Jumping for JavaScript

Web Development Boot Camp

Lesson 2.2

Today's Class

Objectives

In today's class, we'll cover:

Array Assignments

The Concept of for Loops

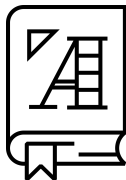The Art of Pseudocoding

Building Rock-Paper-Scissors

Basics Recap

What is JavaScript?
(And what is it used for?)

JavaScript Definitions

JavaScript is the third of the three fundamental programming languages of the modern web (along with HTML and 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.

What is a Variable?
(And how do we declare one?)

Variable Basics

Variables are the nouns of programming.

They are "things" (numbers, strings, Booleans, etc.).

A variable is composed of a variable name and a value.

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

What is meant by `console.log`?
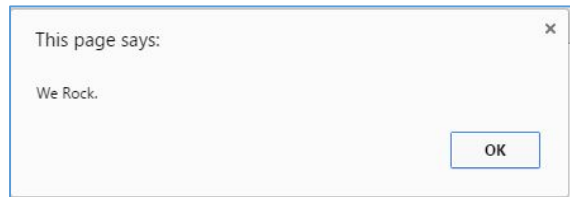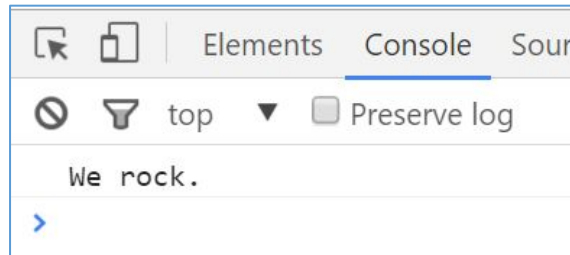(And how does it differ from an alert, prompt, or confirm?)

Basic Variables

`console`.`log` displays discreetly to the debugger.

`alert` displays a pop-up message to the user.

```
console.log("We rock.");
```
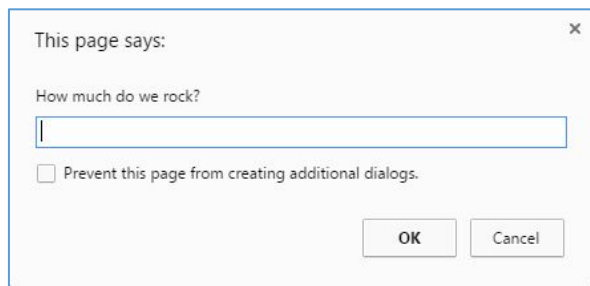
```
alert("We Rock.");
```

Basic Variables
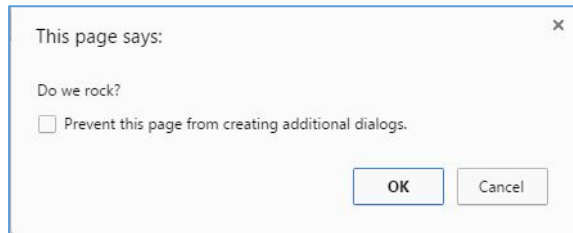
`confirm` displays a true/false popup.

`alert` displays a `prompt` with a text-box input.

```
confirm("Do we rock?");
```

This page says:

Do we rock?

☐ Prevent this page from creating additional dialogs.

[OK]   [Cancel]

```
prompt("How much do we rock?");
```

This page says:

How much do we rock?

☐ Prevent this page from creating additional dialogs.

[OK]   [Cancel]

How do we "`write`" text to the HTML itself?

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.

Test.html(sublime)

```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>
```
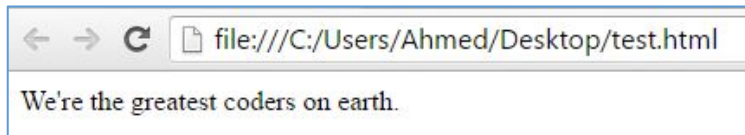
Test.html (chrome)

file:///C:/Users/Ahmed/Desktop/test.html

We're the greatest coders on earth.

How do we **check** conditions?

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.

```javascript
// 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.");
```

What is an **array**?

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];
```

PAUSE

Partner Activity:
Loop TV (Array Building)

Partner Activity: Array Building

01 Run the program sent to you via Slack.

02 Then, with a partner, fill in the missing comments for each line of code.
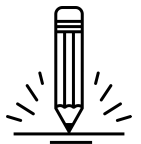
03 Make sure both of you can fully explain what each line means.

04 Be prepared to share with the class.
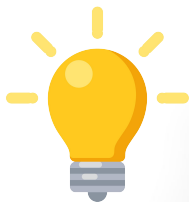
Suggested Time: 10 minutes

Instructor Demonstration
Logging: No Functions

Mondo Repetitive

Who wants to maintain this?

Hint: No one.

```javascript
// For Loop for Brands
for (var i = 0; i < brands.length; i++) {
  console.log(brands[i]);
}
console.log("---------");

// For Loop for Heroes
for (var i = 0; i < heroes.length; i++) {
  console.log(heroes[i]);
}
console.log("---------");

// For Loop for booksOnMyShelf
for (var i = 0; i < booksOnMyShelf.length; i++) {
  console.log(booksOnMyShelf[i]);
}
console.log("---------");

// For Loop for thingsInFrontOfMe
for (var i = 0; i < thingsInFrontOfMe.length; i++) {
  console.log(thingsInFrontOfMe[i]);
}
console.log("---------");

// For Loop for howIFeel
for (var i = 0; i < howIFeel.length; i++) {
  console.log(howIFeel[i]);
}
console.log("---------");
```

Instructor Demonstration
Logging: With Functions

Much Better with Functions!

Squeaky clean code. Minimal repetition.

```javascript
// Here we create a "Function" that allows us to "call" (run) the loop for any array we wish.
// We pass in an array as an "argument".
function consoleInside(arr) {

  // We then loop through the selected array.
  for (var i = 0; i < arr.length; i++) {

    // Each time we print the value inside the array.
    console.log(arr[i]);
  }
  console.log("---------");
}
```

Partner Activity:
My First Functions

Suggested Time:
20 minutes

Partner Activity: My First Functions

Working in pairs and using the starter file sent to you via Slack, fill in the missing functions and function calls.

Note: Try to finish all four functions if you can, but don't be distressed if you only get 1 or 2. The important thing is that you get at least one function fully done.

HINT: Look back to the previous example if you need help.

Suggested Time: 20 minutes

Questions?