

## **What is the difference between objects and arrays?**

Both are considered special in javascript meaning that objects are representative of a special data type and arrays are a special type of variable. Both are **mutable** meaning that it changes in value when you use them so that means that immutability will NOT change in value when you use them

Strings: are immutable meaning the value does not change when you use it even when you do things with the original string, it still dont change

Numbers: are immutable meaning that the value does not change when you use it so even if you do man on the number or setting a new variable won't change the original value of the number variable

**Objects**: can literally be ANYTHING so if i were to define myself in terms of JS obj I would say age, name, likesTo, doesntLikeTo, pets, traveledTo, etc. and these are a set of characteristic of mine and each specific characteristic is considered a property. So the object here is Me, @miggiegarciaDEV and the properties are my age, my name, what I like, what I don't like, and where I have traveled to, etc.

So each characteristic or property can do these four things:

- Add to it
- Change it
- Removed (with dot or bracket notation)
- Accessed

Alright, so we are gonna partake in a quick little show and perform through this object real quick aka we are iterating through the object. How shall we do this performance aka iteration? No other than looping through the properties aka my characteristics.

So that means that you can use loops to perform or find you way through the objects, but there is more.... And that is doing a `forEach()` method to the dot notation.

**Arrays**: ever feel like you're doing too much and want to store all that stuff somewhere? Look no further than an array. You can use an array to create and put in a list of multiple items in a single variable kind of like into a closet.

One way that an array is very useful is when you want to get to a collection of data by their numerical position in the list aka an ordered collection.

You can also store all type things in an array like booleans (T/F value), numbers (5,8,-4) strings ('hello world'), objects and or even.. Get this ... another array!

With an array you can also manipulate it similar to how we do we objects:

- Add items to it
- Remove items from it
- Access the items in it

For counting items (or accessing) within the array we are going to be using zero-based indexing, kind of like the elevators in Paris which start at zero (0) and not one (1). So that means that item 1 is in position zero and item 2 is in position 1 if the array reads :  
`var array = [item1, item2, item3, ...]`

To remove items from the array you can push it out, pop it out, unshift or shift it.

- `push()` - adds items at the end
- `pop()` - takes away the last item
- `unshift()` - adds items at the beginning
- `shift()` - takes away the first item

To iterate through the array you can use a loop so don't forget we said we are performing at a show during a loop to iterate through it and the most standard way to do this is with the for loop or the for..of loop or my fave the `forEach()` method.

To iterate through an object or an array you can always start with a loop if you want.