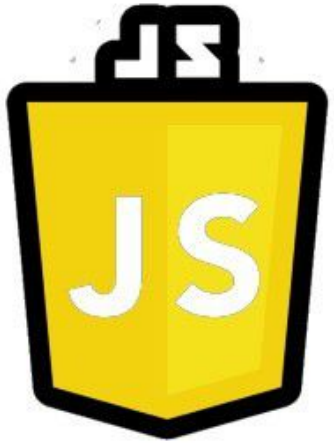
JavaScript Array Methods Cheat Sheet



PART TWO

JS

Higher-order array methods in JavaScript

Array methods what is a higher-order function?

A higher-order function is a function that accepts functions as arguments, and/or returns a function. So, higher-order functions are functions that operate on other functions.

In JavaScript, these methods are shared between array instances via prototypal inheritance from Array.prototype.

JS

Array.prototype.forEach

Find the last index that contains a certain value (searches from right to left):

```
let numbers = [1, 2, 3, 4]

numbers.forEach(n => console.log(n))
// 1
// 2
// 3
// 4
```

Array.prototype.map

Find the last index that contains a certain value (searches from right to left):

```
let numbers = [1, 2, 3, 4]

// Double all numbers
let doubledNumbers = numbers.map(n => n * 2) // [2, 4, 6, 8]

// Only double numbers at odd indexes
let doubledOddIndexNumbers = numbers.map((n, i) => {
  if (i % 2 === 1) return n * 2
  else return n
}) // [1, 4, 3, 8]
```

JS

Array.prototype.filter

The filter method is used to filter out array elements that fail a boolean test. Only elements that pass the test are allowed through into the new return array.

```
let cities = [
  { name: "Stokington", rivers: 3 },
  { name: "Phillydelfia", rivers: 6 },
  { name: "New Ports", rivers: 2 },
]

let moreThanTwoRivers = cities.filter(c => c.rivers > 2)
// [
//   { name: 'Stokington', rivers: 3 },
//   { name: 'Phillydelfia', rivers: 6 },
// ];
```

JS

Array.prototype.reduce

The reduce method runs the call-back function on each array element, and reduces the array down into a single value.

```
let numbers = [1, 2, 3, 4]

let total = numbers.reduce((total, currentNum) => total + currentNum) // 10
```

Array.prototype.some

The some method checks if some array values pass a test. It returns either true or false.

```
let numbers = [4, 6, 14, 16]


let isSomeGreaterThan6 = numbers.some(n => n > 6) // true
let isSomeLessThan4 = numbers.some(n => n < 4) // false
```

Array.prototype.every

every is similar to the some method, but checks if every value in the array passes a certain test, rather than just some.

```
let numbers = [4, 6, 14, 16]


let isEverythingGreaterThan6 = numbers.every(n => n > 6) // false
let isEverythingLessThan20 = numbers.some(n => n < 20) // true
```

Array.prototype.flat

The flat() method creates a new array with all sub-array elements concatenated into it recursively up to the specified depth.

```
let arr = [1, 2, 3, [1, 2], 4]

let flatArr = arr.flat() // [1, 2, 3, 1, 2, 4]
```

Array.prototype.find

The find method returns the first element in the array that passes a certain test.

```
let stock = [
  { item: "ketchup", quantity: 32 },
  { item: "mayo", quantity: 9 },
  { item: "hot sauce", quantity: 12 },
]

let mayo = stock.find(s => s.item === "mayo")
//  { item: 'mayo', quantity: 9 }
```

JS

Array.prototype.findIndex

Same as find, but returns the index instead of the value:

```
let stock = [
  { item: "ketchup", quantity: 32 },
  { item: "mayo", quantity: 9 },
  { item: "hot sauce", quantity: 12 },
]

let mayoIndex = stock.findIndex(s => s.item === "mayo")
//  1
```

Array.prototype.sort

sort puts an array's elements in ascending order. It is an "in-place" sorting algorithm - meaning that it mutates the original array and returns it.

By default, sort works on strings:

```
let names = ["Zoe", "Adam", "Dan"]

names.sort()

console.log(names) // ['Adam', 'Dan', 'Zoe']
```

JS

Array.prototype.sort

For numbers, we need to pass a comparison call-back function:

```
let numbers = [3, 1, 7, 2]

numbers.sort((a, b) => a - b)

console.log(numbers) // [1, 2, 3, 7]
```