WEEKLY OVERVIEW

WEEK 4	Intro to Programming / Intro to jQuery
WEEK 5	Intro to JavaScript — Variables, Conditionals, Functions
WEEK 6	JavaScript Continued — Arrays / Lab

NOTE!

HAPPY HOUR!!

Date: Thursday, April 7th

When: Right after class

Location: Murphy's Pub

LET'S GET EVERYTHING SET UP!

- 1. Navigate to the FEWD 42 Dashboard (<u>saraheholden.com/fewd_dashboard/</u>) and download the Lesson 9 starter code and slides. You'll want to keep the dashboard open for other links and resources we'll be referencing in class.
- 2. Move the starter code and slides from your Downloads folder to the **fewd** folder on your desktop.
- 3. Double-click on starter_code_lesson_9.zip to unzip it
- 4. After you've unzipped, be sure to delete the original .zip file!
- 5. Open the entire **fewd** folder with Sublime Text (either drag and drop the folder on the Sublime icon in the dock on Mac, or open Sublime and go to file > open... and select the **fewd** folder.
- 6. Log in to the FEWD 42 Slack (<u>fewd42.slack.com</u>) and join the class9 channel.



REVIEW

USING JQUERY TO MANIPULATE THE DOM

Select an element/elements

Work with those elements

JQUERY — **SELECTING ELEMENTS**



jQuery Function:

- Lets us find one or more elements in the page
- Creates a *jQuery object* which holds references to those elements
- ▶ We'll be using the shorthand in this class: \$()
- \$(selector) is the same as jQuery(selector)

USING JQUERY TO MANIPULATE THE DOM

Select an element/elements

Work with those elements

JQUERY — WORKING WITH THOSE ELEMENTS

Parameter(s)

Method

- ▶ 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		
.find() finds all descendants	\$('h1').find('a');		
.parent()	\$('#box1').parent();		
.siblings()	<pre>\$('p').siblings('.important');</pre>		
.children()	<pre>\$('ul').children('li');</pre>		

What goes in the parentheses? A css-style selector

JQUERY METHODS — GETTING/SETTING CONTENT

Get/change content of elements, attributes, text nodes

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

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

ADD CLASS

REMEMBER — NO PERIOD!!

\$('h1').addClass('fun')

JQUERY METHODS — EFFECTS/ANIMATION

ADD EFFECTS/ ANIMATION

Add effects and animation to parts of the page

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

What goes in the parenthesis?
An animation speed

JQUERY METHODS — **EVENTS!**

CREATE EVENT LISTENERS

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!**

CREATE EVENT LISTENERS

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
});
```

EXIT TICKET QUESTIONS

- ▶ What's the deal with the \$ in jQuery? What is it and what does it mean?
- As JS becomes more familiar (faster at writing it) does it make sense to write pseudo code or jump straight into coding?
- ▶ What is the difference between click and clicked when using jQuery?
- Does adding moving elements in your website slow done the process OR make it harder to find you in the search engines?
- Is there a difference between \$('selector').on('click', function {... and \$('selector').click(function {... ?
- ▶ Do most if not all work environments link to the Jquery website or to other libraries?

JQUERY — **REVIEW**



KEY OBJECTIVE

 Review jQuery selectors and events, get practice looking up new methods

TYPE OF EXERCISE

Individual/paired

SMALL GROUP PLANNING

8 min

1. Follow the instructions in starter_code_lesson_9 > jquery_review > js/main.js

SOME NEW METHODS!

Get/change content of elements, attributes, text nodes

METHODS	EXAMPLES
.append()	<pre>\$('ul').append('Last list item');</pre>
.prepend()	<pre>\$('ul').prepend('First list item');</pre>

What goes in the parentheses?
The html or content you want to add/change

LEARNING OBJECTIVES

- Define variables and identify best cases to use them.
- Differentiate between strings, integers and floats.
- Apply conditionals to change the program's control flow

AGENDA



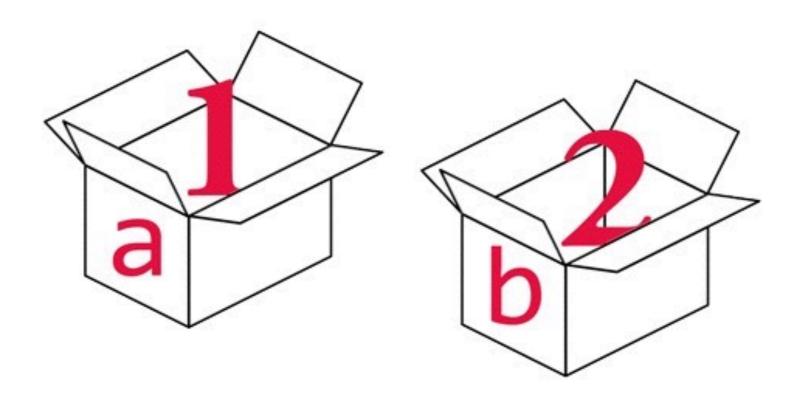
- Variables
- Data Types
- Conditionals
- ▶ Lab Temperature Converter

VARIABLES

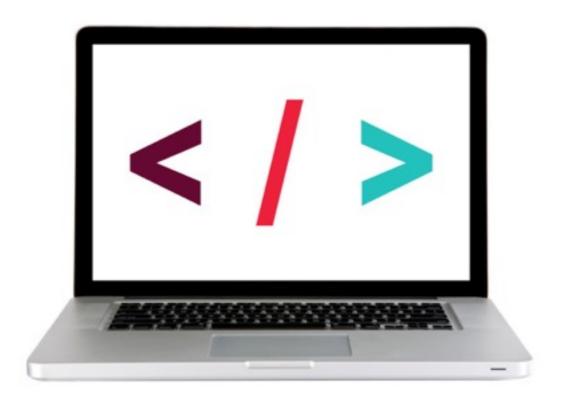
WHAT ARE VARIABLES?

WHAT ARE VARIABLES?

- We can tell our program to remember (store) values for us to use later on.
- The 'container' we use to store the value is called a variable



CODE ALONG — SCORE KEEPER



Score Keeper (Codepen)

SYNTAX

Declaring a variable



Assigning



Value

Both in one step

var

Declaring

Assigning a variable

Both in one step

var

Declaring

Keyword Name

Assigning

Both in one step \longrightarrow Var age = 29;

Name

Value

Declaring a variable

Semicolon!

Assigning a variable

$$\rightarrow$$
 age = 29; \leftarrow Semicolon!

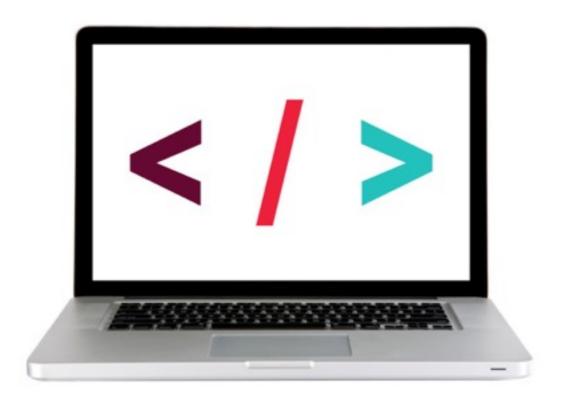
Both in one step

```
var champion = "Sarah";
champion = "Christine";
```

ASSIGNMENT OPERATORS

	INITIAL VALUE:	OPERATOR:	EXAMPLE:	RESULT:
ASSIGN VALUE TO VARIABLE	var num = 8	=	num = 6	6
ADD VALUE TO VARIABLE	var num = 8	+=	num += 6	14
SUBTRACT VALUE FROM VARIABLE	var num = 8	-=	num -= 6	2

CODE ALONG — SCORE KEEPER



Score Keeper (Codepen)

RULES

VARIABLE CONVENTIONS



1. Variables start with a **lowercase** letter





2. If they contain multiple words, subsequent words start with an upper case letter.

```
var firstName = "Sarah";
```



```
var first name = "Sarah";
```

3. Names can only contain: letters, numbers, \$ and (no dashes - or periods .)



var number1 = 5.5;



var number-1 = 10;



var number.1 = 10;

VARIABLE CONVENTIONS



3. Variables cannot start with a number



```
var 1number = 10;
```

- 4. Case sensitive number of students is not the same as number Of Students
- 5. Names should be descriptive

```
var lastName = "Holden";
```

```
var x = "Holden";
```

WHAT CAN BE STORED IN VARIABLES?

DATA TYPES:

STRINGS

"Today is Monday"

Letters and other characters enclosed in quotes

NUMBERS

10 22.75

- Positive numbersNegative numbers
- Decimals

BOOLEANS

true

false

Can have one of two values:

- True
- False

^{*} Note: we'll meet some more data types later on down the road, too!

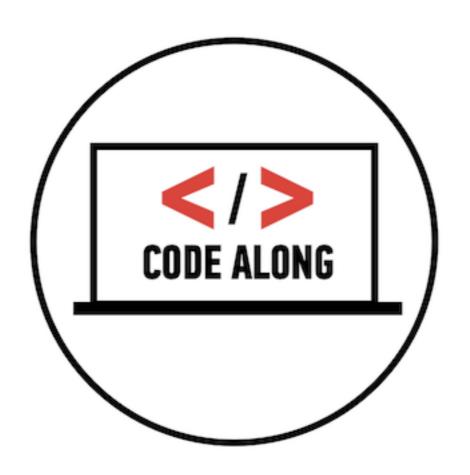
TO SUMMARIZE

- 1. A variable has both a "name" and a "value"
- 2. That value can change
- 3. A variable can be used multiple times throughout the code

ORDER IS IMPORTANT!!!



CODE ALONG — VARIABLES PT. 1



starter_code_lesson_9 > variables

EXERCISE — VARIABLES



KEY OBJECTIVE

Practice declaring and assigning variables

TYPE OF EXERCISE

Individual/paired

LOCATION

starter_code_lesson_9 > variables

EXECUTION

6 min

1. Follow the instructions under Part 2

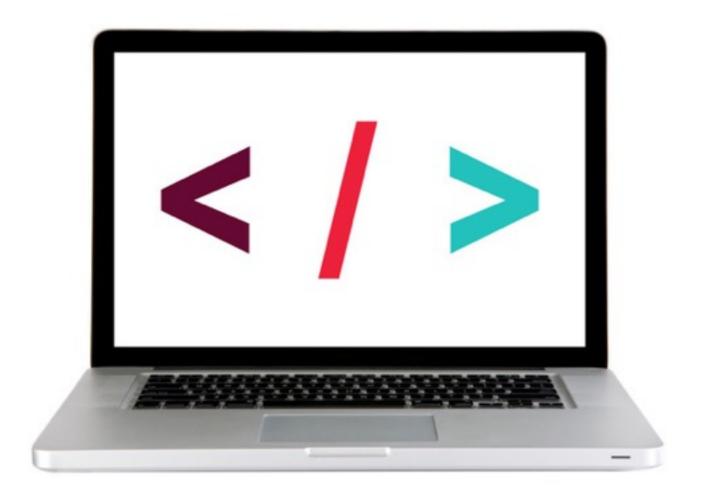
JS BASICS

DATA TYPES

DATA TYPES

NUMBERS

LET'S TAKE A CLOSER LOOK



Numbers in **Codepen**

MORE ABOUT NUMBERS

INTEGERS:

Integers are whole numbers

10

FLOATS:

Number that uses a decimal to represent a fraction

22.75

*Can perform arithmetic on number data types

ARITHMETIC OPERATORS

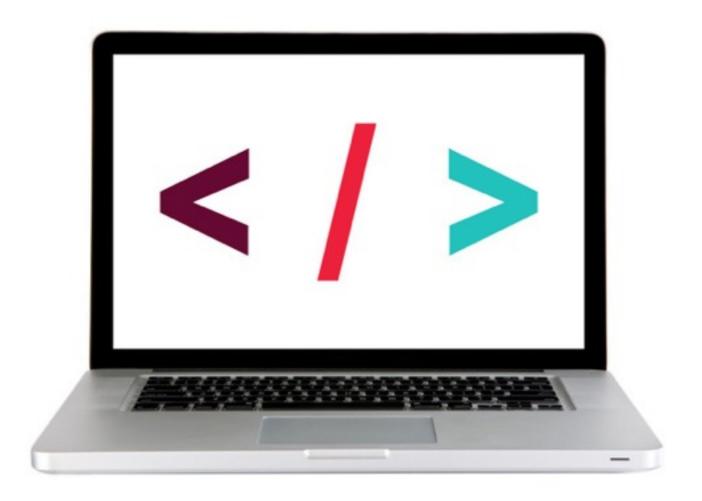
		OPERATOR:	EXAMPLE:	RESULT:
	ADDITION	+	2 + 4	6
	SUBTRACTION	-	8 - 1	7
	MULTIPLICATION	*	2 * 3	6
	DIVISION	/	4 / 2	2

NAMF

DATA TYPES

STRINGS

LET'S TAKE A CLOSER LOOK



View in **Codepen**

MORE ABOUT STRINGS

A STRING:

- Stores textual information
- ▶ Is surrounded by quotes

"How is the weather today?"

'Cold'

STRINGS

DOUBLE QUOTES VS. SINGLE QUOTES



ESCAPING

'It\'s a beautiful day' "They \"purchased\" it"

METHODS AND PROPERTIES OF STRINGS

MAKE STRING LOWERCASE:

```
var str = "Hello World";
var res = str.toLowerCase();
// the result of res will be:
// hello world!
```

LENGTH OF A STRING (PROPERTY):

```
var str = "Hello World";
var n = str.length;
// the result of n will be 11
```

MAKE STRING UPPERCASE:

```
var str = "Hello World";
var res = str.toUpperCase();
// the result of res will be:
// HELLO WORLD!
```

STRING CONCATENATION

- ▶ To take two strings and stick them together, use the + operator.
- **▶** This is called **string concatenation**.

```
var book = "Happy";
var summary = "Best book ever.";
var review = book + ": " + summary;
// Result will be: Happy: Best book ever.
```

DATA TYPES

BOOLEANS

BOOLEANS

Can have one of two values:



false

EXERCISE — VARIABLES



KEY OBJECTIVE

Practice declaring and assigning variables

TYPE OF EXERCISE

Individual/paired

LOCATION

• Score Keeper (Codepen)

EXECUTION

5 min

1. Hook up the +10 and -5 buttons

JS BASICS

CONDITIONALS

JS BASICS

WHAT ARE CONDITIONALS?

IF STATEMENTS



CONDITIONAL LOGIC

If something is true, do one thing. If it is not, do something else. This type of logic or statement is a condition.

In JavaScript (and coding in general) you'll need to make comparisons all the time:

- Is a user logged in?
- ▶ Has the user chosen three or more colors?
- Is the password correct?
- Does a user have enough money in their bank account?
- etc.

JS BASICS

COMPARISON OPERATORS

JAVASCRIPT — COMPARISON OPERATORS

> = Greater than or equal to

Equal to = = =

Less than or equal to

Not equal to ==

> Greater than

Less than

ASSIGNMENT VS. COMPARISON — DON'T GET THEM CONFUSED!

ASSIGNMENT



var number = 7;

COMPARISON

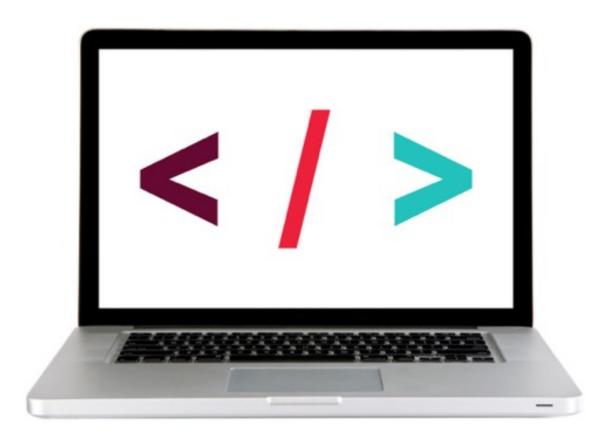


or



```
if (number === 8) {
  // Do something
}
```

LET'S TAKE A CLOSER LOOK — EQUALITY



Comparison Operators on Codepen

JS BASICS

IF STATEMENTS

JAVASCRIPT — IF STATEMENT

```
Condition
if (answer === 38)
  // Do something if true
```

IF STATEMENTS

```
if (age > 65) {
    $('h1').html("Senior Discount Applied");
}
```

JAVASCRIPT — IF/ELSE STATEMENT

```
if (answer === 38)
  // Do something if true
} else {
  // Do something if false
```

IF STATEMENTS

```
if (age > 65) {
    $('h1').html("Senior Discount Applied");
} else {
    $('h1').html("Sorry, you do not qualify for a discount.");
}
```

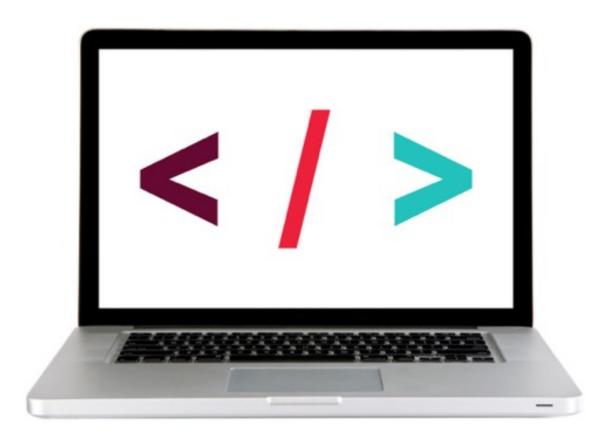
JAVASCRIPT — IF/ELSE IF/ELSE

```
if (answer === 38)
  // Do something if first condition is true
} else if (answer === 30) {
  // Do something second condition is true
} else {
  // Do something if all above conditions are false
```

IF STATEMENTS

```
if (age > 65) {
    $('h1').html("Senior Discount Applied");
} else if (age < 18) {</pre>
    $('h1').html("Student Discount Applied");
} else {
    $('h1').html("Sorry, you don't qualify for a discount");
```

LET'S TAKE A CLOSER LOOK



View in **Codepen**

EXERCISE — VARIABLES



KEY OBJECTIVE

Practice writing conditionals

TYPE OF EXERCISE

Individual/paired

LOCATION

starter_code_lesson_9 > conditionals

EXECUTION

6 min

1. Follow the instructions under Part 2

JS BASICS

LOGICAL OPERATORS

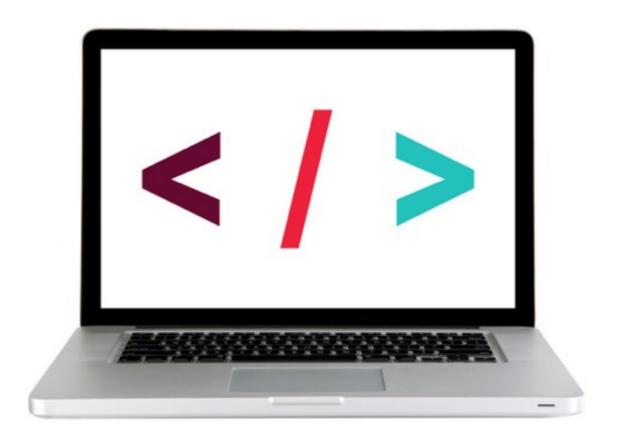
JAVASCRIPT — LOGICAL OPERATORS



MULTIPLE CONDITIONS

```
if (name === "GA" && password === "YellowPencil"){
    //Allow access to internet
}
```

LET'S TAKE A CLOSER LOOK



View in **Codepen**

WORKING WITH USER INPUT

INPUT AND BUTTON ELEMENTS

TEXT INPUT ELEMENT

```
<input type="text" placeholder="Enter your name">
```

Enter your name

BUTTON ELEMENT

<button type="button">Sign me up!</button>

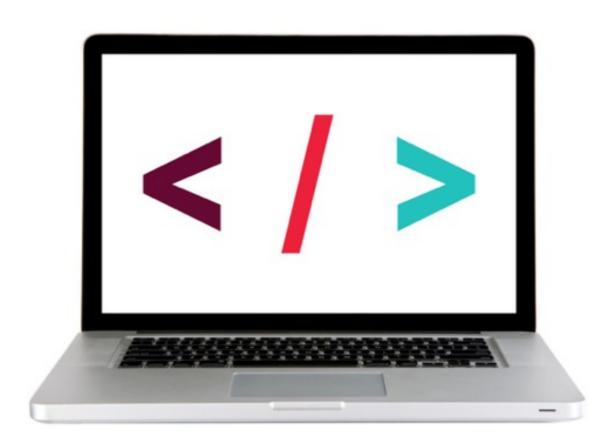
Sign me up!

Get/change content of elements, attributes, text nodes (part 2!)

METHODS	GOAL	EXAMPLES
.val()	Get value from input	<pre>\$('input').val();</pre>
	Change value in input	<pre>\$('input').val('New Value');</pre>

What goes in the parentheses? The html or content you want to add/change

LET'S TAKE A CLOSER LOOK



DATA TYPES

CONVERTING DATA TYPES

DATA TYPE CONVERSION

- ▶ When we use jQuery's .val() method, a **string** is returned.
- If we want to do any sort of math or calculations with the values we grab from inputs, we'll need to first convert those values to numbers.

DATA TYPE CONVERSION

STRING TO INTEGER:

```
var intString = "4";
var intNumber = parseInt(intString, 10);
```

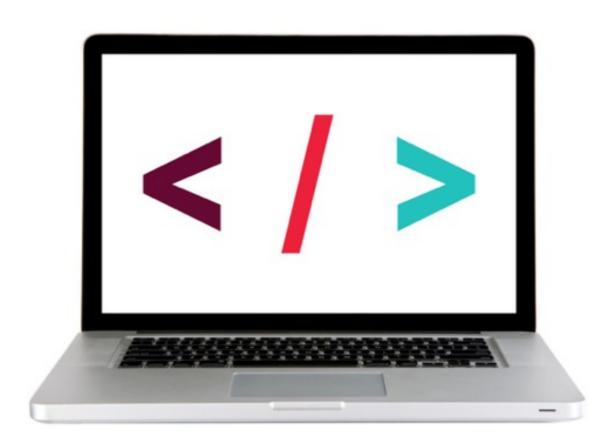
STRING TO FLOAT:

```
var floatString = "3.14159";
var floatNumber = parseFloat(floatString);
```

NUMBER TO STRING

```
var number = 4;
number.toString(); => "4";
```

LET'S TAKE A CLOSER LOOK



EXERCISE — VARIABLES



KEY OBJECTIVE

Practice working with user input

TYPE OF EXERCISE

Individual/paired

LOCATION

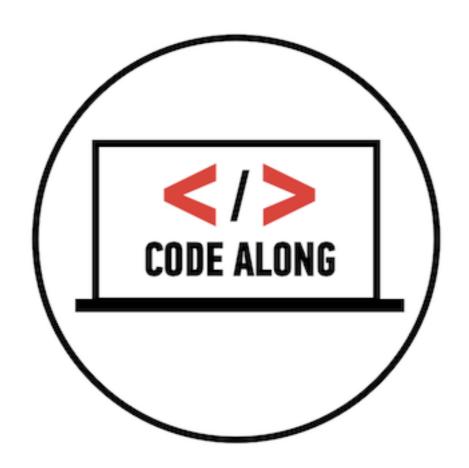
starter_code_lesson_9 > user_input

EXECUTION

6 min

1. Follow the instructions in main.js

CODE ALONG — COMPARE TWO NUMBERS

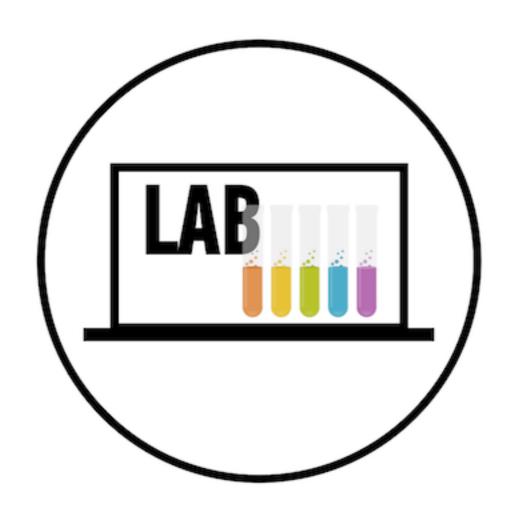


Let's code! Compare Two Numbers (Codepen)

JS BASICS

LAB

LAB — TEMP CONVERTER



LET'S GIT IT!

IN FINDER:

Move temp_converter folder from starter_code_lesson_9 to your homework folder

IN THE GITHUB APP:

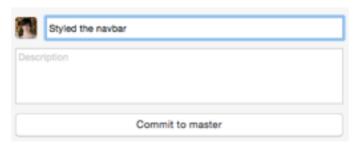
ADD

Make sure the boxes next to each file you've edited are checked.

travel_blog_part1/images/ad.gif

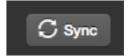
COMMIT

Enter a commit message and click "commit to master."



PUSH

Click "sync" in upper right corner.



LAB — TEMP CONVERTER — PART 1



KEY OBJECTIVE

 Build an application using HTML/CSS and JS that converts a temperature from Fahrenheit to Celsius

TYPE OF EXERCISE

• Groups of 3-4

SMALL GROUP PLANNING

Until 9:00

1. In groups of 3-4 test out the functional temperature converter and write pseudo code to convert a temperature from Fahrenheit to Celsius

Live Version

LAB — TEMP CONVERTER — PART 2 (NEXT CLASS)



KEY OBJECTIVE

 Build an application using HTML/CSS and JS that converts a temperature from Fahrenheit to Celsius

WHAT WE WANT OUR END RESULT TO BE

Use the <u>live version</u> to test the functionality

EXECUTION

Until 9:18

- 1. Write .js to make the temperature converter functional.
- 2. **Bonus #1**: Change the background-color depending on what temperature the user enters (<u>example</u> and another <u>example</u>)
- 3. **Bonus #2**: Add error styles if the user doesn't enter a value in the form (example)
- 4. **Bonus #3**: Add your own styles to the temperature converter (<u>example</u>)

^{**}For reference, see the Compare Two Numbers and Score Keeper exercises from class

LAB — TEMP CONVERTER — FORMULAS

Formula to convert fahrenheit to celsius: (fahrenheit - 32) / 1.8;

Formula to convert celsius to fahrenheit: 1.8 * celsius + 32;

JQUERY METHODS — **EVENTS!**

CREATE EVENT LISTENERS

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
});
```

LET'S GIT IT!

IN SUBLIME TEXT:

Make sure all your changes are saved.

IN THE GITHUB APP:

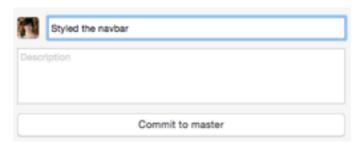
ADD

Make sure the boxes next to each file you've edited are checked.

travel_blog_part1/images/ad.gif

COMMIT

Enter a commit message and click "commit to master."



PUSH

Click "sync" in upper right corner.



JS BASICS

LEARNING OBJECTIVES

- Define variables and identify best cases to use them.
- Differentiate between strings, integers and floats.
- Apply conditionals to change the program's control flow.

JS BASICS

HOMEWORK

HOMEWORK

Be sure to read the specs on the <u>FEWD 42 Dashboard</u>.

ADVANCED CSS

EXIT TICKETS

http://goo.gl/forms/vPhCOlfESf