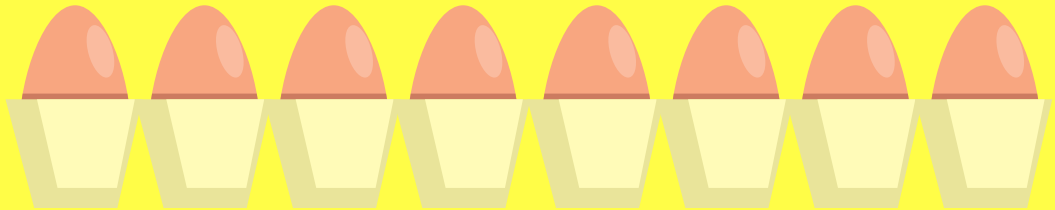
Web Developer Bootcamp

JS Arrays

OUR FIRST DATA STRUCTURE



ARRAYS

Ordered collections of values.

- List of comments on IG post
- Collection of levels in a game
- Songs in a playlist

Creating Arrays

```
// To make an empty array
let students = [];

//An array of strings
let colors = ['red', 'orange', 'yellow'];

//An array of numbers
let lottoNums = [19,22,56,12,51];

//A mixed array
let stuff = [true, 68, 'cat', null];
```

ARRAYS ARE INDEXED

Each element has a corresponding index (counting starts at 0)

Arrays Are Indexed

```
let colors = ['red', 'orange', 'yellow', 'green'];

colors.length //4

colors[0] //'red'
colors[1] //'orange'
colors[2] //'yellow'
colors[3] //'green'
colors[4] //'undefined'
```

Modifying Arrays

```
let colors = ['rad','orange','green','yellow'];

colors[0] = 'red';

colors[2] = 'yellow';
colors[3] = 'green';

colors[4]; //undefined
colors[4] = 'blue';
//["red", "orange", "yellow", "green", "blue"]
```

ARRAY METHODS

Push - add to end

Pop - remove from end

Shift - remove from start

Unshift - add to start

YOU'LL GET USED TO THE NAMES EVENTUALLY!

MORE METHODS

concat - merge arrays
includes - look for a value
indexOf - just like string.indexOf
join - creates a string from an array
reverse - reverses an array
slice - copies a portion on an array
splice - removes/replaces elements
sort - sorts an array

CONST AND ARRAYS

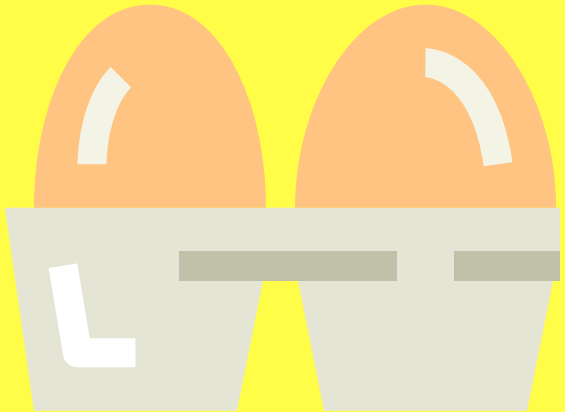
WHY DO PEOPLE USE CONST WITH ARRAYS??

THE VALUES CAN CHANGE

AS LONG AS THE REFERENCE REMAINS THE SAME

```
const myEggs = ['brown', 'brown'];
```

myEggs ⟶



THE VALUES CAN CHANGE

AS LONG AS THE REFERENCE REMAINS THE SAME

```
const myEggs = ['brown', 'brown'];
myEggs.push('purple');
```

myEggs ⟶

THE VALUES CAN CHANGE

AS LONG AS THE REFERENCE REMAINS THE SAME

```
const myEggs = ['brown', 'brown'];
myEggs.push('purple');
myEggs[0] = 'green';
```

myEggs ⟶

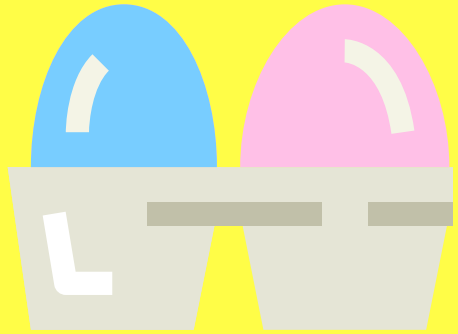
THE VALUES CAN CHANGE

AS LONG AS THE REFERENCE REMAINS THE SAME

```
const myEggs = ['brown', 'brown'];
myEggs.push('purple');
myEggs[0] = 'green';

myEggs = ['blue', 'pink']; //NO!
```

myEggs



```
▶Uncaught TypeError: Assignment
to constant variable.
```

NESTED ARRAYS

We can store arrays inside other arrays!

```
const colors = [
  ['red', 'crimson'],
  ['orange', 'dark orange'],
  ['yellow', 'golden rod'],
  ['green', 'olive'],
  ['blue', 'navy blue'],
  ['purple', 'orchid']
]
```

NESTED ARRAYS

```
const board = [
  ['O', null, 'X'],
  [null,'X', 'O'],
  ['X', 'O', null]
]
```