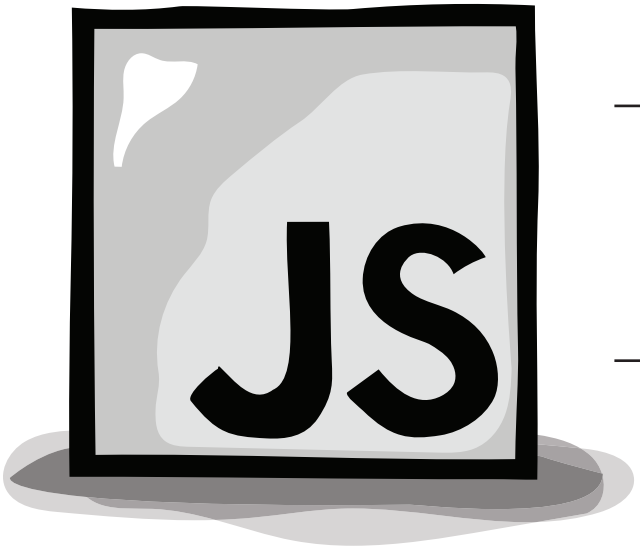

GYMNASIUM

JAVASCRIPT FOUNDATIONS

Lesson 1 Assignment

JavaScript Basics

CORE CONCEPTS

1. JavaScript in browsers has come a long way in the last few years. It's time to get up to date.
2. JavaScript is an interpreted language, meaning that the only tools you need are a decent text editor and a browser.
3. Google Chrome (and most other browsers) have a rich set of developer tools that will let you inspect your HTML, CSS and JavaScript code as it is running; log messages to the console; and even let you pause your scripts and step through them to help you find any bugs.
4. Variables are containers for data. We covered three types of data in *Lesson 1: Numbers, Strings and Booleans*. Any variable can hold any type of data.
5. There is only one type of number in JavaScript, and it is used for any and all representations of numbers. The Math library contains all kinds of useful mathematical functions.
6. Booleans are true and false values. They can be used in "if" statements to let your code make decisions at run time. Comparison operators let you compare values and results in Boolean values.
7. If JavaScript is expecting one type of data and gets another, it will try and coerce that data into the type it needs. This can be useful, but can also result in strange behavior.
8. Strings contain textual data. They must be wrapped in either single or double quotes. There is a large library of string manipulation functions.

ASSIGNMENT

1. Quiz
2. Go to a web site of your choice, and open the developer tools to the sources tab. Find some JavaScript files. Look for some variables, strings, numbers, and an "if" statement. Don't worry if you don't understand what the code is doing. Just try to see what you can recognize. Sometimes the source is "minified". This means all the extra spacing and formatting has been removed to make it smaller and harder to read. At the bottom of the sources tab, you'll see a button labeled "{}". This will attempt to format the code to make it more readable.
3. Check the console on a number of web pages. Do you see any errors or warnings? Can you find any log statements that a developer might have left in the code?
4. Choose a code editor that you will use for the rest of this course. Make sure it is installed and that you are familiar with how to use it. Unless you have one that you are already very familiar and comfortable with, I suggest Sublime Text (www.sublimetext.com). Create a project that has an HTML file that loads a script file. Have the script file successfully log a message to the console.

5. Pick a topic that was covered in Lesson one that you either didn't complely understand, or would like to know more details about. Do some personal research to understand that topic more fully. I highly suggest the Mozilla Developer Network for this purpose. https://developer.mozilla.org/en-US/docs/Web/JavaScript

EXTRA CREDIT

When a user enters an email address, it needs to be validated to ensure that it is a valid address. Validation functions can get pretty complex, but you can make a simple one with what you've learned in this lesson.

Create a simple JavaScript program that starts with a variable such as:

```
var email = "someone@something.com";
```

Now write some code that checks if the string contains the "@" character and logs a message saying whether or not the email is valid based on that result. Test it with valid and invalid email addresses and verify the results.

For extra, extra credit, add another check for the "." character.

RESOURCES

- For a full and fascinating history of JavaScript, go to Douglas Crockford's video lectures on JavaScript: https://developer.mozilla.org/en-US/docs/Web/JavaScript