Quick Lab 4 - JavaScript Arrays

Objectives

* To investigate JavaScript arrays and their functions.

Activity

1. In VSCode, create the files **index.html** and **index.js**
2. Open **index.html** using the live server

The browser window will open, but there will be nothing to view!

1. declare an array called quote that contains four strings, "I", "am" "your" and "friend".
2. Log the array to the console.
3. Save the file and observe the browser to check the output - you should see details of an array and expanding it will show the values and their indexes.
4. Access the index of the array that contains the string "your" and log the array element to the console.

console.log(quote[2]);

1. Save the file and observe the browser to check the output.
2. Using the pop function, remove the string "friend" from the end of the array.
3. Using the push function, add the string "father" to the end of the array.
4. Log the array to the console again.
5. Save the file and observe the browser to check the output.
6. Use the unshift function to add the string "Luke" to the start of the array.
7. Log the array to the console again.
8. Save the file and observe the browser to check the output.

There are two things wrong with the output. The first is that it the string is concatenated by commas and the second is that the 'quote' is actually a misquote! We're going to generate an output in a different way by looping through the array and creating a new string. We're going to fix the misquote by detecting the erroneous word in the array and replacing it with the correct word! Let's do that first.

To do this, we are going to detect if indeed the erroneous word is in the array. If it is, we are going to find the index that the word is at and then use this information to replace that index with the correct word.

1. Declare a variable called erroneousWord and set it to a string with the misquoted word from the array (it's Luke if you didn't know!).
2. Set a variable called lukeIsHere using the includes() function to see if the quote array contains the erroneousWord. The code is:

let lukeIsHere = quote.includes(erroneousWord);

1. Declare a variable called lukeIsAt without assigning it.
2. If lukeIsHere has been set to true, find the index that the erroneousWord sits at using the indexOf() function and set lukeIsAt to the value of the index. The code is:

let lukeIsAt = quote.indexOf(erroneousWord);

1. Still inside the if block, use the value of lukeIsAt to set that index in the quote array to the string "No".

if (lukeIsHere) {

lukeIsAt = quote.indexOf(erroneousWord);

quote[lukeIsAt] = "No";

}

1. Log out the array and ensure that the expected result is outputted in the browser.

To sort out the display of the quote, we need to create a new string then loop through the array, adding a space into the string after each word apart from the first word, to which we'll append a comma and a space and the final word to which we will append an exclamation mark.

1. Declare a variable called output and set it to be an empty string.
2. Create a for loop that:
3. Loops through the quote array.
4. Executes when the loop counter is less than the length of the array.
5. Adds an exclamation mark to the output string, if we are at the last element in the array.
6. Adds a comma and a space to the output string, if the current element is 'No'.
7. Otherwise adds a space to the output string.

for (let i = 0, j = quote.length; i < j; i++) {

if (i === j - 1) {

output += quote[i] + '!';

} else if (quote[i] === 'No') {

output += quote[i] + ', ';

} else {

output += quote[i] + ' '

}

}

1. Log out the output string.
2. Save the file and then check your browser output to ensure that the correct quote is displayed.

No, I am your father!

This is the end of Quick Lab 4