LESSON 08 - INTRO TO JQUERY

AGENDA

- Learning Objectives
- Intro To Programming Review
- Intro To jQuery
- Getting Started with jQuery
  - File Structure
  - Syntax
- Adding Interactivity Lab
- Exit Tickets / HW

LEARNING OBJECTIVES:

AFTER TODAY, YOU SHOULD BE ABLE TO...

- Differentiate between jQuery and JavaScript, describe benefits of using them.
- Recognize jQuery syntax
- Use selectors and jQuery functions to effectively manipulate the DOM.

INTRO TO PROGRAMMING REVIEW

WHAT IS A PROGRAM

A **program** is a set of instructions that you write to tell a computer what to do.

And **programming** is the task of writing those instructions in a language that the computer can understand.

BECOMING A PROGRAMMER...

... isn't about the programming language. It is about changing how **YOU** think.

But first, we need to know how the computer thinks...

HOW DOES A COMPUTERS "THINK"?

Computers don't think; though, they act as if they do, by sequentially executing simple instructions.

The only things a computer knows are the things we tell it.

So, **be explicit** about each step the computer needs to take to solve your problem.

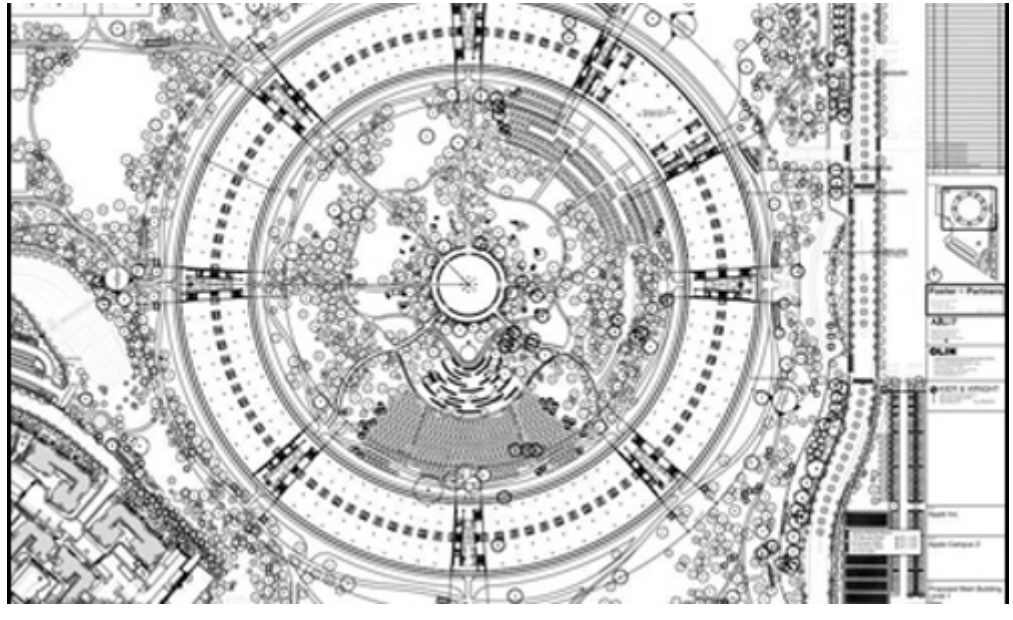
PSEUDOCODE

It's the logical representation of your program written in plain english.

It is meant to help a developer plan out the flow of a program *before* they start writing the actual code

RENDERING (PSEUDOCODE)

BLUEPRINT (CODE)



ROCK, PAPER, SCISSORS PSEUDOCODE RESULT

```
Get available options (rock, paper, scissors)

Get user selection (user types in selection)

Get computer selection (select from available options)

If user selection is the same as computer selection
    then, say "It's a tie"

If user selection is "rock" AND computer selection is "paper"
    then, say "You Lose"

If user selection is "scissors" AND computer selection is "pap
    then, say "You Win"
```

REMEMBER

Focus on solving the problem first! Then, you can come back and simplify your (pseudo)code later (this is called refactoring).

PULSE CHECK TRAFFIC LIGHT

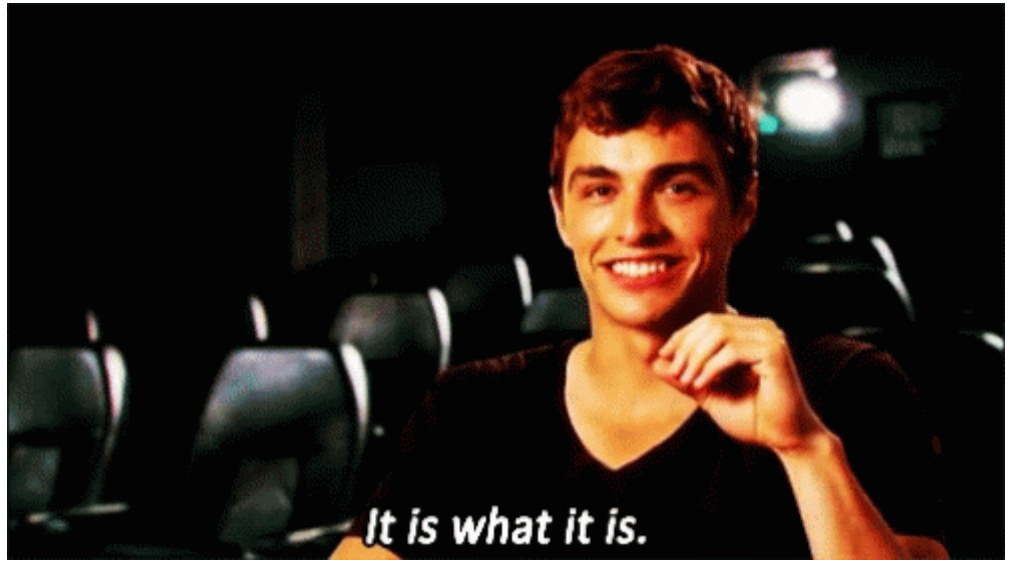
Let's revisit the Traffic Light we coded on Monday:

Traffic Light Codepen

INTRO TO JQUERY

WHAT IS JQUERY?

jQuery **is** JavaScript



More to the point... jQuery is an open source, cross-browser JavaScript library designed to simplify the client-side scripting of HTML.

It was written by John Resig in 2005.

And their motto is **'Write Less, Do More'**

WHY JQUERY?

Its designed to make JS DOM manipulation simpler.

Also, it works the same in *all* browsers.

Compared to JS, its relatively easy to learn and master

WHO IS USING JQUERY?

About ~20% of all websites use jQuery...

WHAT DOES JQUERY ALLOW US TO DO?

- Document traversal
- CSS Manipulation
- Event Handling
- Animation
- and more!

PULSE CHECK JQUERY VS JS

We'll compare jQuery Codepen and JS Codepen...

GETTING STARTED WITH JQUERY

WHAT IS THE SCRIPT TAG?

The HTML `<script>` element is used to embed or reference JS code in your HTML document

```
<script src="js/myscript.js"></script>
```

Generally, you want to place your `<script>` tag immediately **BEFORE** the closing `</body>` tag:

```
<html>
    <head> ... </head>
    <body>
        <!-- Your content -->

        <script src="js/myscript.js"></script>
    </body>
</html>
```

ADDING JQUERY TO YOUR WEBSITE

To use jQuery, you first have to link to it on your webpage

Linking the file locally:

```
<script src="js/jquery-1.8.3.min.js"></script>
<script src="js/myscript.js"></script>
```

Linking to it via CDN (most common):

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.2.
<script src="js/myscript.js"></script>
```

PULSE CHECK HTML TEMPLATING & DIRECTORY W/ JS

Can we write an updated HTML Template w/ space for JS?

5 MINUTE BREAK

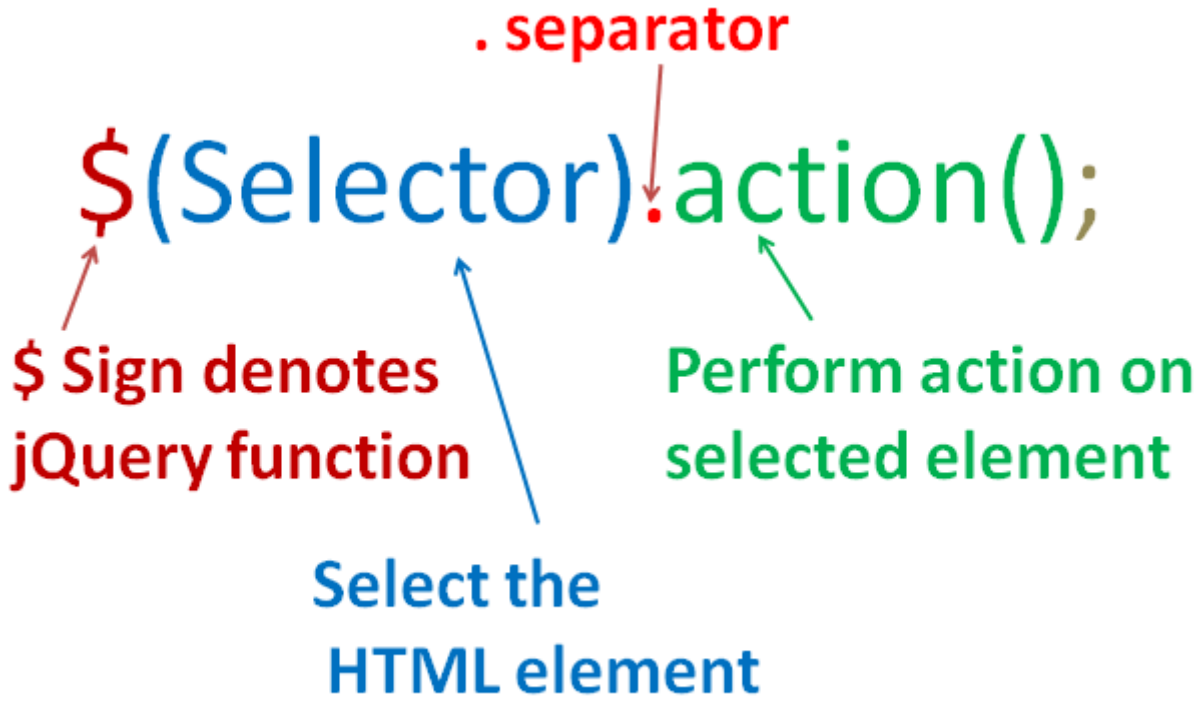
JQUERY SYNTAX

Basic syntax is: `$(selector).action()`

It can be split into 3 basic parts:

- The `$` sign to define/access jQuery
- The `(selector)` to find HTML elements
- The jQuery `action()` to be performed on the element(s)

JQUERY SYNTAX ANATOMY



$

The dollar sign $ is the jQuery Object (also named jQuery).

JQUERY CSS SELECTOR

The beauty of jQuery is it uses something we're already familiar with to find an HTML element:

CSS Selectors

jQuery uses the same selectors you write in CSS (even nested selectors), like so:

```
$('h2')
 // select all <h2>'s
$('div.container')
 // select all <div>'s with the class="container"
$('#sidebar a')
 // select all <a>'s inside of the id="sidebar" element
$('p, a')
 // select all <p>'s and <a>'s
```

For example, let's look at this line of code from the Traffic light exercise yesterday using plain JS:

```
document.getElementById('stopLight').style.backgroundColor = "
```

Now, here is the exact same thing using jQuery:

```
$('#stopLight').css('background-color', 'red');
```

JQUERY IN TWO STEPS

1) The first part uses jQuery's powerful CSS selector to select which HTML elements you want to manipulate:

```
$('#stopLight')
```

2) While the second part calls a jQuery method, and does something to the selected element:

```
$('#stopLight').css('background-color', 'red');
```

PULSE CHECK JQUERY SELECTOR

WHITEBOARD: Help me select some elements...

JQUERY SYNTAX - METHODS

This is where the magic happens... You can do any number of things to the element you selected depending on the method you choose.

For example...

These are some basic HTML manipulations:

`.hide()`

```
$('#some-id').hide();
// this will hide the element
```

`.show()`

```
$('#some-id').show();
// this will show the element
```

Here are some more basic HTML manipulations:

`.slideUp()`

```
$('#some-id').slideUp();
// this will hide the element by sliding up
```

`.slideDown()`

```
$('#some-id').slideDown();
// this will show the hidden element by sliding down
```

OTHER HELPFUL METHODS...

- `.css()` - returns/sets specific CSS property for the element (we used this earlier).
- `.slideToggle()` - toggles between slideUp() and slideDown() for the selected elements.
- `.toggleClass()` - toggles between adding and removing one or more class names from the selected elements.
- `.children()` - returns all direct children of the selected element.
- `.parent()` - returns the direct parent element of the selected element.

There are plenty more to choose from.

Check out the jQuery Documentation for a full list

PULSE CHECK JQUERY METHODS

WHITEBOARD: How would we do something to the elements we selected before...

JQUERY CLICK & READY EVENT

.CLICK()

The click event occurs when an element is clicked.

The `.click()` method triggers the click event, or attaches a function to run when a click event occurs.

.READY()

This event fires once the document is loaded, or "ready".

It will almost always look like this:

```
$(document).ready( ... );
```

Example:

```
$(document).ready(function() {
    $('button').click(someFunction);

    function someFunction() {
        alert('Button clicked!');
    }
});
```

JQUERY TRAFFIC LIGHT

SYNTAX DRILL

Syntax Codepen

ADDING INTERACTIVITY (HW LAB)

jQuery Homework

EXIT TICKETS

Let's spend 5-10 minutes to fill out today's Exit Survey

LEARNING OBJECTIVES REVIEW

- We Differentiated between jQuery and JavaScript, describe benefits of using them.
- We Recognized jQuery syntax
- We Used selectors and jQuery functions to effectively manipulate the DOM.

WEEK 4 HOMEWORK + FINAL PROJECTS

HAVE A GREAT HOLIDAY BREAK!