



WEIRD WIDE WEB

(P5.js DOM)

Weird Wide Web

We're going to begin learning how to get our P5.js sorcery out of the `canvas` and begin working directly with Web elements.



Weird Wide Web

Before we start on this Halloween Edition of the web, we need to clarify one thing:



Weird Wide Web

The .js in P5 JS doesn't stand for JavaScript...



Weird Wide Web

It stands for...

Weird Wide Web



Jump Scares.

Weird Wide Web

You can think of a web page as consisting of three layers: structure, presentation, and behavior

Weird Wide Web

- HTML is the structure layer
- CSS is the presentation layer
- JavaScript is the behavior layer; JavaScript is a programming language for creating interactivity and functionality in web browsers



HTML

Structure & Markup

HTML - Tags



`<p>Almost all tags have both a
starting and closing tag.</p>`

HTML - Tags

Foundational

- ✓ `<html></html>`
- ✓ `<head></head>`
- ✓ `<body></body>`

Structural

- ✓ `<p></p>`
- ✓ `<div></div>`
- ✓ ``

Functional

- ✓ ``
- ✓ ``
- ✓ `<button></button>`

Comments



<!-- This is a hidden comment. Shh. -->

Basic Inline CSS

A background image of Mount Fuji, a snow-capped mountain, centered in the frame. The sky is a gradient of soft pink and purple, suggesting a sunset or sunrise. The mountain's slopes are covered in snow, with some darker patches visible. The overall mood is serene and calm.

```
<p style="color: #FF0072">Hi!</p>
```

Basic Inline CSS

CSS is a separate language from HTML and can be applied from an external file, or—

Basic Inline CSS

Style is an “attribute” you can add
“inline” to any tag.

Basic Inline CSS

A background image of Mount Fuji, a snow-capped mountain, centered in the upper half of the frame. The sky is a gradient of pink and purple, and the lower half of the image is a solid blue gradient.

```
<p style="color: #FF0072">Hi!</p>
```

Basic Inline CSS

A background image of Mount Fuji, a snow-capped mountain, centered in the frame. The sky is a gradient of soft pink and purple, suggesting a sunset or sunrise. The mountain's slopes are covered in snow, with some darker patches visible. The overall mood is serene and calm.

```
<p style="color: #FF0072">Hi!</p>
```



CSS Properties

- | | |
|--------------------|-----------|
| ✓ color | ✓ border |
| ✓ background-color | ✓ margin |
| ✓ font-family | ✓ padding |
| ✓ font-size | ✓ top |
| ✓ font-weight | ✓ ... |

Document Object Model



This functional structure of a website is called the Document Object Model. It's not that scary.

Document Object Model (DOM)

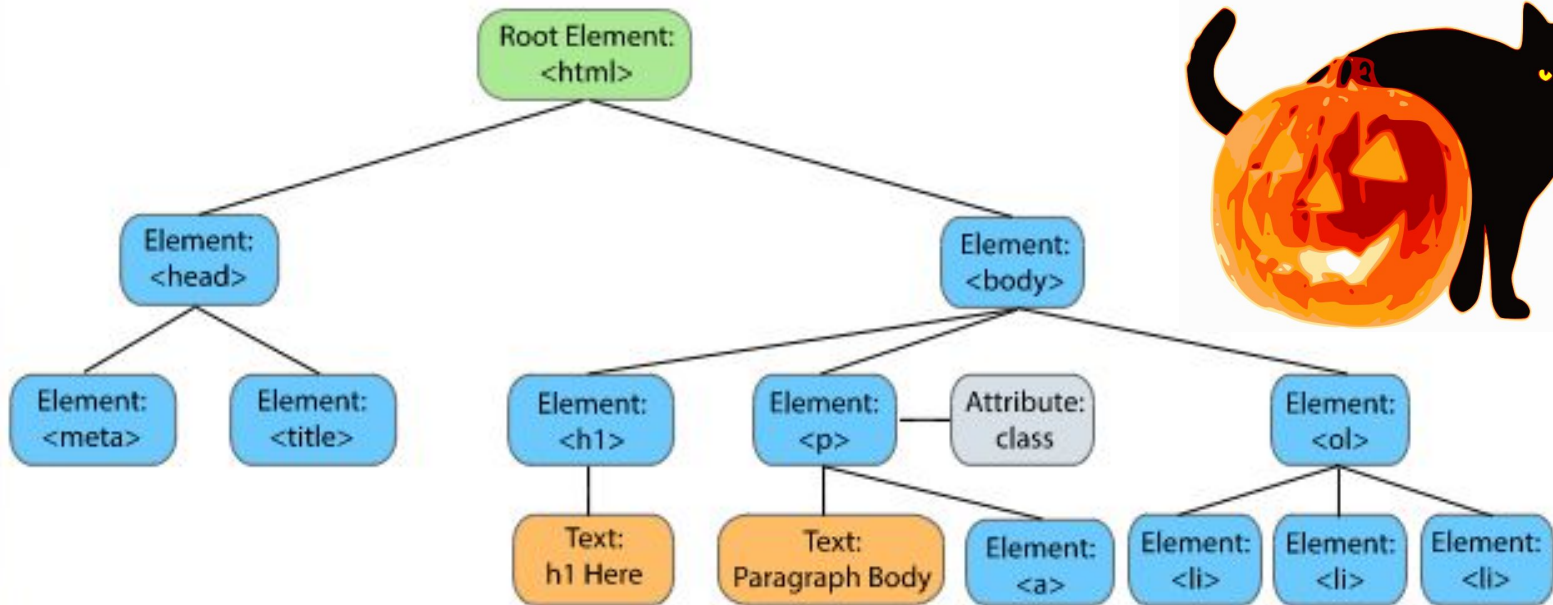
When a browser loads a web page, it creates a model of that page

This is called a “DOM tree” and it is stored in the browser’s memory

Every element, attribute, and piece of text in the HTML is represented by its own “DOM node”



DOM Tree



Types of DOM nodes

There are four main types of nodes.

- The Document node, which represents the entire page
- Element nodes, which represent individual HTML tags
- Attribute nodes, which represent attributes of HTML tags, such as class
- Text nodes, which represents the text within an element, such as the content of a p tag

We talk about the relationship between element nodes as “parents,” “children,” and “siblings.”



P5.js and the DOM

When working with P5.js you can use the DOM library to manipulate elements that already exist on an HTML page, or...



P5.js can generate the DOM



You can use P5.js to GENERATE the html elements themselves.



P5.js and the DOM

Let's take a look!

(<https://p5js.org/examples/dom-modifying-the-dom.html>)

HOMWORK



Homework

Use P5.js to create a spooky cursed website:

You can build off of our in-class example.

Your website must use P5.js to CREATE at least one element, and use an Array of elements that already exist on the page of a certain class to manipulate them.