



Leveling up our Javascript

Arrays

```
var cities = ['RNO', 'LAS', 'NYC'];
```

```
var testScores = [70, 80, 90, 100];
```

Using an Index

```
var cities = ['RNO', 'LAS', 'NYC'];
```

0

1

2

```
cities[0] // RNO
```

```
cities[1] // LAS
```

```
cities[2] // NYC
```

Strings are arrays of characters

```
var name = 'Colin';  
          01234
```

```
name[0] // c  
name[1] // o  
name[2] // l
```

Access & Assignment

Creating an empty array named 'cities'

```
var cities = [];  
  
cities[0] = 'Reno';  
cities[1] = 'Las Vegas';  
console.log(cities);
```

```
> [ 'Reno', 'Las Vegas' ]
```

```
console.log(cities[0]);
```

```
> Reno
```

array.push()

Let's create an empty array of names.

```
var names = [];
```

We can use **push** to add something to the end of the array.

```
names.push('Colin');
```

```
names.push('Josh');
```

```
console.log(names);
```

```
> [ 'Colin', 'Josh' ]
```

array.pop()

We can use **pop** to remove the last item from the array and return it to the caller.

```
var myFish = ['angel', 'clown', 'mandarin',  
              'sturgeon'];
```

```
var popped = myFish.pop();
```


array.pop()

```
var myFish = ['angel', 'clown', 'mandarin',  
              'sturgeon'];
```

```
console.log(myFish);  
// ['angel', 'clown', 'mandarin', 'sturgeon']
```

```
var popped = myFish.pop();
```

```
console.log(myFish);  
// ['angel', 'clown', 'mandarin']
```

```
console.log(popped);  
// 'sturgeon'
```

Useful Array Methods

```
var cities = ['RNO', 'LAS', 'NYC'];
```

```
cities.sort();
```

```
cities.length;
```

```
cities.indexOf('LAS');
```

indexOf

```
var cities = ['RNO', 'LAS', 'NYC'];
```

```
if(cities.indexOf('LAS') === -1) {  
    console.log('City does not exist');  
} else {  
    console.log('That city exists');  
}
```

Using Arrays

```
var cities = ['RNO', 'LAS', 'NYC'];
```

```
var i = 0;  
cities[i];    // ??
```

```
cities[1];    // ??
```

```
cities.pop(); // ??
```

```
cities.length; // ??
```

Iteration

For Loop

```
for(var i = 0; i < 10; i++) {  
    // your code here  
    console.log(i);  
}
```

For Loop & Arrays

```
var cities = ['RNO', 'LAS', 'NYC'];  
  
for(var i = 0; i < cities.length; i++) {  
    console.log(cities[i]);  
}
```

While Loop

```
while (condition) {  
    //code block to be executed  
}
```


While Loop + Arrays

```
var cities = ['RNO', 'LAS', 'NYC'];
```

```
var i = 0;  
while (i < cities.length) {  
    console.log(cities[i]);  
    i++;  
}
```

Objects

Let's create an empty object.

```
var flightBooking = {};
```

Object Properties

```
var flightBooking = {  
  departingCity : 'RNO',  
  destinationCity : 'LAS',  
  price : 79.00  
}
```

```
var flightBooking = {  
  'departingCity' : 'RNO',  
  'destinationCity' : 'LAS',  
  'price' : 79.00  
}
```

Property Assignment

```
var flightBooking = {};
```

```
flightBooking['destinationCity'] = 'RNO';
```

```
flightBooking.destinationCity = 'RNO';
```

Accessing Properties

```
var cityAirportCodes = {  
  'RNO' : 'Reno',  
  'LAS' : 'Las Vegas',  
  'SFO' : 'San Francisco'  
};
```

```
console.log(cityAirportCodes['RNO']);
```

```
console.log(cityAirportCodes['LAS']);
```

Using a Variable

```
var cityAirportCodes = {  
  'RNO' : 'Reno',  
  'LAS' : 'Las Vegas',  
  'SFO' : 'San Francisco'  
};
```

```
var destinationCity = 'RNO';
```

```
console.log(cityAirportCodes[destinationCity]);
```

Property Values

```
var ourCar = {  
  make: 'Toyota',  
  model: '4Runner',  
  features: ['power windows', 'wifi', 'gps'],  
  style: { color: 'green', racingStrip: false }  
};
```

Array of Objects

```
var cars = [  
  { make: 'Toyota', model: '4Runner' },  
  { make: 'Tesla', model: 'S' },  
  { make: 'Subaru', model: 'Forester' },  
];
```


Accessing objects in arrays

```
var cars = [  
  { make: 'Toyota', model: '4Runner' },  
  { make: 'Tesla', model: 'S' },  
  { make: 'Subaru', model: 'Forester' },  
];
```

```
console.log(cars[0].make);
```

```
console.log(cars[1]['model']);
```

```
cars[2].model = 'Outback';
```

array.join()

```
var words = ['Hello', 'World!'];
```

```
var sentence = words.join(' ');
```

```
console.log(sentence);
```

```
> 'Hello World!'
```

Object Methods

```
var ourCar = {  
  make: 'Toyota',  
  model: '4Runner',  
  features: ['power windows', 'wifi', 'gps'],  
  style: { color: 'green', racingStrip: false },  
  start : function() {  
    console.log('Started car');  
  }  
};  
  
ourCar.start();
```

Another way to write functions

```
var start = function() {  
    console.log('start car');  
};  
  
start();
```

Arguments Keyword

```
var addTwo = function(num1, num2) {  
    return num1 + num2;  
}
```

Arguments Keyword

```
var add = function() {  
    console.log(arguments);  
}
```

```
var add = function() {  
    var sum = 0;  
    for(var i = 0; i < arguments.length; i++) {  
        sum += arguments[i];  
    }  
    return sum;  
}
```

More Helpful Methods & Operators

`array.join();`

`array.split();`

`% modulus`

array.split()

```
var sentence = 'Hello World!';
```

```
var words = sentence.split(' ');
```

```
console.log(words);
```

```
> ['Hello', 'World!']
```


modulus operator %

```
if( 10 % 2 ) {  
    console.log( 'Even number' );  
else {  
    console.log( 'Odd number' );  
}
```