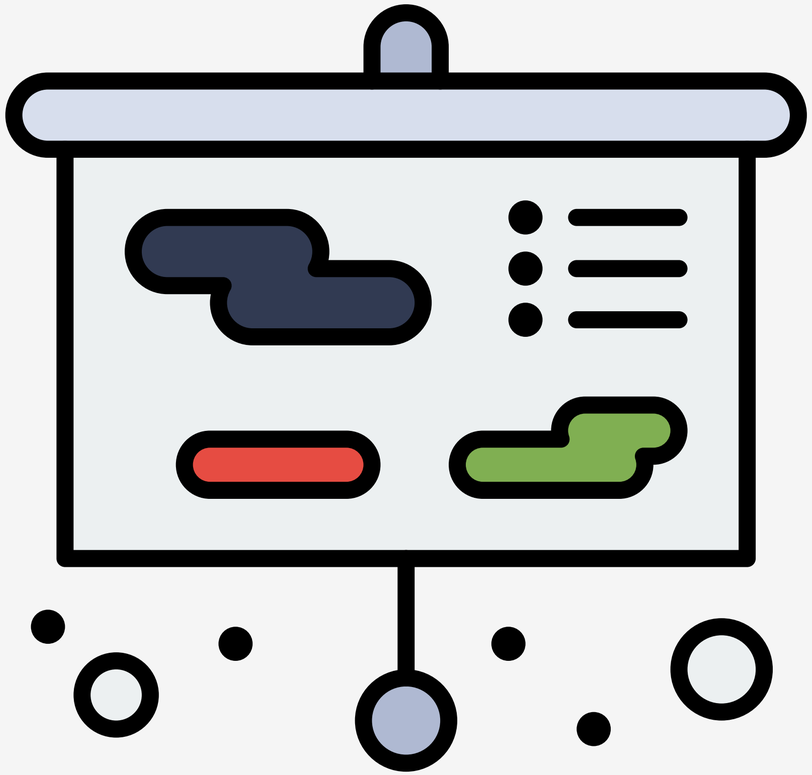
INTRODUCTION TO JAVASCRIPT

Lecture 11

TODAY'S TOPICS



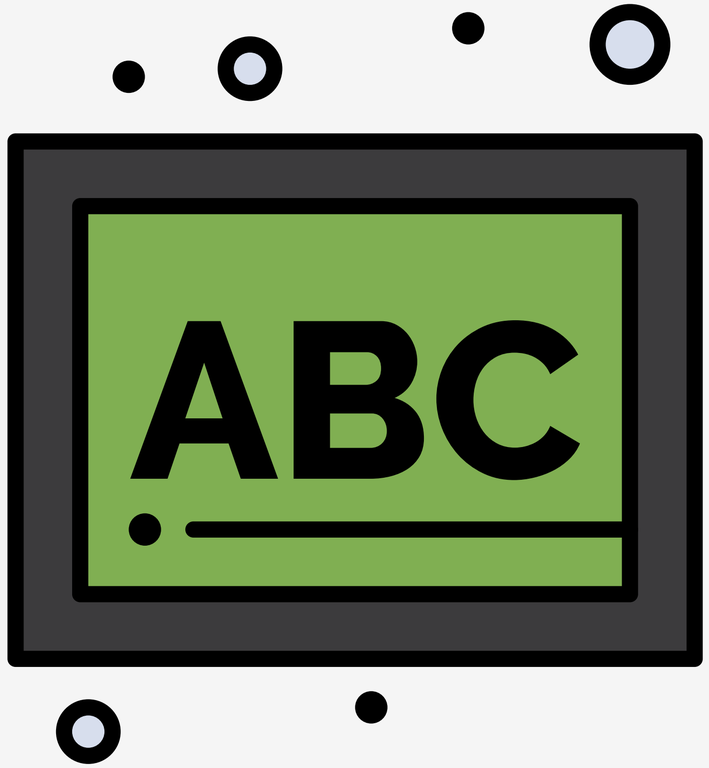
- String Methods
- Array Methods
- **Participation:** Complete Autocomplete

ANNOUNCEMENTS

- Sign-in Sheet
- Recordings
- Work Period on Friday

STRING METHODS

STRING METHODS

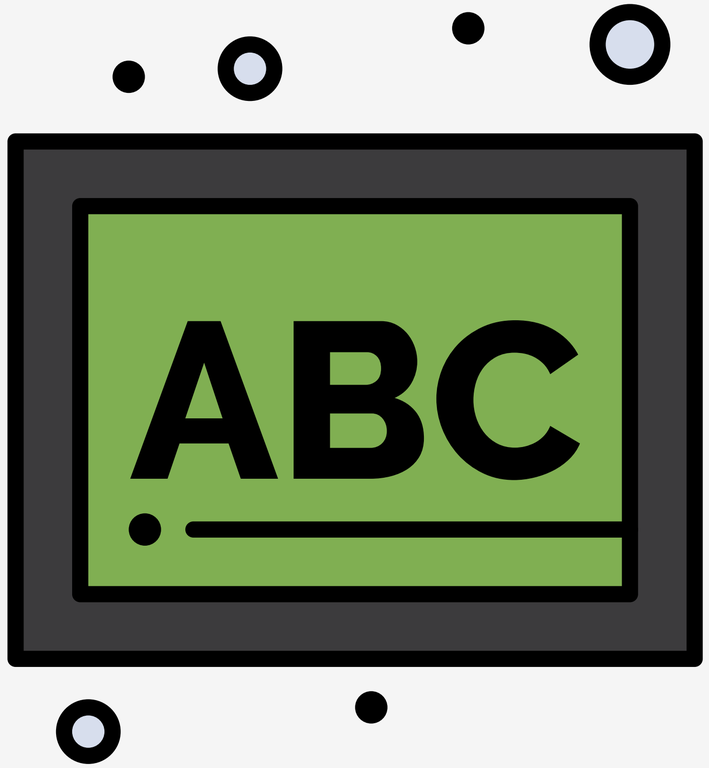


- String Methods can be used to manipulate strings:
  - `toLowerCase()`
  - `toUpperCase()`
  - `split()`

```
const greeting = 'Hello, World!'

// converts letters to lowercase
console.log(greeting.toLowerCase())
// 'hello, world!'

// converts letters to uppercase
console.log(greeting.toUpperCase())
// 'HELLO, WORLD!'

// The original string is unchanged
console.log(greeting) // 'Hello, World!'
```

```
const greeting = 'Hello, World!'

// splits string at each space
console.log(greeting.split(' '))
// ['Hello,', 'World!']
```

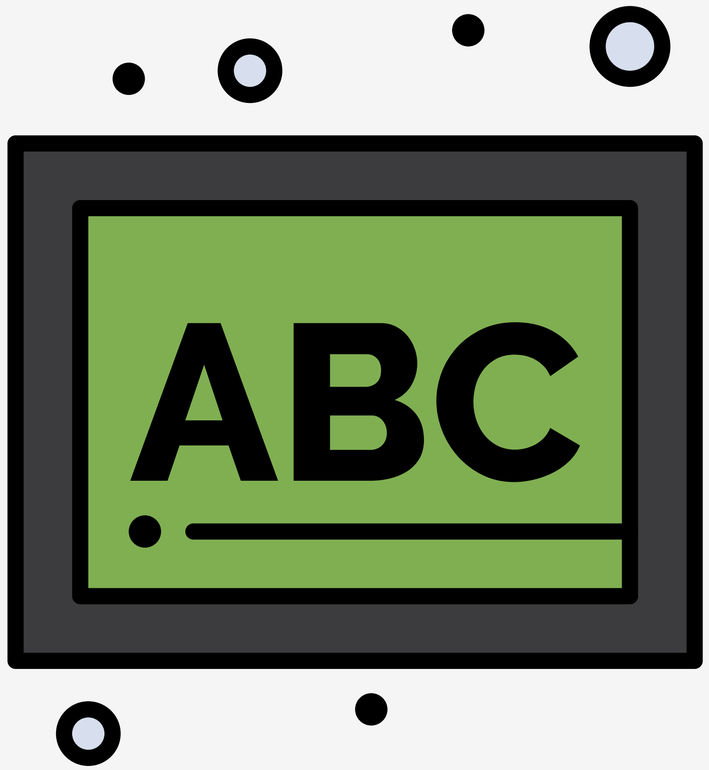
STRING METHODS



- String Methods can be used to search strings:
  - `indexOf()` / `lastIndexOf()`
  - `includes()`
  - `startsWith()` / `endsWith()`

```
const greeting = 'Hello, World!'

// get the index of 'World'
console.log(greeting.indexOf('World')) // 7

// get the index of 'Hi'
console.log(greeting.indexOf('Hi')) // -1

// check for 'World'
console.log(greeting.includes('World')) // true

// check for 'Hi'
console.log(greeting.includes('Hi')) // false
```

STRING METHODS

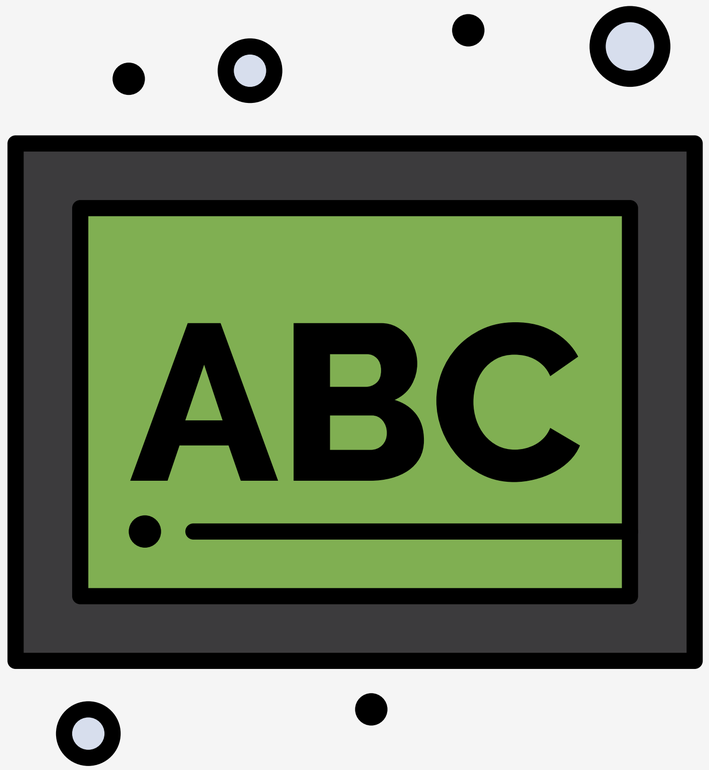


- String Methods can be used to get part of a string:
  - `substring()`
  - `slice()`

```
const greeting = 'Hello, World!'

// first index include, excludes the second
console.log(greeting.substring(0, 5)) // 'Hello'
console.log(greeting.slice(0, 5)) // 'Hello'

// if only one index, goes to the end
console.log(greeting.substring(7)) // 'World!'
console.log(greeting.slice(7)) // 'World!'
```

```
const greeting = 'Hello, World!'

// if first index is larger
// Swaps the indexes
console.log(greeting.substring(12, 7)) // 'World'
// Returns an empty string
console.log(greeting.slice(12, 7)) // ''

// if negative indexes
// Treated as 0
console.log(greeting.substring(-6, -1)) // ''
// work backwards from end
console.log(greeting.slice(-6, -1)) // 'World'
```

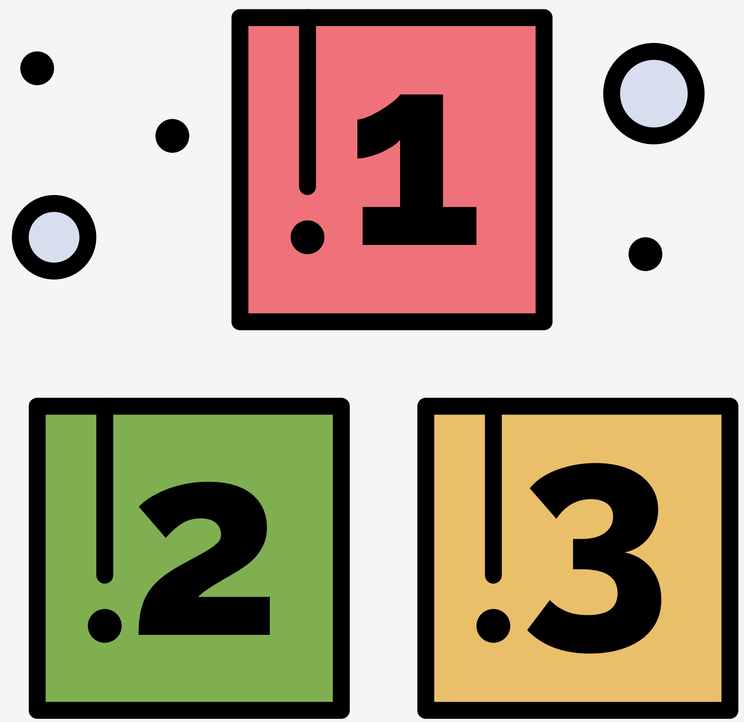
STRING METHODS



- Other String Methods
  - `concat()`
  - `repeat()`
  - `replace()`
  - `trim()`

ARRAY METHODS

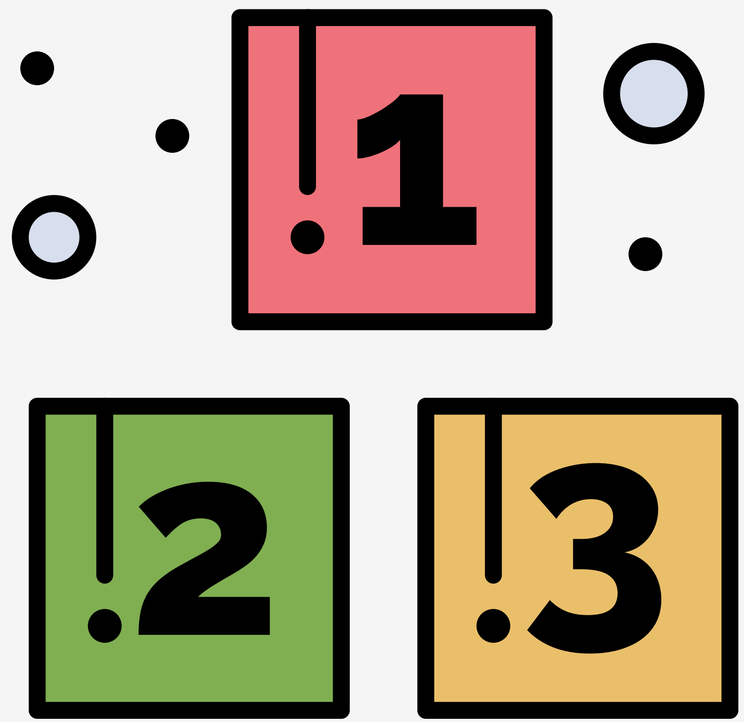
ARRAY METHODS



- Array Methods that are commonly used
  - `isArray()`
  - `join()`

```
const colors = ['blue', 'green', 'red']
const theme = {
  color: 'black',
  background: 'white'
}

console.log(Array.isArray(colors)) // true
console.log(Array.isArray(theme))  // false
```

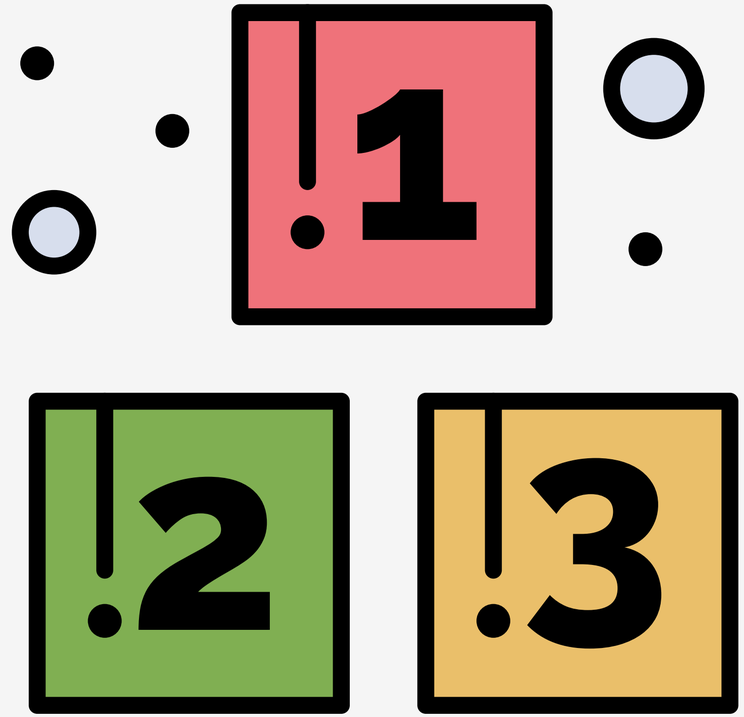
ARRAY METHODS



- Array Methods that search inside an array
  - `indexOf() / lastIndexOf()`
  - `includes()`

```
const colors = ['red', 'orange', 'red', 'purple']

console.log(colors.indexOf('purple'))  // 3
console.log(colors.indexOf('red'))     // 0
console.log(colors.indexOf('black'))   // -1

console.log(colors.includes('purple')) // true
console.log(colors.includes('red'))    // true
console.log(colors.includes('black'))  // false
```

ARRAY METHODS



- Array Methods that accept functions
  - `map()`
  - `filter()`
  - `reduce()`

```
const numbers = [1, 3, 5, 7]

const double = numbers.map(function (number) {
  return number * 2
})

console.log(double) // [2, 6, 10, 14]
```

```
const items = [
  'eggs',
  'milk',
  'bread'
]

const list = items.map(function (item) {
  return `<li>${item}</li>`
})
```

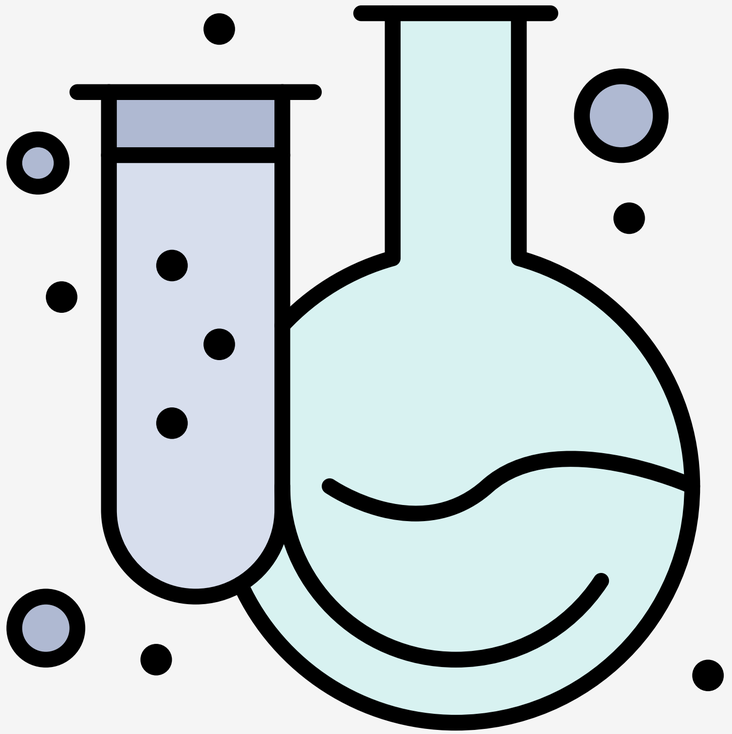
```
const numbers = [1, 2, 3, 4, 5]

const even = numbers.filter(function (number) {
  return number % 2 === 0
})

console.log(even) // [2, 4]
```

```
const names = [
  'John',
  'Ted',
  'Ed'
]

const search = names.filter(function (name) {
  return name.startsWith('T')
})

console.log(search) // ['Ted']
```

```
const numbers = [7, 13, 27, 45]

const sum = numbers.reduce(
  function (accumulator, number) {
    return accumulator + number
  }
)

console.log(sum) // 92
```

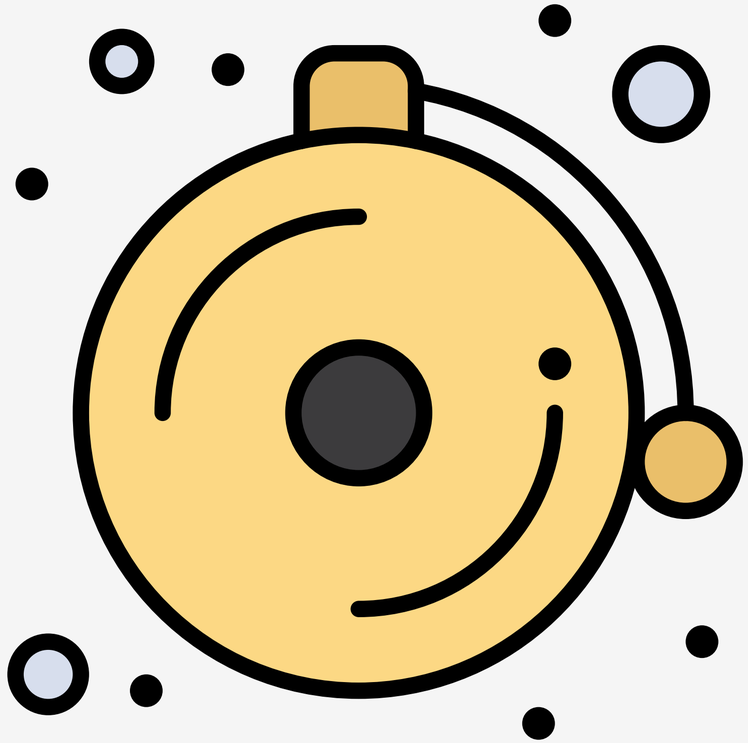
PRACTICE

COMPLETE AUTOCOMPLETE



- *FORK THE PEN!*
- Use string and array methods to complete the autocomplete functionality
- Test the autocomplete by typing into the textbox
- Submit the URL to your pen
- *DUE:* **Thu. Oct. 17 @ 11:59 PM**

NEXT TIME...



- Work Period on Friday

- DOM Manipulation
- Exercise: Jeopardy