- Unit 3.1

The Joys of JavaScript

The Coding Bootcamp

Admin Items

Homework #2 – Questions?

Two parts to the assignment

1. Take existing Portfolio and apply Media Queries and Viewport to make mobile responsive.

2. Use Bootstrap CSS to recreate the portfolio you built in HW1. Your Bootstrap solution should minimize use of media queries.

Today’s Class!

Objectives

<u>In today's class we'll be introducing:</u>

- JavaScript Definitions
- JavaScript Basics:
  - Variables
  - Logging, Alerting, Prompting
  - Arrays
  - If/Else Statements

OMG JavaScript!

Prepare to become true coders.

How to Learn JavaScript

Your Brain on JavaScript…

Time to Take Notes…

And Keep Organized!!!

Overall Tips

- **Review Immediately:** We'll be building upon these concepts quickly. The firmer your grasp now, the better off you'll be.

- ***Re-do* the exercises in class:** Don't just re-read! Actually spend the time to re-do them from scratch on your own.

- **Get Help:** Come to office hours. Ask conceptual questions. Ask specific questions. Just keep asking questions!

- **Don't be Afraid:** You will get this. It will take time, but you <u>will</u> get this. Just keep at it. Patience will pay off.

Warmup Activity

> YOUR TURN!!

Code Dissection:

1. Download the file sent to you via slack.

2. Open it in Chrome and observe what happens.

3. With a partner, try to explain how the code connects to the events that happen on the page.

p.s. *We haven't covered JavaScript before, but a big part of being a developer is learning on the fly!*

MAJOR p.s. *When downloading any code going forward, be sure to hit "Download". If you copy and paste directly from Slack, your code will not work!*

What is JavaScript?

JavaScript Definitions

- **JavaScript** is the third of the three fundamental programming languages of the modern web (along with HTML, CSS).

- JavaScript allows developers to create **dynamic** web applications capable of taking in user inputs, changing what's displayed to users, animating elements, and much more.

Variables

Basic Variables

- Variables are the nouns of programming.
- They are “things” (Numbers, Strings, Booleans, etc.).
- They are composed of variable names and values.

```
var name = "Snow White";
var dwarfCount = 7;
var isSleeping = true;
```

INSTRUCTOR DEMO!

Variable Assignment

Demo Time

Instructor: Demo

(BasicVariablesDemo | 02-BasicVariablesDemo)

Basic Variables (Syntax)

Var Keyword	Variable name	Assignment	Value	Termination
var	**name**	**=**	**“Snow White”**	**;**

Basic Variables (Syntax)

Var Keyword	Variable name	Assignment	Value	Termination
var	**name**	**=**	**“Snow White”**	**;**

Be sure to notice the quotes (“”),
which convey that Snow White is a <u>string</u>.

> YOUR TURN!!

Code Creation:

1. Using the instructions in the file sent to you, fill in the missing JavaScript code to create variables.

2. When you are done, open the file in Chrome and check the output.

3. If you successfully completed the activity, you should see a series of pop-up windows with text inside.

4. Finally, look at the rest of the code and try to figure out why the text displayed the way it did.

Logs, Prints, Alerts

Demo Time

Instructor: Demo

(ConsoleDemoInstructor.html | 04-ConsoleLogDemo)

Console.log

- console.log is a quick expression used to print content to the debugger.
- It is a very useful tool to use during development and debugging.

```
var quick = "Fox";
var slow = "Turtle";
var numbers = 121;

// The console.log() method is used to display data in the browser's console.
// We can log strings, variables, and even equations.
console.log("Teacher");
console.log(quick);
console.log(slow);
console.log(numbers + 15);
```

Hey Class!

How do you comfort a JavaScript bug?

Hey Class!

How do you comfort a JavaScript bug?

You “console” it.

Sad Little Bug…

Don’t worry!

*It was a **<u>hilarious</u>** joke… that will make sense in a few weeks.*

> YOUR TURN!!

Code Creation:

1. Using the file sent to you as a guide, modify the code so that is uses console.log instead of alerts to display messages.

2. Then open the file in the browser and open up chrome Developer tools -> Console to confirm the changes worked.

3. With a partner, discuss the different between using console.log and alert.

```
alert("Welcome: " + name);

alert("Pizzas cost $5 each");

alert("Your total is: $" + totalCost);

alert("Still Hungry: " + isHungry);
```

INSTRUCTOR DEMO!

Alerts, Prompts, Confirms

Demo Time

Instructor: Demo

(PromptDemo.html | 06-PromptDemo)

Alerts, Prompts, Confirms

- Alerts, Confirms, and Prompts will create a popup box in the browser when run.
- These are also useful for development and debugging.

```
// Alert
alert("We definitely rock!");

// Confirm
var doYouRock = confirm("The question is, do *you* rock?");

// Prompt
var howMuchRock = prompt("How much do you rock?");
```

> YOUR TURN!!

Code Creation:

Write JavaScript code that does the following:

1. Using a confirm, ask the user: “Do you like _____?” and store their response in a variable.

2. Using a prompt, ask the user: “What kind of _____? do you like?” and store their response in a variable.

3. Alert both variables to the screen.

Document Write

Writing to HTML

- We can also use JavaScript to directly write to the HTML page itself using **document.write( ).**

- Later we will go over *much* more advanced approaches for writing HTML using JavaScript and jQuery.

```html
<!DOCTYPE html>
<html lang="en-us">
  <head>
    <meta charset="UTF-8">
    <title>Document Write</title>
  </head>
  <body>

    <script type="text/javascript">

      document.write("We're the greatest coders on earth.");

    </script>

  </body>
</html>
```

Test.html (chrome)

Test.html (sublime)

If/Else Statements

Demo Time

Instructor: Demo

(conditionaldemo.html | 08-ConditionalDemo)

If/Else Statements

- If/Else statements are critical.
- Each statement is composed of an if, else-if, or else (keyword), a condition, and the resulting code in { } curly brackets.

```
// If the user likes sushi (confirmSushi === true), we run the following block of code.
if (confirmSushi) {
  alert("You like " + sushiType + "!");
}
// If the user likes ginger tea (confirmGingerTea === true), we run the following block of code.
else if (confirmGingerTea) {
  alert("You like ginger tea!!");
}
// If neither of the previous condition were true, we run the following block of code.
else {
  document.write("You don't like sushi or ginger tea.");
}
```

> YOUR TURN!!

Code Creation:

- Create a website (from scratch) that asks users if they eat steak.
- If they respond with “yes”, write the following to the page: “Here’s a Steak Sandwich!”.
- If they respond with “no”, write the following to the page: “Here’s a Tofu Stir-Fry!”.
- **Bonus**: Ask what the user’s birth year is. If they are under 21, alert the following: “No Sake for you!”
- **Hint:** You will need to use document.write( ) from the last activity.

> YOUR TURN!!

Code Dissection:

- Open the file sent to you in Sublime.
- With a partner, go through and predict what the result of each “conditional” statement will be (i.e. will the “if” or the “else” be triggered).
- Then run the program to check if you are right. Note any that you got wrong and ask about it in class.

Arrays

The Zoo Pen

Array Name: zooAnimals

The Zoo Pen… Coded

Array Name: zooAnimals

Coded in JavaScript using an <u>Array</u>

```
// Our array of zoo animals.
var zooAnimals = ["Zebra", "Rhino", "Giraffe", "Owl"];
```

INSTRUCTOR DEMO!

Arrays

Basic Arrays

- Arrays a type of variable that are collections.
- These collections can be made up of strings, numbers, Booleans, other arrays, objects, anything.
- Each element of the array is marked by an index. Indexes always start with 0.

```
var nickCharacters = ["Tommy", "Doug", "Oblina"];

var diceNumbers = [1, 2, 3, 4, 5, 6];

var mixedArray = ["Zoo", 12, "Carrot", 3];
```

Demo Time

Instructor: Demo

(ArraysDemo.html | 11-ArraysDemo)

Basic Arrays Indices

- To recover the value at any specific index you include the name of the array with a square bracket [ ] and inside the bracket is the element's index.

- You can easily grab the number of elements in the array using the method array.length.

```
// Our array of zoo animals.
var zooAnimals = ["Zebra", "Rhino", "Giraffe", "Owl"];

// Prints 4 to the console because there are 4 items in our zooAnimals array.
console.log(zooAnimals.length);

// Prints Rhino to the console. Remember, the first item in an array has an index position of 0!
console.log(zooAnimals[1]);

// Prints undefined... because the last index ("Owl") is 3.
console.log(zooAnimals[4]);
```

> YOUR TURN!!

Class Code Dissection:

- With a partner, take a few moments to look over the following code.
- Above each console.log() write a comment “predicting” what you think the output will be.

Homework #3

Questions?

Challenge Activity?

> YOUR TURN!!

Code Creation (Challenge):

- Create a website that accomplishes the following:

  - Create an array of your favorite bands.
  - With a prompt, ask the user's favorite band.
  - If it's one of your favorites, alert: "YEAH I LOVE THEM!".
  - If it's not, alert: "Nah. They're pretty lame.".
  - *Hint: You will need to research how to use .indexOf()*
  - *Hint: You will need to research how to use .toLowerCase()*

> YOUR TURN!!

Code Dissection (Re-examined, Time-permitting):

1. Re-examine the file sent to you at the start of class.

2. See if you can better understand how it works – after having gone through today's class.