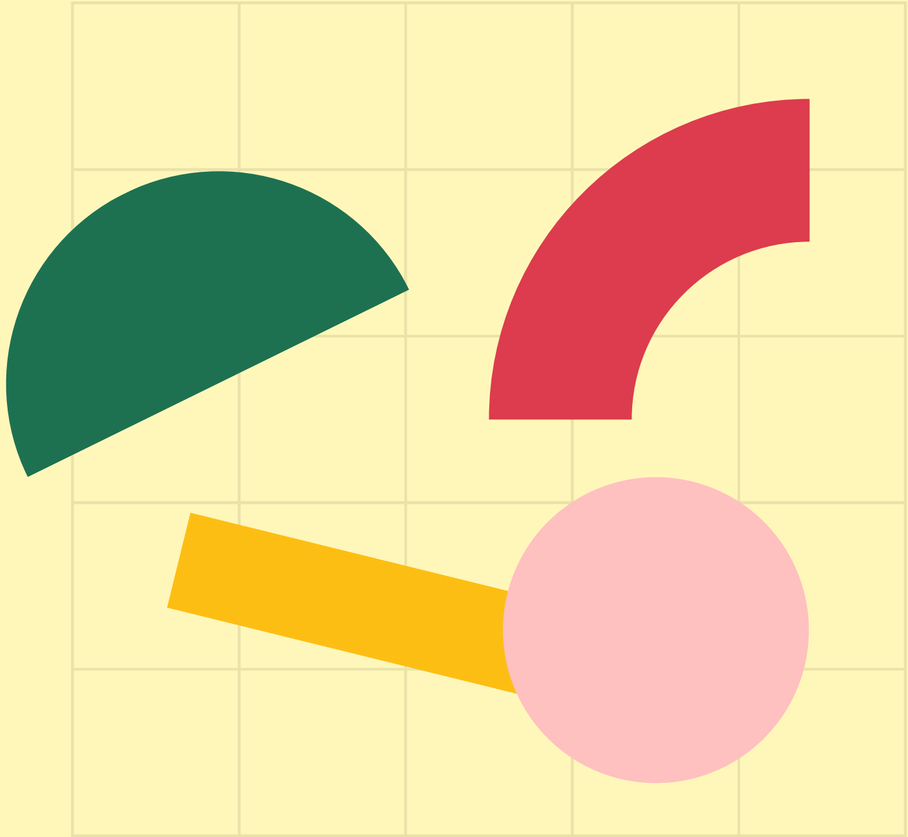
JavaScript Strings and More

Course for Beginners

Unit Goals

what we'll cover

- strings
  - methods
    - casing
    - trim
    - indexOf
    - slice
    - replace
  - escapes
  - template literals
- null & undefined
- Math object
- random numbers
- parseInt & parseFloat



STRINGS

"STRINGS OF CHARACTERS"

Strings are another primitive type in JavaScript. They represent text and must be wrapped in quotes.

STRINGS

"STRINGS OF CHARACTERS"

```
let firstName = "Ziggy";

let msg = "Please do not feed the chimps!";

let animal = 'Dumbo Octopus';

let bad = "this is wrong';
```

double quotes work

so do single quotes

this **does not work**

It's fine to use either single or double quotes, just be consistent in your codebase.

STRINGS ARE INDEXED

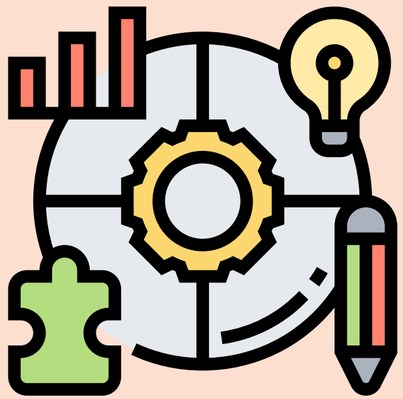
C	A	R
0	**1**	**2**

Each character has a corresponding index
(a positional number)

STIRNG METHODS

METHODS ARE BUILT-IN ACTIONS WE CAN PERFORM WITH INDIVIDUAL STRINGS

They help us do things like:
- searching within a string
- replacing part of a string
- changing the casing of a string



```
something.method()
```

CASING

```
let msg = 'I am king';
let yellMsg = msg.toUpperCase(); // 'I AM KING'

let angry = 'LeAvE mE aLoNe!';
angry.toLowerCase(); // 'leave me alone!'

//the value in angry is unchanged
angry; // 'LeAvE mE aLoNe!'
```

trim()

```
let greeting = '    leave me alone plz     ';

greeting.trim() // 'leave me alone plz'
```

`something.method(arg)`

Some methods accept arguments that modify their behavior. Think of them as inputs that we can pass in.
We pass these arguments inside of the parentheses.

indexOf(elem)

indexOf(searchElement)
indexOf(searchElement, fromIndex)

```
let tvShow = 'catdog';

tvShow.indexOf('cat'); // 0
tvShow.indexOf('dog'); // 3
tvShow.indexOf('z'); // -1 (not found)
```

slice()

```
slice()
slice(start)
slice(start, end)
```

```
let str = 'supercalifragilisticexpialidocious'

str.slice(0,5); //'super'

str.slice(5); // 'califragilisticexpialidocious'
```

replace

```
replace(regexp, newSubstr)
replace(regexp, replacerFunction)
replace(substr, newSubstr)
replace(substr, replacerFunction)
```

```
let laughter = 'hehee ioh ioh ioh! hehee!';
laughter.replace('hehee', 'haha'); //'haha ioh ioh ioh! hehee!'
//it replaces only the first instance
```

WHAT IS THE VALUE OF age?

```
const age = "5" + "4";
```

WHAT DOES THIS EVALUATE TO?

```
"pecan pie"[7]
```

WHAT IS THE VALUE OF song?

```
let song = "london calling";
song.toUpperCase();
```

WHAT IS THE VALUE OF cleanedInput?

```
let userInput = "  TODD@gmail.com";
let cleanedInput = userInput.trim().toLowerCase();
```

WHAT IS THE VALUE OF index?

```
let park = 'Yellowstone';
const index = park.indexOf('Stone');
```

WHAT IS THE VALUE OF index?

```
let yell = 'GO AWAY!!';
let index = yell.indexOf('!');
```

WHAT DOES THIS EVALUATE TO

```
'GARBAGE!'.slice(2).replace("B",'');
```

STRING ESCAPES

```
\n - newline
\' - single quote
\" - double quote
\\ - backslash
```

TEMPLATE LITERALS

VERY USEFUL!

```
`I counted ${3 + 4} sheep`;  // "I counted 7 sheep"
```

TEMPLATE LITERALS ARE STRINGS THAT ALLOW EMBEDDED EXPRESSIONS, WHICH WILL BE EVALUATED AND THEN TURNED INTO A RESULTING STRING.

WE USE BACK-TICKS* NOT SINGLE QUOTES

`I am a template literal`

*The back-tick key is usually above the tab key

TEMPLATE LITERALS

```
let item = 'cucumbers';
let price = 1.99;
let quantity = 4;

`You bought ${quantity} ${item}, total price: $${price*quantity}`;
//"You bought 4 cucumbers, total price: $7.96"
```

NULL & UNDEFINED

- null
  - "intentional absence of any value"
  - must be assigned
- undefined
  - variables that do not have anassigned value are undefined

NULL

```
1 // No one is logged in yet...
2 let loggedInUser = null;  //value is explicitly nothing
3
4 // A user logs in...
5 loggedInUser = 'Alan Rickman';
```

UNDEFINED

```
1 let pickles;  //We didn't assign a value
2 pickles; //undefined,
3 pickles = 'are very gross'
4
5 //Undefined also comes up in other situations:
6 let food = 'tacos';
7 food[7]; //undefined
```

MATH OBJECT

Contains properties and methods for mathematical constants and functions

```
Math.PI // 3.1415926535897 93

//Rounding a number:
Math.round(4.9) //5

//Absolute value:
Math.abs(-456) //456

//Raises 2 to the 5th power:
Math.pow(2,5) //32

//Removes decimal:
Math.floor(3.9999) //3
```

RANDOM NUMBERS

Math.random() gives us a random decimal between 0 and 1 (non-inclusive)

```
Math.random();
//0.14502435424141957
Math.random();
//0.8937425043112937
Math.random();
//0.9759952148727442
```

RANDOM INTEGERS

Let's generate random numbers between 1 and 10

```
const step1 = Math.random();
//0.5961104892810127
const step2 = step1 * 10
//5.961104892810127
const step3 = Math.floor(step2);
//5
const step4 = step3 + 1;
//6

Math.floor(Math.random() * 10) + 1;
```

parseInt & parseFloat

Use to parse strings into numbers, but watch out for NaN!

```
parseInt('24') //24
parseInt('24.987') //24
parseInt('28dayslater') //28

parseFloat('24.987') //24.987
parseFloat('7') //7
parseFloat('i ate 3 shramp') //NaN
```