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**WELCOME BACK!**

---

**DOWNLOAD LESSON SLIDES**

**DOWNLOAD STARTER CODE**

# AGENDA

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- Intro to jQuery
- Using jQuery
- Method Chaining
- Debugging
- jQuery Documentation
- Lab

### OBJECTIVES

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

# WHAT THAT [0] MEANS AND WHEN DO I NEED TO PUT IT?

It is used to call the first element from a list in JavaScript. Every element in a list has an index number, starting at 0.

This list is called an Array, which we'll explore more in week 6!

---

## YO Q'S

---

**CAN WE HAVE A LINK TO JS COMMANDS AND DEFINITIONS? THAT WOULD BE REALLY COOL OF YOU. :)**

Coming your way!

For now, exploring the [MDN documentation](#) is a great, suggested read!

# HOW DO WE CHANGE THE FONT STYLE IF WE DO NOT HAVE THAT PARTICULAR FONT INSTALLED ONTO OUR MACHINE?

It's not so much what is on your machine. It's all about what the browser knows. And there's a lot it doesn't! That's where importing through a service like Google fonts comes in!

Alternatively, check out [this article](#) on adding your own font by adding a custom TTF file.

---

**YO Q'S**

---

# **WHERE'S THE BEST PLACE TO LEARN/FIND DIFFERENT JS INSTRUCTIONS/COMMANDS?**

Here!

And also that MDN documentation mentioned  
earlier!

---

**YO Q'S**

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# **DOM TREE?**

Dom Tree.



---

YO Q'S

---

# DOM TREE?

Dom Tree.

We'll explore  
it more today!

# WHAT IS THE BEST WAY TO PRACTICE JAVASCRIPT?

To write lots of JavaScript!

Look at other people's JS  
(codepen or JSfiddle)

Find something you want to do,  
then research/google ways to  
implementing.

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FEWD WEEK 4

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# INTRO TO JQUERY



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## BECOMING A PROGRAMMER

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*It isn't about the programming language,  
it is about changing how you think.*

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## YOUR RESPONSIBILITIES

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*Don't feel like you have to sit down and memorize the syntax!*

It's important that you:

- ▶ Focus on understanding the key concepts
- ▶ Are resourceful — we'll work on honing your Google-ing skills
- ▶ Get as much practice in as possible

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JQUERY

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# THE BASICS



# WHAT IS JQUERY?

- ▶ jQuery is a JavaScript file you include in your pages.
- ▶ Makes it faster and easier to write cross-browser JavaScript
- ▶ “Cross browser” - works the same in all\* browsers.
- ▶ Allows us to find elements using CSS-style selectors and then do something to them using jQuery methods
- ▶ Your new best friend!

## JQUERY VS JAVASCRIPT

# JQUERY ALLOWS US TO USE THE CSS-STYLE SELECTORS THAT WE KNOW AND LOVE! YAY!

JS:



```
document.getElementsByTagName('body')[0]
```



```
document.getElementById('about')
```



JQUERY:

```
$('#body')
```



```
$('#about')
```





---

## JQUERY VS JAVASCRIPT

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**JS:**

```
document.getElementById('heading').innerHTML = "Your Name";
```



**JQUERY:**

```
$('#heading').html('Your Name');
```



*\*\*You could do everything jQuery does with plain-old vanilla Javascript\*\**

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## JQUERY VS JAVASCRIPT – COMPARISON OF BENEFITS

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### **JQUERY**

- Write way less code to achieve the same tasks
- Cross-browser compatibility
- Use more familiar, CSS-style syntax

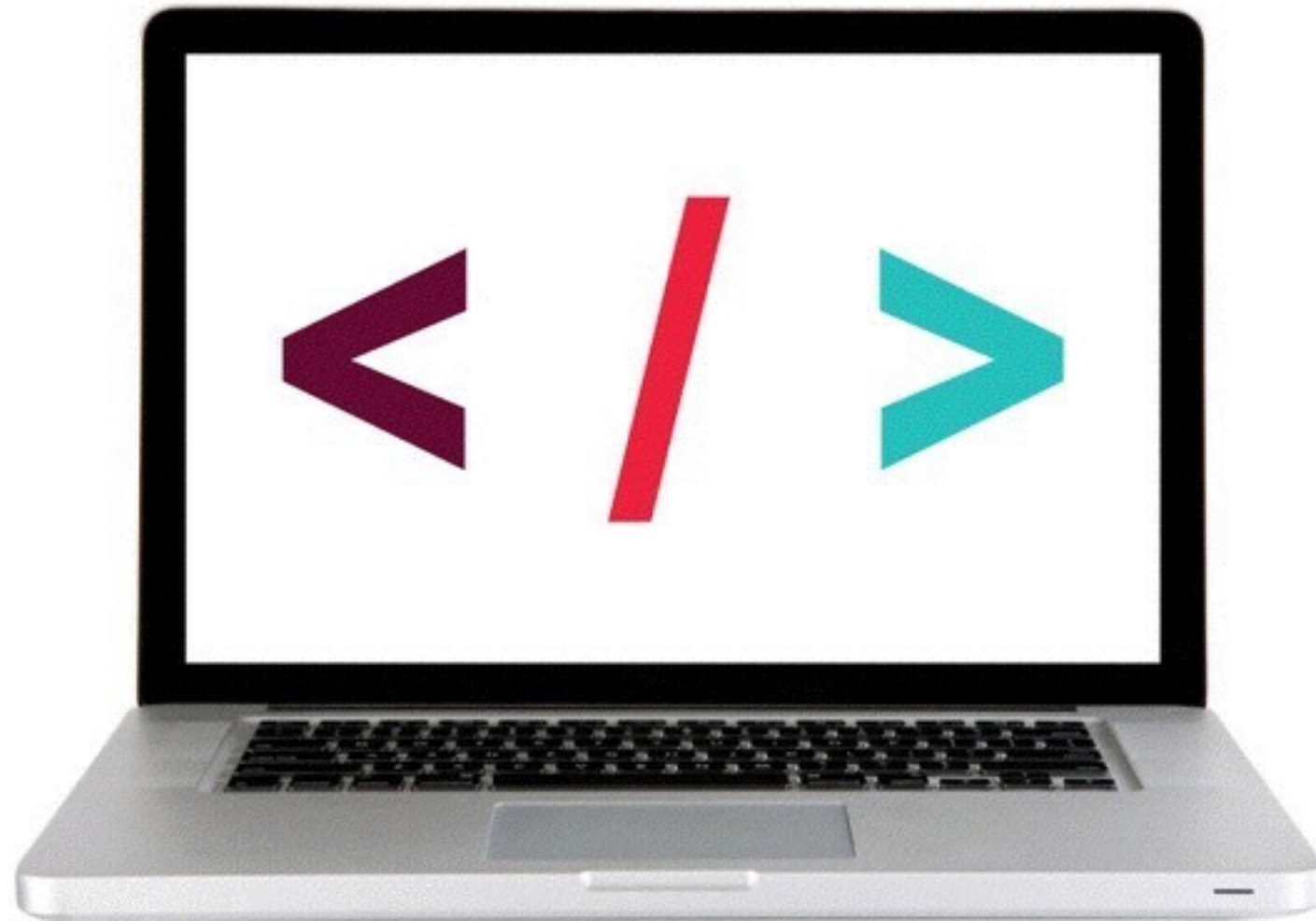
### **PURE JAVASCRIPT**

- Better performance
- Faster

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## LETS TAKE A CLOSER LOOK – COLOR SWITCHER

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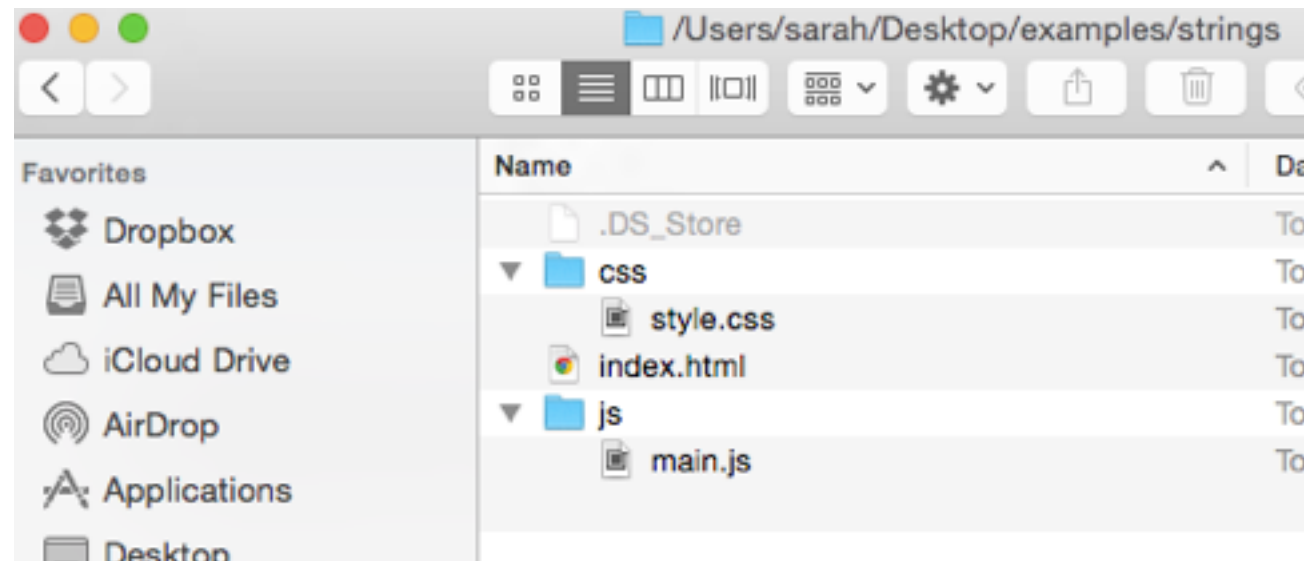
# ADDING JQUERY TO YOUR PROJECT

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## ORGANIZATION

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- ▶ It is considered best practice to keep Javascript files organized in one folder.
- ▶ Usually people name this folder scripts, js, or javascript.



**\*\*Remember - use an underscore or dash between words in folder names instead of a space. And try to avoid characters/symbols in file names Good examples: `really_cool_page.html` or `really-cool-page.html` \*\***

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## STEP ONE: ADD JQUERY TO YOUR WEBSITE

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1. Download the jQuery script (version 2.x, compressed).
2. Add a js folder to your project
3. Move the jQuery file to the js folder



4. Use a `<script>` tag to include the jQuery file after your HTML content and before any other JavaScript files that use it.

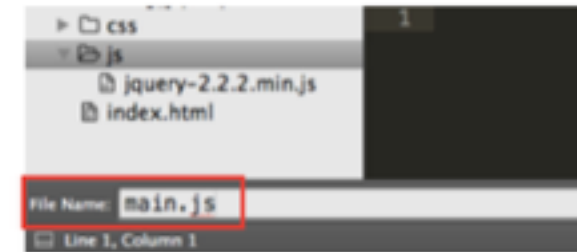
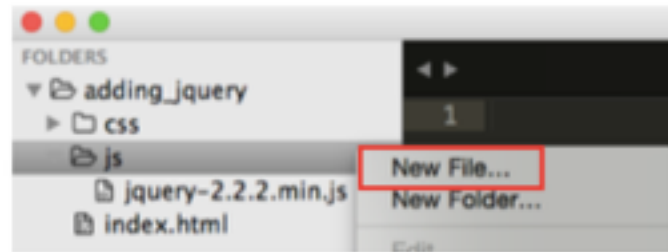
```
<body>
  <!-- HTML content here -->
  <script src="js/jquery-1.11.2.min.js"></script>
  <!-- Javascript file will go here -->
</body>
```

---

## STEP TWO: ADD JAVASCRIPT FILE

---

1. Create a Javascript file. This process will be similar to creating an HTML or CSS file, but this time the file should have a .js extension (example: main.js)



2. Link to the Javascript file from your HTML page using the `<script>` element. Add this right before the closing body tag and after your jquery file.

```
<body>
  <!-- HTML content here -->
  <script src="js/jquery-1.11.2.min.js"></script>
  <script src="js/main.js"></script>
</body>
```

  
**ORDER IS IMPORTANT!!!!**

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## MAKE SURE YOUR JS IS HOOKED UP PROPERLY

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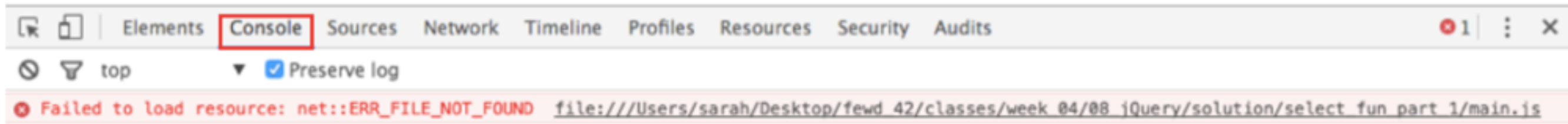
### Method 1: Quick'N'Dirty

Add an alert to the top of your JS file. When you open the page in your browser, an alert will pop up if your JavaScript file is properly hooked up.

```
alert('Hello from JS!');
```

### Method 2: Preferred

Open the page in Chrome. Go to view > developer > developer tools. Click on the console tab and make sure there are no errors.



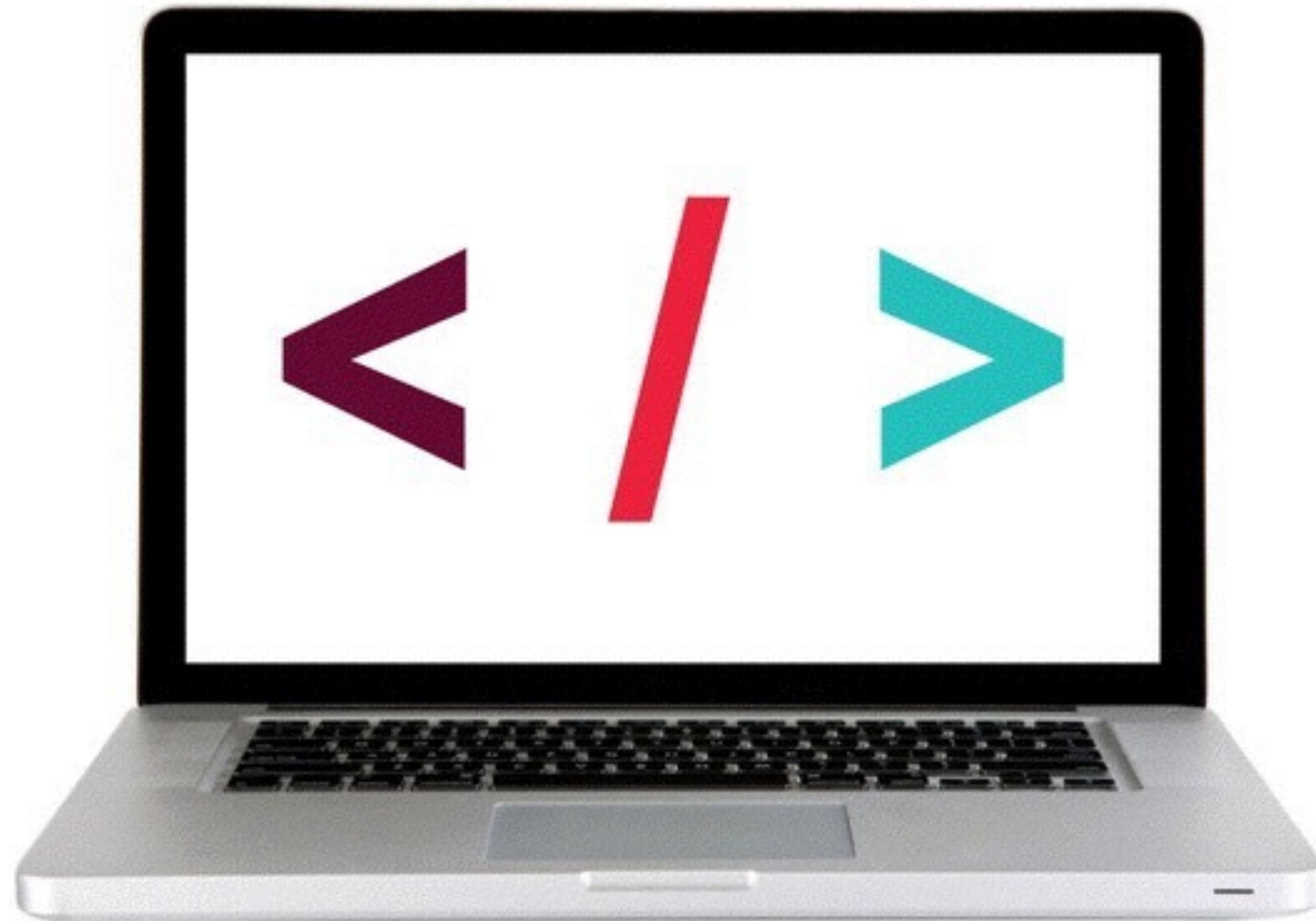
*This error means the file can't be found. Check your url in your script tag. Make sure the file exists.*



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**LETS TAKE A CLOSER LOOK**

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JQUERY

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# USING JQUERY

---

## ORGANIZATION

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► Last class we chatted about how scripts are a series of instructions that are executed one-by-one

```
var today = new Date();  
var hourNow = today.getHours();  
var greeting;  
  
if (hourNow > 18) {  
    greeting = 'Good evening';  
} else {  
    greeting = 'Good afternoon';  
}  
  
document.write(greeting);
```

► Each individual step is called a statement



Begin on a new line.  
End with a Semi-colon.

---

## JS SYNTAX

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### **Syntax:**

Spelling and grammar rules of a programming language.

- ▶ Like any language, there are formal rules around how to write Javascript. This is the syntax.



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## COMMENTS IN JS

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```
// this is a single line comment
```

```
/*  
this  
is  
a  
multiline comment  
*/
```

*Sublime shortcut: 1) Highlight what you want to comment 2) command + /*

# PART ONE

# SELECT AN ELEMENT

---

## USING JQUERY TO MANIPULATE THE DOM

---

**1**

Select an element/elements

**2**

Work with those elements

## JQUERY – SELECTING ELEMENTS

---

Selector

```
$('li').addClass('selected');
```

jQuery Function

### jQuery Function:

- ▶ Lets us find one or more elements in the page
- ▶ Creates a jQuery object which holds references to those elements



---

## JQUERY OBJECTS – FINDING ELEMENTS: SOME EXAMPLES

---

SELECTOR:	CSS:		JQUERY:
	CLASS	.className	\$('.className')
	ID	#idName	\$('#idName')
	MULTIPLE SELECTORS	h1, h2, h3	\$( 'h1, h2, h3' )
	DESCENDANT	li a	\$( 'li a' )

**You can use your CSS-style selectors!!!**

# PART TWO

## ADD A METHOD

---

## USING JQUERY TO MANIPULATE THE DOM

---

**1**

Select an element/elements

**2**

Work with those elements

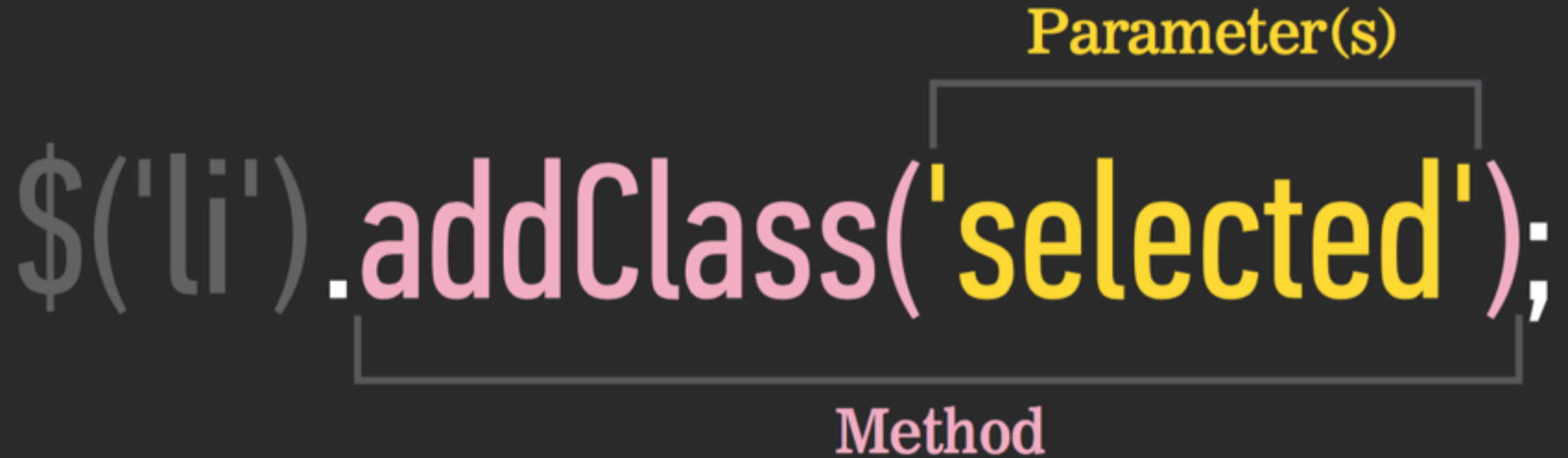
## JQUERY – WORKING WITH THOSE ELEMENTS

---

`$('.li').addClass('selected');`

Parameter(s)

Method

A diagram illustrating the components of a jQuery method call. The code snippet is `$('.li').addClass('selected');`. The text `$('.li')` is rendered in a light gray font, while `.addClass('selected');` is in a pink font. A bracket above the string `'selected'` is labeled "Parameter(s)" in yellow. A bracket below the `addClass` method name is labeled "Method" in pink.

# Be forewarned!

There are a lot of methods!

Do not feel like you need to sit down and memorize these.  
The important thing is knowing that they're there and being able to look them up in the documentation.

---

## JQUERY METHODS – WORKING WITH THOSE ELEMENTS

---

After we've selected elements, we can use jQuery methods to:

**FIND  
ELEMENTS**

**GET/SET  
CONTENT**

**ADD  
EFFECTS/  
ANIMATION**

**CREATE  
EVENT  
LISTENERS**

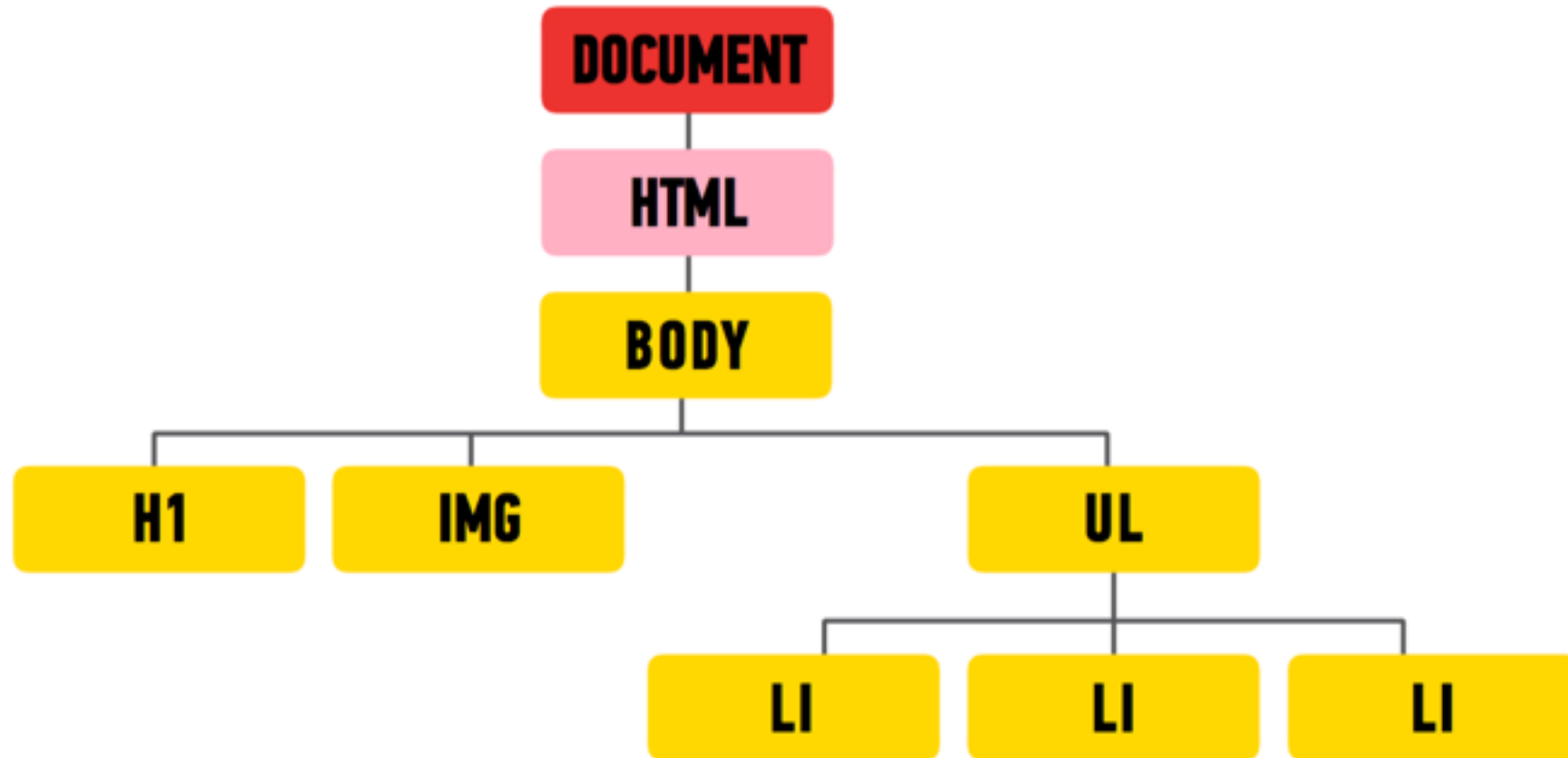


See your handout or the [jQuery docs](#) for list!

---

## TRAVERSING THE DOM

---



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## JQUERY METHODS – TRAVERSING THE DOM

---

- These methods to find/select elements to work with & traverse the DOM
- Think of these as filters, or part of the selection process.
- They must come directly after another selection.

METHODS	EXAMPLES
<code>.find()</code> <i>finds all descendants</i>	<code>\$('h1').find('a');</code>
<code>.parent()</code>	<code>\$('#box1').parent();</code>
<code>.siblings()</code>	<code>\$('p').siblings('.important');</code>
<code>.children()</code>	<code>\$('ul').children('li');</code>

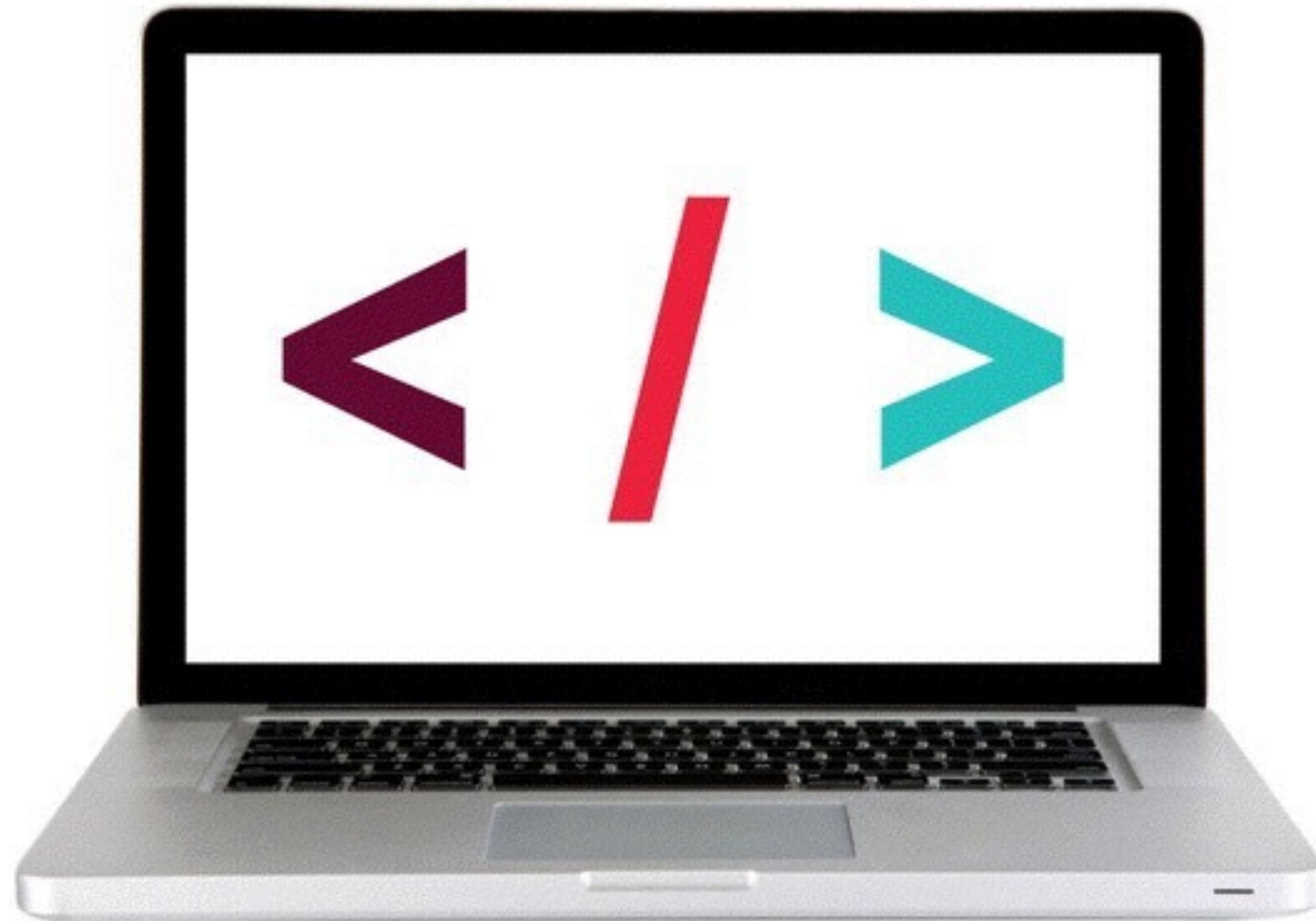
What goes in the parentheses?  
**A css-style selector**



---

**LETS TAKE A CLOSER LOOK**

---



---

## JQUERY METHODS – GET/SET CONTENT

---

After we've selected elements, we can use jQuery methods to:

**FIND  
ELEMENTS**

**GET/SET  
CONTENT**

**ADD  
EFFECTS/  
ANIMATION**

**CREATE  
EVENT  
LISTENERS**



See your handout or the [jQuery docs](#) for list!

---

## JQUERY METHODS – GETTING/SETTING THE CONTENT

---

Get/change content of elements, attributes, text nodes

METHODS	EXAMPLES
<code>.html()</code>	<code>\$('#h1').html('Content to insert goes here');</code>
<code>.attr()</code>	<code>\$('#img').attr('src', 'images/bike.png');</code>
<code>.css()</code>	<code>\$('#box1').css('color', 'red');</code>
<code>.addClass()</code>	<code>\$('#p').addClass('success');</code>
<code>.removeClass()</code>	<code>\$('#p').removeClass('my-class-here');</code>
<code>.toggleClass()</code>	<code>\$('#p').toggleClass('special');</code>

What goes in the parentheses?  
The **html**, **styles**, **classes** you want to change.

## JQUERY METHODS – GETTING/SETTING THE CONTENT

---

```
$('li').addClass('selected');
```

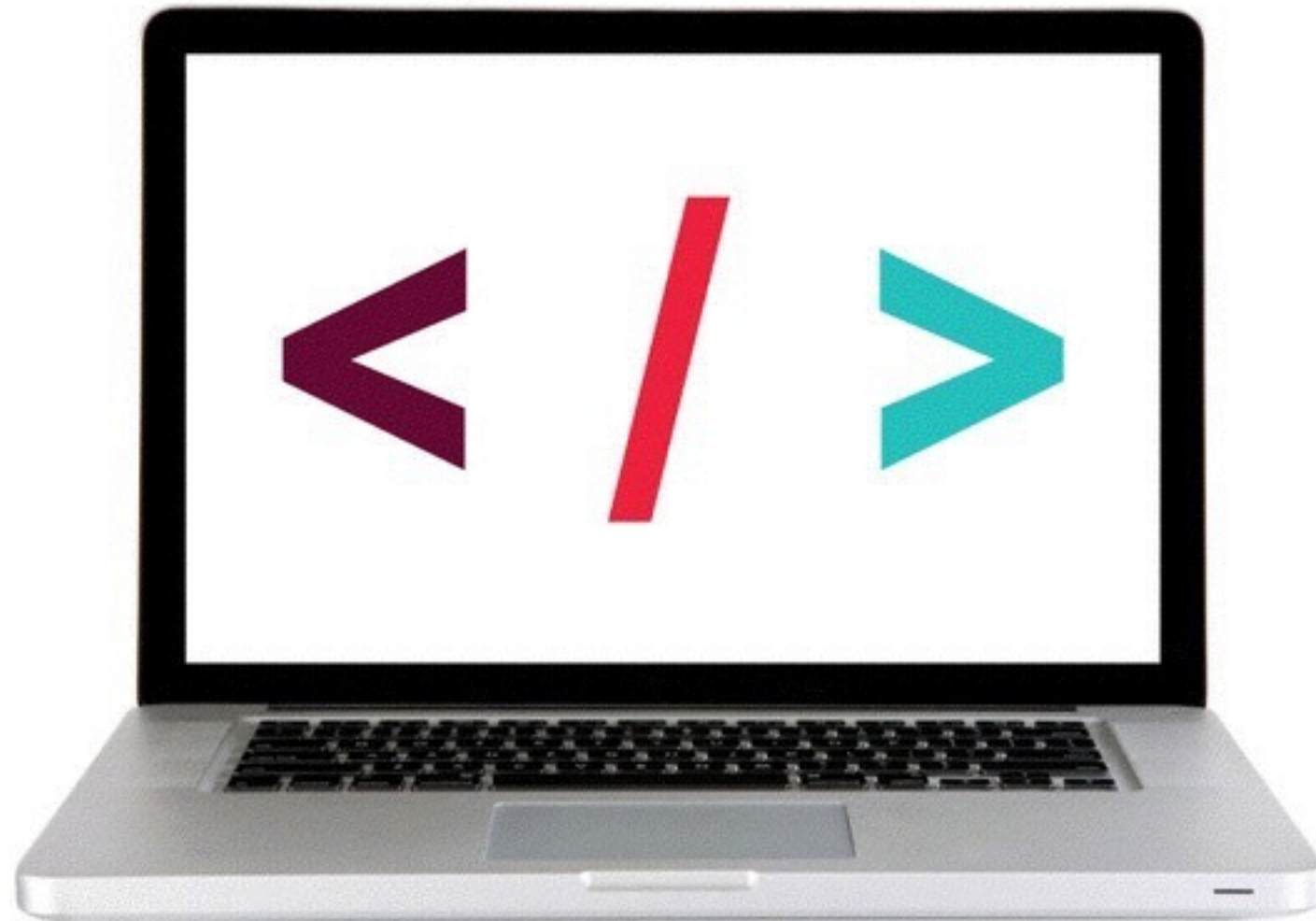


**NO PERIOD!!!**

---

**LETS TAKE A CLOSER LOOK**

---



# SEPARATION OF CONCERNS

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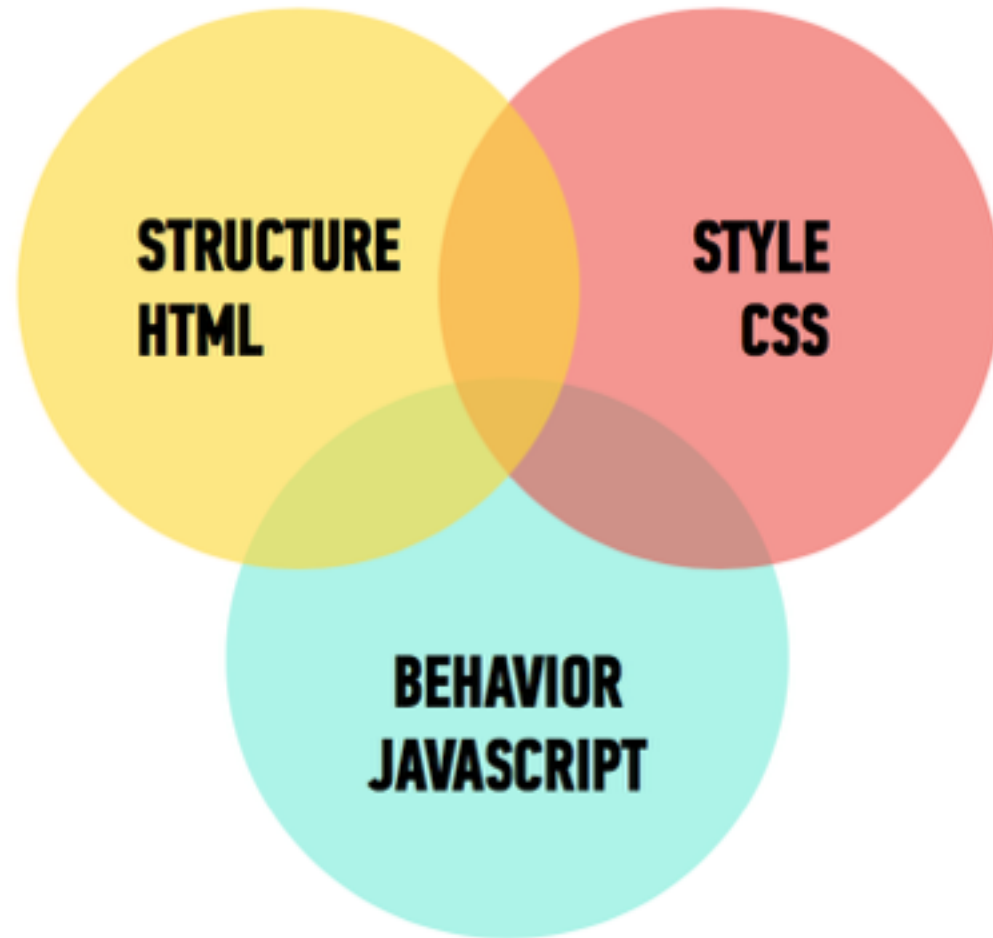
## THE THREE AMIGOS: STRUCTURE, STYLE & BEHAVIOR

---

**HTML** = Noun

**CSS** = Adjective

**Javascript** = Verb



---

## SEPARATION OF CONCERNS

---

- ▶ Our JavaScript should focus on behavior and not on presentation (that's what our CSS is for!
- ▶ How could we refactor our Color Switch from last week to follow this guideline?



## CSS CASCADING

**WINNER!**

`<li style="color: red"></li>`

`#about .first h2 + li`

Style attribute      ID      Class, attribute      Elements



Most specificity value → Least specificity value

Style attribute      ID      Class attribute      Elements



Most specificity value → Least specificity value

---

## JQUERY METHODS – GET/SET CONTENT

---

After we've selected elements, we can use jQuery methods to:

**FIND  
ELEMENTS**

**GET/SET  
CONTENT**

**ADD  
EFFECTS/  
ANIMATION**

**CREATE  
EVENT  
LISTENERS**



See your handout or the [jQuery docs](#) for list!

---

## JQUERY METHODS – EFFECTS & ANIMATION

---

Add effects and animation to parts of the page

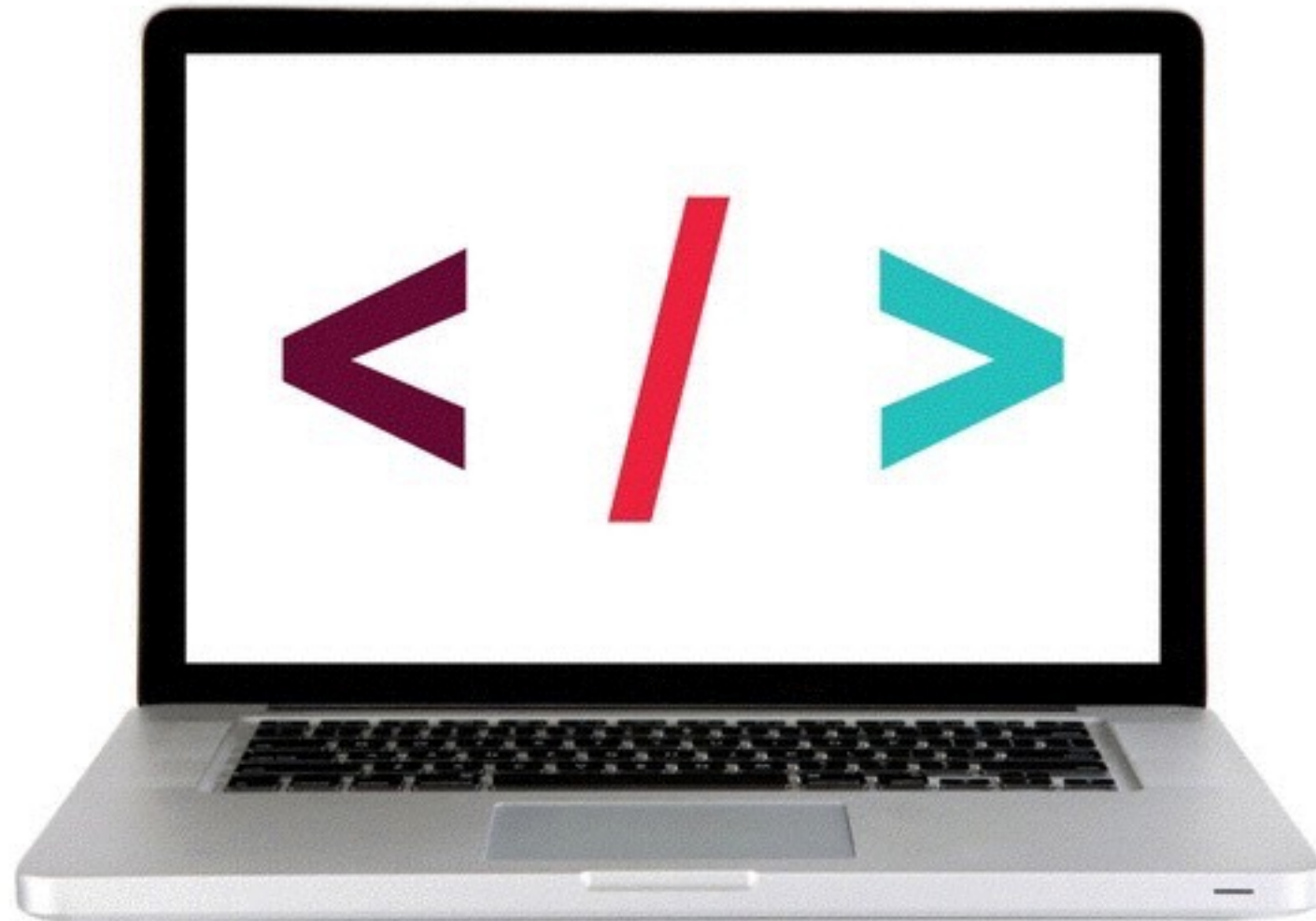
METHODS	EXAMPLES
<code>.show()</code>	<code>\$('#h1').show();</code>
<code>.hide()</code>	<code>\$('#ul').hide();</code>
<code>.fadeIn()</code>	<code>\$('#h1').fadeIn(300);</code>
<code>.fadeOut()</code>	<code>\$('.special').fadeOut('fast');</code>
<code>.slideUp()</code>	<code>\$('#div').slideUp();</code>
<code>.slideDown()</code>	<code>\$('#box1').slideDown('slow');</code>
<code>.slideToggle()</code>	<code>\$('#p').slideToggle(300);</code>

What goes in the parenthesis?  
**An animation speed**

---

## LETS TAKE A CLOSER LOOK

---



---

## JQUERY METHODS – GET/SET CONTENT

---

After we've selected elements, we can use jQuery methods to:

**FIND  
ELEMENTS**

**GET/SET  
CONTENT**

**ADD  
EFFECTS/  
ANIMATION**

**CREATE  
EVENT  
LISTENERS**



See your handout or the [jQuery docs](#) for list!

---

## JQUERY METHODS - EVENTS

---

The `.on()` method is used to handle all events.

**Syntax:** `$( 'selector' ).on( 'event', code_that_should_run );`

**Example:**

```
$( 'li' ).on( 'click', function() {  
    // your code here  
});
```


---

## JQUERY METHODS - EVENTS

---

Some events that `.on()` deals with:

- UI: focus, blur, change
- Keyboard: keydown, keyup
- Mouse: click, mouseup, mousedown, mouseover
- Form: submit
- Browser: resize, scroll



```
$('li').on('eventGoesHere', function() {  
    // your code here  
});
```

---

JQUERY

---

# METHOD CHAINING



---

JQUERY

---

# DEBUGGING

---

## **DEBUGGING**

---



**WHY ISN'T IT WORKING?**

---

## DEBUGGING – WHERE TO START

---

*Always start by defining the problem.*



**THE IMAGE IS NOT MOVING**



**NONE OF MY CODE WORKS**

---

## DEBUGGING - WHERE TO START

---

Always start by defining the problem.



**THE IMAGE IS NOT MOVING**

*Find the code that  
makes the image move*



**NONE OF MY CODE WORKS**

*\* Syntax error, check console*

# TO ACCESS DEBUGGING CONSOLE:

PC: CTRL+SHIFT+J

Mac: COMMAND+OPTION+J Click the error

---

## DEBUGGING

---

# CHECK FOR ERRORS IN CONSOLE

‣ The location may not be correct but is a good place to start. ‣ Ex: Unbalanced brackets or parentheses



Uncaught SyntaxError: Unexpected token )

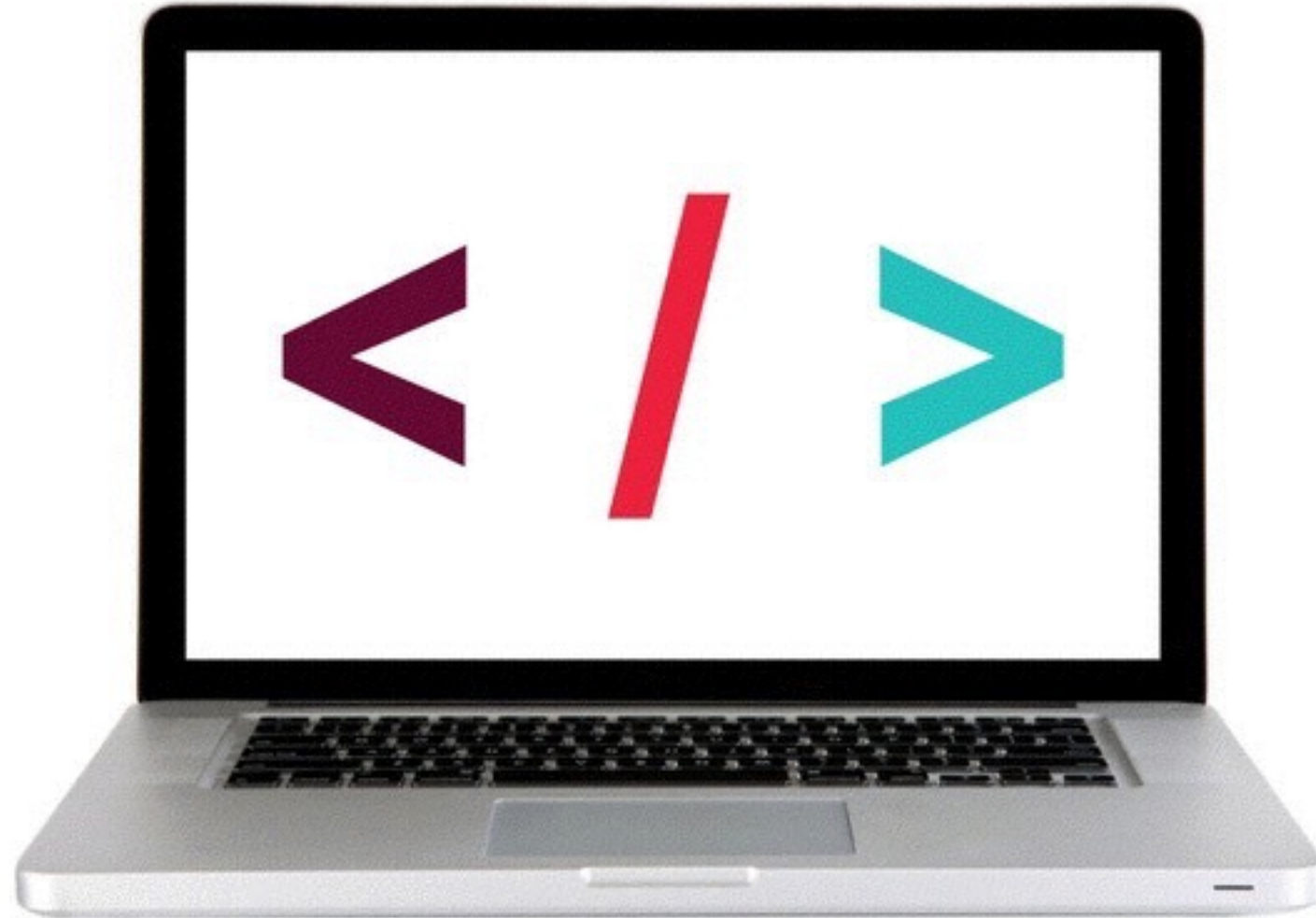


main.js:13

---

## LETS TAKE A CLOSER LOOK - FIND THE BUG

---



---

## DEBUGGING LEVEL 2

---

### ▸ **CONSOLE.LOG()**

- Can be used to display variable values in the console.
- This is useful for debugging.

```
console.log($('h2'));
```

This should print the element to the console.

If it doesn't, there's probably something wrong with your selector.



# DO SOME GOOGLING!

- ▶ Try Googling it
- ▶ Be ready to clearly articulate the problem (Write out what your problem is)

# GET HELP!

If you still can't find a solution, ask your instructors. Help us help you!

1. Post on Slack!
2. Be descriptive about the problem
3. Tell us what you've already done to try to figure it out.
4. Attach a .zip file of your lab.

---

JQUERY

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# DOCUMENTATION

*Help! There's too much to learn! I feel overwhelmed!*

# **A GOOD DEVELOPER IS ONE THAT CAN LOOK THINGS UP!!!**

1. The [jQuery Examples](#) page has an example for almost every method!
2. [jQuery documentation](#) — Look things up

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JQUERY

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**LAB**

---

**LAB**

---



# LAB

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## EXERCISE

### KEY OBJECTIVE

---

- ▶ Utilize jQuery tree traversal techniques to access and manipulate DOM elements.

### TYPE OF EXERCISE

---

- ▶ Partners/small groups

### AS A CLASS

---

*Until 8:50*

Lab is in `starter_code_lesson_8 > select_fun`

1. Follow the instructions in `main.js`
2. Use cheat sheet as a guide for syntax and look up any methods you're not familiar with in the jQuery documentation.
3. **Bonus:** Complete part 2 of the lab for more practice (`starter_code_lesson_8 > select_fun_part_2`)

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## JS FANCY FACTS

---

1. Line 1 waits until the page is loaded to read or execute any of the JS code
2. Line 3 prevents any default actions from happening

```
1 ▼ $(document).ready(function() {  
2     $('something').click(function(){  
3         event.preventDefault();  
4     });  
5 });
```



### OBJECTIVES

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



FINAL PROJECTS

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# WIREFRAMING

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**FEWD WEEK 4**

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# **HOMework**

# **HOMEWORK**

Wireframes for final  
project



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JQUERY

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# EXIT TICKETS