The Joys of Javascript

7/7/2016

Admin Items

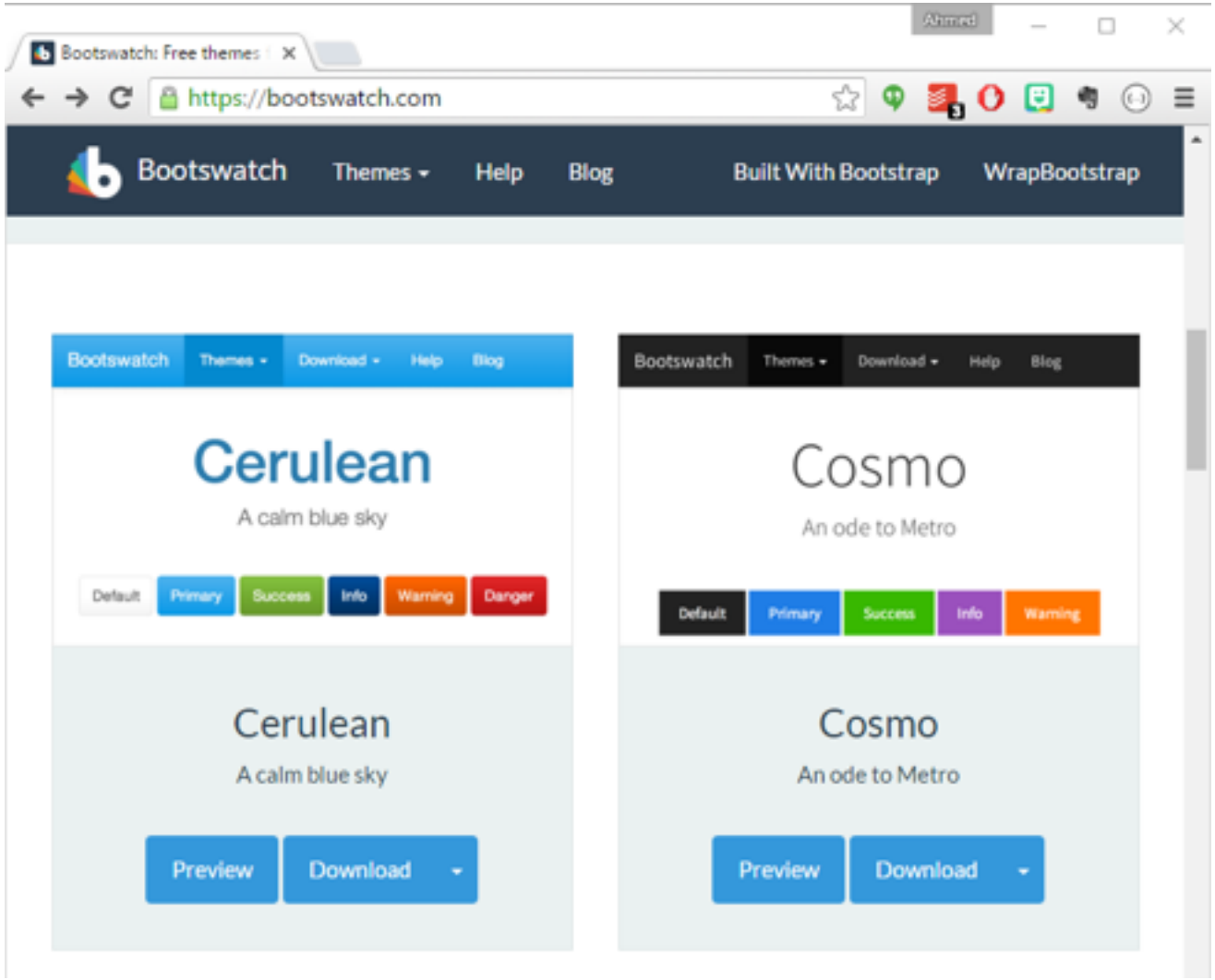
Homework #2 – Questions?

Two parts to the assignment

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

2. Find a Bootstrap theme you like and apply the Bootstrap theme to your website.

Bootswatch Styling



https://bootswatch.com/

Demo Time

Instructor: Demo

(layout.html | 0-Bootswatch)

Today's Class!

Objectives

In today's class we'll be introducing:

- Javascript Definitions
- Javascript Basics:
  - Variables
  - Logging, Alerting, Prompting
  - Arrays
  - If-Then Statements

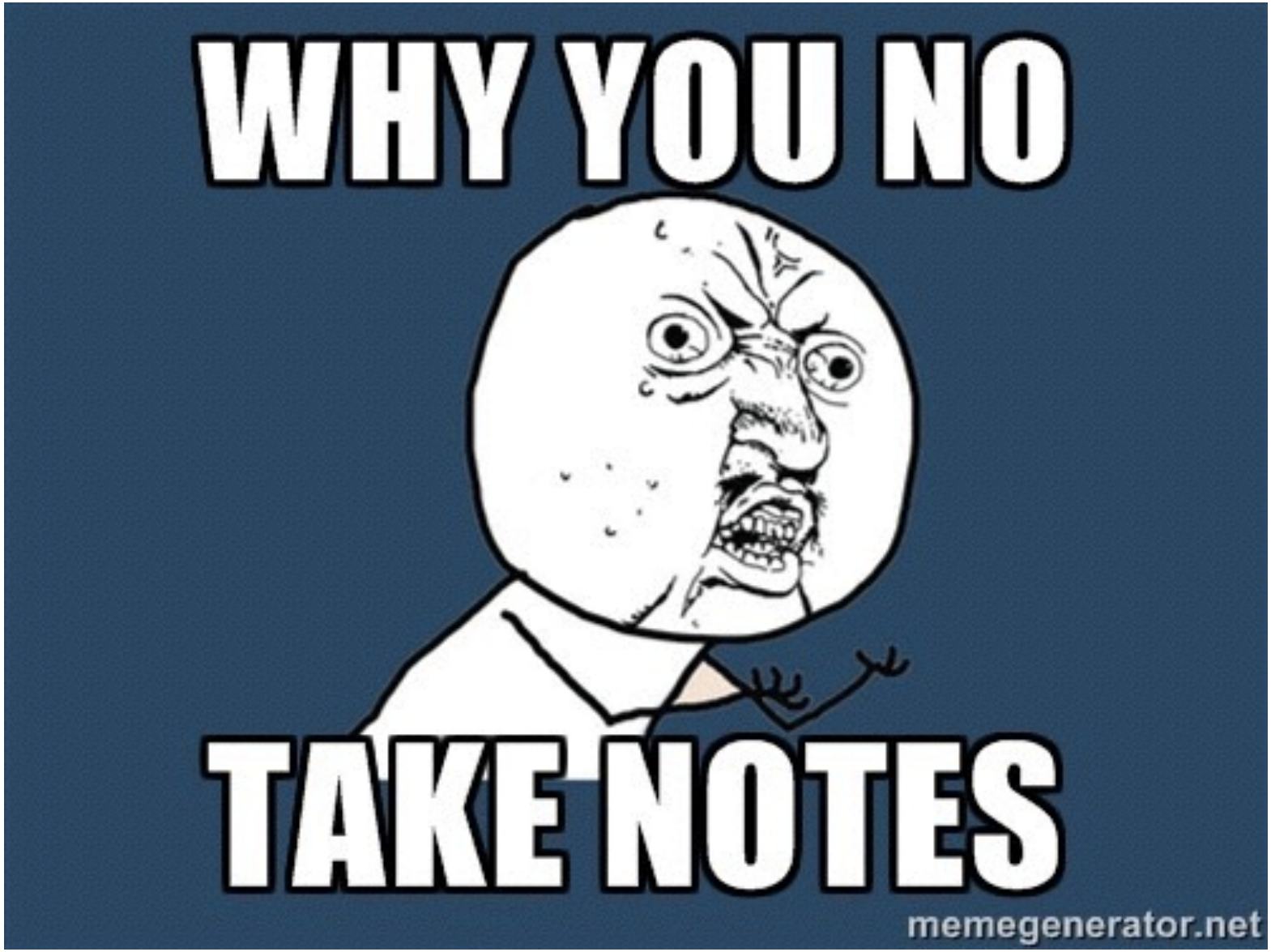
OMG Javascript!

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 will get this. Just keep at it. Patience will pay off.

Warmup Activity

> YOUR TURN!!

Code Dissection:

1. Download the code sent to you via slack.

2. Open it in Chrome and watch what happens.

3. Then open the file in Sublime and try to explain to someone around you how the code connects to the events seen on the page.

p.s. *I know we haven't covered Javascript before…*

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

```
1 var name = "Helga Pataki";
2 var age  = 12;
3 var isAwesome = true;
```

INSTRUCTOR DEMO!

Variable Assignment

Demo Time

Instructor: Demo

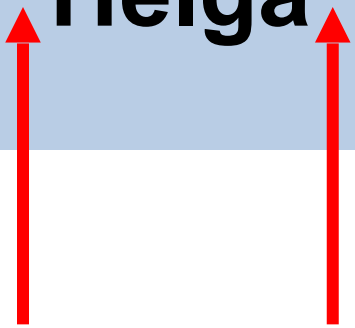
(BasicVariablesDemo | 02-BasicVariablesDemo)

Basic Variables (Syntax)

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

Basic Variables (Syntax)

Var Keyword	Variable name	Assignment	Value	Termination
var	name	=	“Helga”	;



Be sure to notice the quotes (“”), which convey that Helga is a string

> 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 done, open the file in Chrome and check the output.

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

4. Then look at the rest of the code to understand 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.

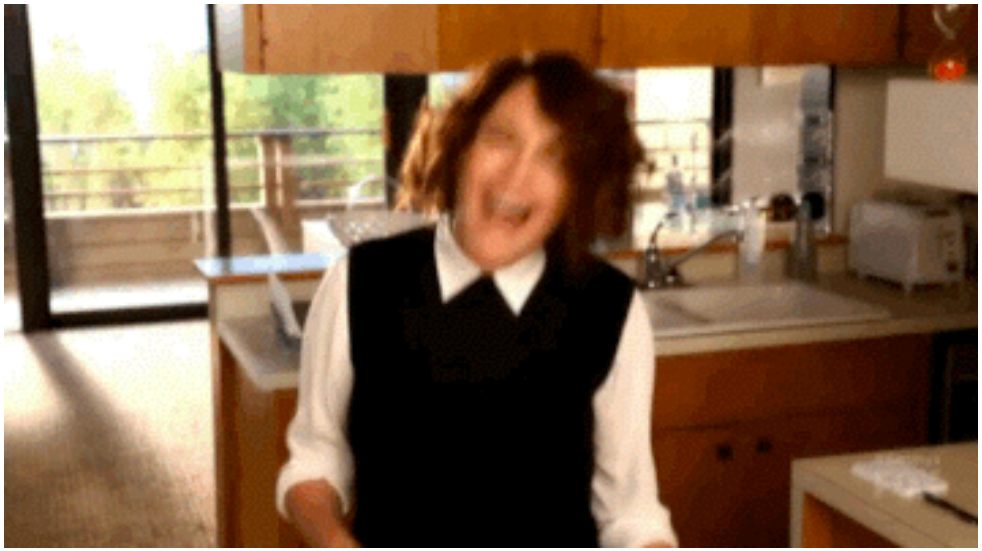
```
1  var item = "Rubber Ducky"
2  var price = 5.95
3  var tax = 0.085
4
5  // Will print to the debugger: Rubber Ducky
6  console.log(item);
7
8  // Will print to the debugger: 5.95
9  console.log(price);
10
11 // Will print to the debugger: 6.45575
12 console.log(price + price * tax);
```

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 **hilarious** joke… that will make sense in a few weeks.*

> YOUR TURN!!

Code Creation:

1. Take your previous code from the pizza example, then replace all of the alert messages with console.log.

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

3. Talk to those closest to you about the difference between alert and console.log

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

alert("Pizzas cost $5 each");

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

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

INSTRUCTOR DEMO!

Alerts, Prompts, Confirms

Demo Time

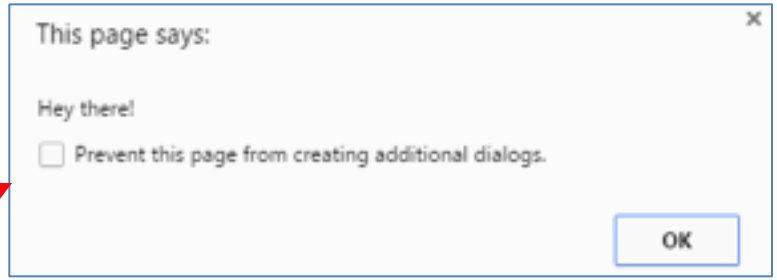
Instructor: Demo

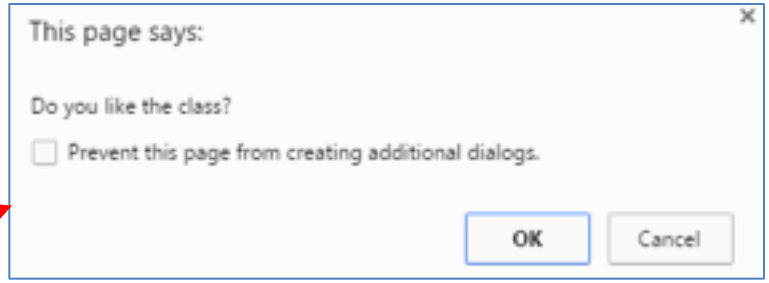
(PromptDemo.html | 06-PromptDemo)

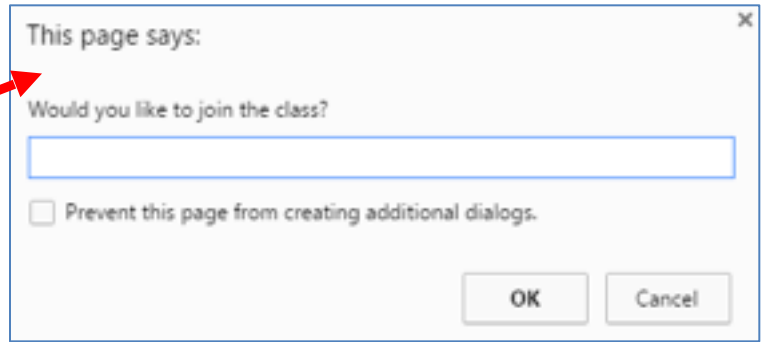
Alerts, Prompts, Confirms

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

```
// Alert
alert("Hey there!");

// Confirm
confirm("Do you like the class?");

// Prompt
prompt("Would you like to join the class?")
```







> YOUR TURN!!

Code Creation:

Create code using Javascript that does all of the following:

1. Asks the user with a confirm: “Do you like _____” and store it into a variable.

2. Ask the user “What kind of _____” do you like with a prompt and store that into a variable.

3. Alert both variables to the screen.

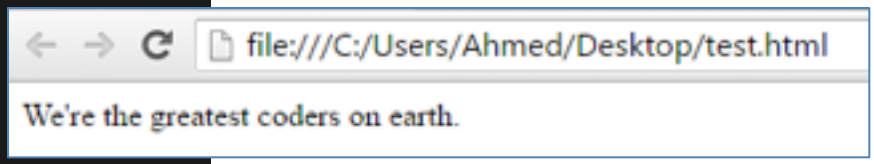
Document Write

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.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Quick Test</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-Then Statements

Demo Time

Instructor: Demo

(conditionaldemo.html | 08-ConditionalDemo)

If-Then Statements

- If-Then 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 (classSize >= 3){
    alert("Dang. That's a big class!");
}

// Else-If
else if (classSize < 3 && classSize > 0){
    alert("That's a pretty small class");
}

// Else
else {
    alert("That class has no students. The teacher must be terrible.")
}
```

> YOUR TURN!!

Code Creation:

- Create a website that asks users if they eat steak.
- If they do then write the following to the screen: “Here’s a Steak Sandwich”
- If they don’t then write the following to the screen: “Here’s a tofu stir fry”
- **Bonus**: Ask what the user’s birth year is. If they are under 21, post: “No Sake for you!”
- **Hint:** You will need to use document.write( ) from the last activity

> YOUR TURN!!

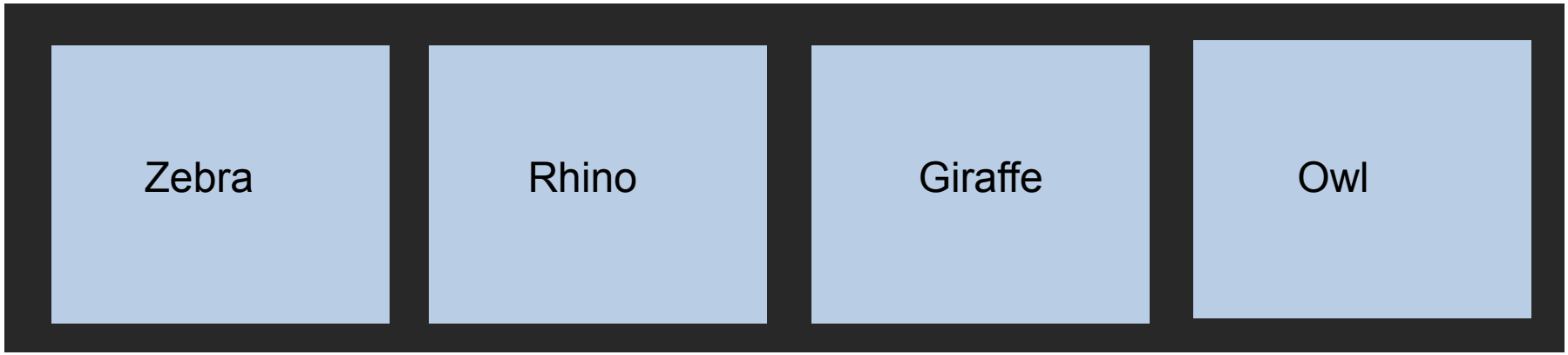
Code Dissection:

- Open the file sent to you in Sublime.
- Then 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

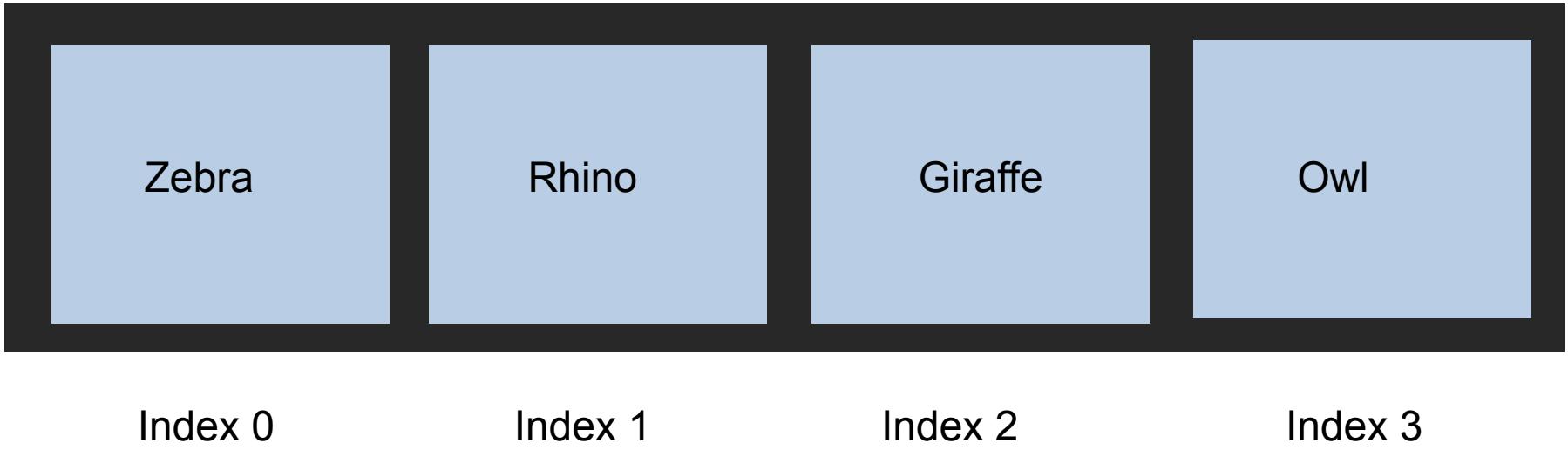
The Zoo Pen

Array Name: zooAnimals



The Zoo Pen… Coded

Array Name: zooAnimals



Coded in Javascript using an Array

```
var zooAnimals = ["Zebra", "Rhino", "Giraffe", "Owl"]
```

INSTRUCTOR DEMO!

Arrays

Demo Time

Instructor: Demo

(ArraysDemo.html | 11-ArraysDemo)

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", "Eliza", "Doug"];

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

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

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.

```
var nickCharacters = ["Tommy", "Eliza", "Doug", "Chucky"];

// favorite = Eliza
var favorite = nickCharacters[1];

// least = "Tommy"
var least = nickCharacters[0];

// numCharacters = 4
var numCharacters = nickCharacters.length;
```

> YOUR TURN!!

Class Code Dissection:

- Take a few moments to look over the following file with a partner.

- Then create a comment line above each console.log() line to “predict” what the output will be.