Beginning JavaScript: Variables and Functions

HTML and CSS provide the structure and style of a website, and JavaScript handles the interactivity. In other words, JavaScript 'does stuff' like show or hide parts of a page, move a game character, or get information from a database.

Variables

Variables are like buckets: they hold stuff. Some of the things they might hold include:

- Strings of Text. "These have to be in quotes."
- Whole numbers, like 42. (We call these Integers)
- Numbers with decimal values, like 3.14159265359. (We call them Floats).
- Values like 'true' or 'false'
- Functions & more!

When you save things in a variable, they are saved in the computer's memory and can be called on when needed, using the name you chose for the variable.

Time to Get Our Hands Dirty

In Google Chrome, go to → View | Developer | Javascript Console. The Mac shortcut is: ⌥⌘J . Type or copy and paste this line of code into the console and hit Enter.

```
var colorOfBarney = "purple";
```

'var' is the keyword for **variable**. It tells the browser, "Hey, get ready, here comes a variable!" 'colorOfBarney' is the label we chose for the variable, and 'purple' is the value we assigned to it. The semi-colon at the end of the line is kind of like a period at the end of a sentence. It lets the program know that we are done declaring that variable.

Imagine as you are walking down the road, you see a bucket on the ground. The bucket is labeled 'colorOfBarney'. You know that if you kick over the bucket, the word "purple" is going to spill out.

Functions

Functions contain lists of instructions. For example, you might design a custom function to add up all the money you've made selling lemonade, to find and provide driving directions, or save your high score in a game. If you save a function by assigning it to a variable, you can use it later.
Now let's enter this into the console.

```
var tellColor = function() {
  alert("Barney is " + colorOfBarney)
};
```

As you may have guessed, this function is ready to alert the user with Barney's color. It's not going to run when the page loads, though. Although it has been defined and saved with the name 'tellColor', it hasn't been called yet. You need to call it by adding a new line of code, below the others, in your JavaScript console type the following code:

```
tellColor()
```
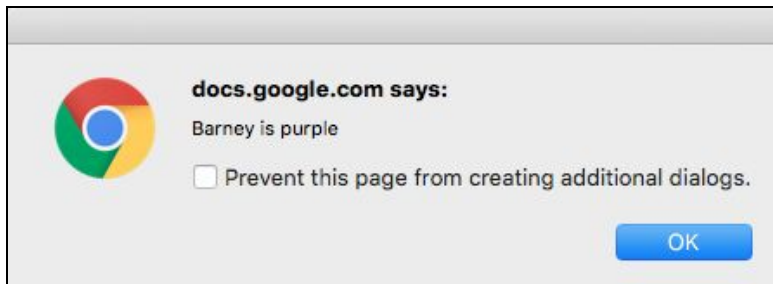
You did it! You made your computer respond with your coding power! Now, how can you hack our code to make it do something unexpected? Maybe change the value assigned to "colorOfBarney"? From "purple" to something like "blue", or "42", or "so scary"? Have fun!