Array

Justin Besteman

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Synopsis

Arrays are a foundation of programming and are found in most major programming languages.

Why

What a coder can do with arrays, they can do with variables. So why use learn arrays?
Because arrays allow how to make list of variables which can be vastly easier to use and code with.
Variable are good to use when you have allow a few things to store and don't warrent list of variable.
With a car mpg, that would be a just a single variable but want how the names of cars.
Do you want to sit there and type var car1 = "", var car2 = "" and so?

Syntax

Just like I think of my wife, I think "glorious" and when you thnk of arrays think "square brackets"

```
1   var array = [];
```

This array is empty and holds nothing.
The content of the array is always (always!!!) enclosed in [ ]; A array can

hold all types of data that a variable can.

So integer, float(decimals), strings, booleans, and it can hold variables themselves

A coder adds the comma, , ,(yes that is a comma enclosed by commas) to delimit the data inside the array

```
1  var number = [1 , 2 , 3 , 4 , 5];
```

To access the data inside the array, a coder usings

```
1  var number = [1 , 2 , 3 , 4 , 5];
2
3  number[0];
```

So a coder can put any number or variable of a number inside the square brackets.

Advanced

Very Important!!! In 99.7% of coding languages, an array starts counting at 0 and not a 1

```
1  var greet = ["Hi","Bye","Hello","Goodbye"];
```

So if a coder wants to access the data of "Hi", it **not one**, it is zero

The technical word for the number that stores the data is **index**

Examples

```
1
2  // -------------------- Example 1 -----------------
3
4  var car = ["chevy" , "ford", "honda"];
5
6  // -------------------- Example 2 -----------------
7
8  var test = [true , true , false , true, false, false];
9
10 // -------------------- Example 3 -----------------
11
12 //    index     0      1       3        4
13 var greet = ["Hi","Bye","Hello","Goodbye"];
```

```
14
15 greet[0]; // "Hi"
16 greet[1]; // "Bye"
17 greet[2]; // "Hello"
18 greet[3]; // "Goodbye"
19
20 // -------------------- Example 5 ----------------
21
22 var number = 3;
23
24 greet[number]; // "Hello"
25
26 // -------------------- Example 6 ----------------
27
28 var number = 3;
29
30 var greeting = greet[number]; // "Hello"
31
32 // Now greeting is a variable that is set equal to greet
       index 3 which,
33 // Is "Hello"
```