**Week 3: Research Stephanie Dilts**

**Select five methods that can be used on an Array and describe the following for each: 1) what the method signature is, 2) what the method does, and 3) why would this method be useful (how could you use it)?**

1. array.push()

The push method allows us to add a new element to an array. It will add the element to the end of the array. The parameter within the parenthesis would be the element to be added. This method is useful for adding a single new piece of data into the data set, where the order of the data (specifically the new piece) is not important or where the new element should be last.

1. array.concat()

The concat method allows us to merge two existing arrays into a new array. This method is useful when two data sets need to be combined. The parameter would be the array to be added. This method could be used to add a new set of data into an existing data set, for example adding a new list of customers to an existing data base.

1. array.sort()

The sort method allows us to sort the data stored in an array and returns it to the existing array in a different order (it does not create a new array). This can be numerically (largest to smallest, or vice versa) or alphabetically. The parameter would be the directions for how the elements are to be sorted. This is useful for organizing data. For example, you can sort a data set of customer names alphabetically.

1. array.map()

The map method will return the results of a function that is applied to each element of the array. This can be used to manipulate data into new data. The parameters within the parenthesis would be the directions for the change in elements. For example, if you had a list of customer birth years, but wanted the data to show how old each customer was, you could use the map method to subtract their birth year from the current year. The subtraction directions would be the parameter. You would end up with a data set representing the age of each customer in years.

1. array.splice( a, b, c )

The splice method is similar to the push method, however it will add a new element to a designated location. It can also remove elements at the same time. The parameters of splice are:

-a: the position within the array where the changes will take place

-b: the number of elements to be removed starting at position a

-c: the element(s) to be added at position a (if more than one element is to be added, there would be a d, e, f…. position in the parameters.)

If you had a set of directions, for example how to fix a dishwasher, and you needed to alter the directions, the splice method would allow you to add extra steps while taking out steps that didn’t need to be included.

**What is the difference between == and ===?**

== is an equality operator that is used to see if two element values are equal, with out regard to their type. For example, the number 2 and the string “2” would evaluate to equal using the == operator.

=== is an equality operator that is used to see if two element values are equal in value and in data type. For example, the number 2 and the string “2” would evaluate to not equal using the === operator.

=== is a ‘safer’ operator to use when determining equality, because it checks both the value and the data type of an element.

Citations:

<https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array>

<https://www.w3schools.com/js/js_array_methods.asp>

Slide from Week3 Class