Exercise 6: Functions

For this exercise, you'll create some JavaScript functions and compare local and global variables.

Change Size of Textbox

Follow these steps to create a program that changes the width of a text box using a function called **setWidth**:

1. Take the code from Exercise 5 (**Operators.html**) and save it as a new file called **Functions.html**.
2. Under the function **displayResult**, add a new function. This will set the width of the text box to handle the number of characters you pass in. (The **numChar** parameter is for the number of characters.)

```
function setWidth(textBox, numChar) {
    textBox.size = numChar;
}
```

3. Now modify **displayResult** to call **setWidth** to set the width of **num1** using the value from the **num1** text box. Remember that you have to called the **Number** function on the value from **num1** in order to convert it into a number. The new line of code is in bold below.

```
function displayResult() {
    setWidth(num1, Number(num1.value));
    var result = (Number(num1.value) + Number(num2.value)) / 2;
    resultPar.innerHTML = "Result: " + result;
}
```

4. Open the file in your browser. Put 5 in the first text box and 1 in the second text box. In addition to seeing the average, the first text box will get much shorter, so that it had room for about 5 characters. Try some other numbers besides 5, like 50 and 100.

If you are having trouble, don't forget to first open the JavaScript console to see if there is any information. If you are completely stuck, you can look at my answers at the end.

Function to average two numbers

Create a new function with:

1. Name: average
2. Parameters: x and y
3. Returns: The sum of x and y (that is, x + y), divided by 2

Place this function after the **setWidth** function. The first line will be:

```
function average(x, y) {
```

Next, you'll want a line to return the average of x and y:

```
return (x + y) / 2;
```

Make sure you end the function with an end bracket }.

Now modify the line:

```
var result = (Number(num1.value) + Number(num2.value)) / 2;
```

to call that function with the numbers in num1 and num2.

```
var result = average(Number(num1.value), Number(num2.value));
```

Try it out and make sure you are still getting averages. Remember, the JavaScript console may help if things aren't working.

Function to get the length of a name

Now you'll do a similar exercise, but this time I won't give you lines of code to use. See if you can figure it out on your own. In this exercise, you will write a function to calculate the length of a full name, and then add a button that when clicked, will display the full length.

Open up **JavaScriptAndHTML.html** from Exercise 3. Save it as **Functions3.html**.

Create a new function with:

1. Name: fullNameLength
2. Parameters: firstName and lastName
3. Returns: The length of the full name

To find the length of a string, add a period after it and then length. For example:

```
firstName.length
```

Hint: There are a couple of ways to figure out the full name length. If you decide to add up the first name length and the last name length, don't forget that the full name will actually be a little larger than that.

Now add a button that says "Full Name Length" and on click, it calls a function called **showLength**. I suggest using copy-and-paste on another button line and modifying it.

Add a function called **showLength** that sets **fullName.innerHTML** to the result of your **fullNameLength** function, passing in the values of the two text boxes. Again, I suggest using copy-and-paste on a similar function and modifying it.

Load it into your browser and try it out.

Take a Look at How I've Done It

If you get stuck, you can look at my versions of the code:
http://sdkbridge.com/prog1/Exercise6Answers.pdf.