Springboard

filter

js-array-methods-filter-demo.zip 1.6KB

Goals

- Understand what filter does
- Write your own filter function

filter

- Creates a new array
- Loops through an array
- Runs a callback function on each value in the array
- If the callback function returns true, that value is pushed to the new array
- If the callback function returns false, that value will not be included in the new array
- the result of the callback will always be evaluated into a boolean

An Example

```
let letters = ["a", "b", "c", "b", "c"];
letters.filter(function(value, index, array){ return value ===
"b"; }); // ["b", "b"]
```

Another Example

```
let friends = [ { name: "Amanda" }, { name: "Tommy" }, { name:
"Nathan" }, { name: "Pat" } ]; friends.filter(function(value,
index, array){ return value.name.includes("n") }); // [{name:
"Amanda"},{name: "Nathan"}];
```

How Does It Work?

```
function filter(array, callback){ let newArray = []; for(let i
= 0; i < array.length; i++){ if(callback(array[i], i, array)){
newArray.push(array[i]); } } return newArray; }
```

- Creates a new array
- Iterates through an array
- Runs a callback function on each value in the array
- If the callback function returns true, that value will be added to the new array
- If the callback function returns false, that value will be ignored from the new array

Using Filter In A Function

```
function fourOrLessNames(names){ return
names.filter(function(value){ return value.length <= 4; }); }
fourOrLessNames(['Fido', 'Blue', 'Rascal']); // ['Fido',
'Blue']
```

```
function onlyInstructors(arr) { return
arr.filter(function(value) { return arr.isInstructor; }); }
onlyInstructors([ { name: "Colt", isInstructor: true }, { name:
"Beth", isInstructor: false }, { name: "Daniel" } ]); //
[{name: "Colt", isInstructor: true}]
```

When You Would Use Filter

- You want to “transform” an array into another array of the same length or smaller length depending on a condition
- You want to see how many elements in an array satisfy a certain condition
- You do not want to modify the existing array you are filtering

Recap

- filter creates a new array
- filter runs a callback on each value
- if the result of the callback returns true, that value is added to the new array