JavaScript (JS) – Recitation 6

You've all learned HTML and CSS so far, meaning that you know how to put things on a webpage and make them pretty! With JavaScript, you can move things around on your webpage and make things more interactive.

Example: http://www.amplifon.co.uk/interactive-ear/index.html

How and where do I program in JavaScript?
You add <script></script> tags in your HTML page (**remember the basic HTML structure**), and then you put all the JavaScript in between those tags:

```
<html>
	<head>
	</head>
	<body>
		<!--OTHER HTML STUFF GOES HERE-->
		<script type="text/javascript">
			// YOUR JS GOES HERE!
		</script>
	</body>
</html>
```

**You could technically put your <script> tags anywhere in the html file. Some people even like putting it in the head, but I recommend putting it right before the closing </body> tag. Where you put it is where it loads.

After you have your basic structure typed out like above, within the **<script>** tags, do this:

```
<script>
	alert("Hello world!");
</script>
```

Save your file as helloworld.html, open it up in your browser, and see what happens!

How do we work with variables? Declare, initialize, and assign it to a value.
**Note: JavaScript is CASE-SENSITIVE (eg. hello is different from HeLLo)
-Declaration: set the variable without giving it a value; you're basically introducing the variable
-Initialization: FIRST time assigning a value to a variable; can be done in the same line as the declaration step
-Assignment: Replacing the old value of a variable with a new value

```
<script>
	var x; // declaration
	var y = 2; //declaration and initialization
	x = 3; //initialization
	y = 10; // assignment
	x = 4; // assignment
</script>
```

Example: prompt() and alert():

```
<script>
    var name=prompt("What is your name?");
    alert(name);
</script>
```

Putting quotes around something triggers the JavaScript String object. Whenever you want to use a variable that you defined earlier, put '+' symbols around the variable.

Example: JavaScript String Object

```
<script>
    var name=prompt("What is your name?");
    alert("Hello, " + name + "!");

</script>
```

Example: JavaScript String Object v. Number Object

Note: Using // will comment out text!

```
<script>
    //var name=prompt("What is your name?");
    //alert("Hello, " + name + "!");
    alert("4 + 5");
    alert(4 + 5);
</script>
```

Example: prompt(), document.write(), and JavaScript Number Object

```
<script>
    var numCows=prompt("How many cows are there in the world?");
    document.write("I want " + numCows + "!");
</script>
```

Try entering something that's not a number. It works, but it really shouldn't

To fix this, try:

```
<script>
    var numCows=1*prompt("How many cows are there in the world?");
    document.write("I want " + numCows+ "!");
</script>
```

By multiplying by 1, we're telling the variable numCows that it is storing a number object. Now try entering something that's not a number.

Output on the page: "I want NaN"
NaN stands for "not a number"