problems provided.

https://codepen.io/GAmarketing/pen/qwvKjW?editors=0010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