

Nation Code

JavaScript Fundamentals

Dot Notation

{codenation}[®]

Learning Objectives

- To understand dot notation
- To understand different data types
- To use Code Pen to create simple programs, e.g. generate a random number



JavaScript

The language of the web

Full-stack

Not limited to websites

Facebook helps you connect and share with the people in your life.



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It's free and always will be.

Birthday

[Why do I need to provide my date of birth?](#)

☐ Female ☐ Male

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Welcome x



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Help

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Customize

Tools and languages

Install support for JavaScript, [TypeScript](#), Python, [PHP](#), [Azure](#), [Docker](#)...

Settings and keybindings

Install the settings and keyboard shortcuts of [Vim](#), Sublime, [Atom](#) an...

Color theme

Make the editor and your code look the way you love

Learn

Find and run all commands

Rapidly access and search commands from the Command Palette (...)

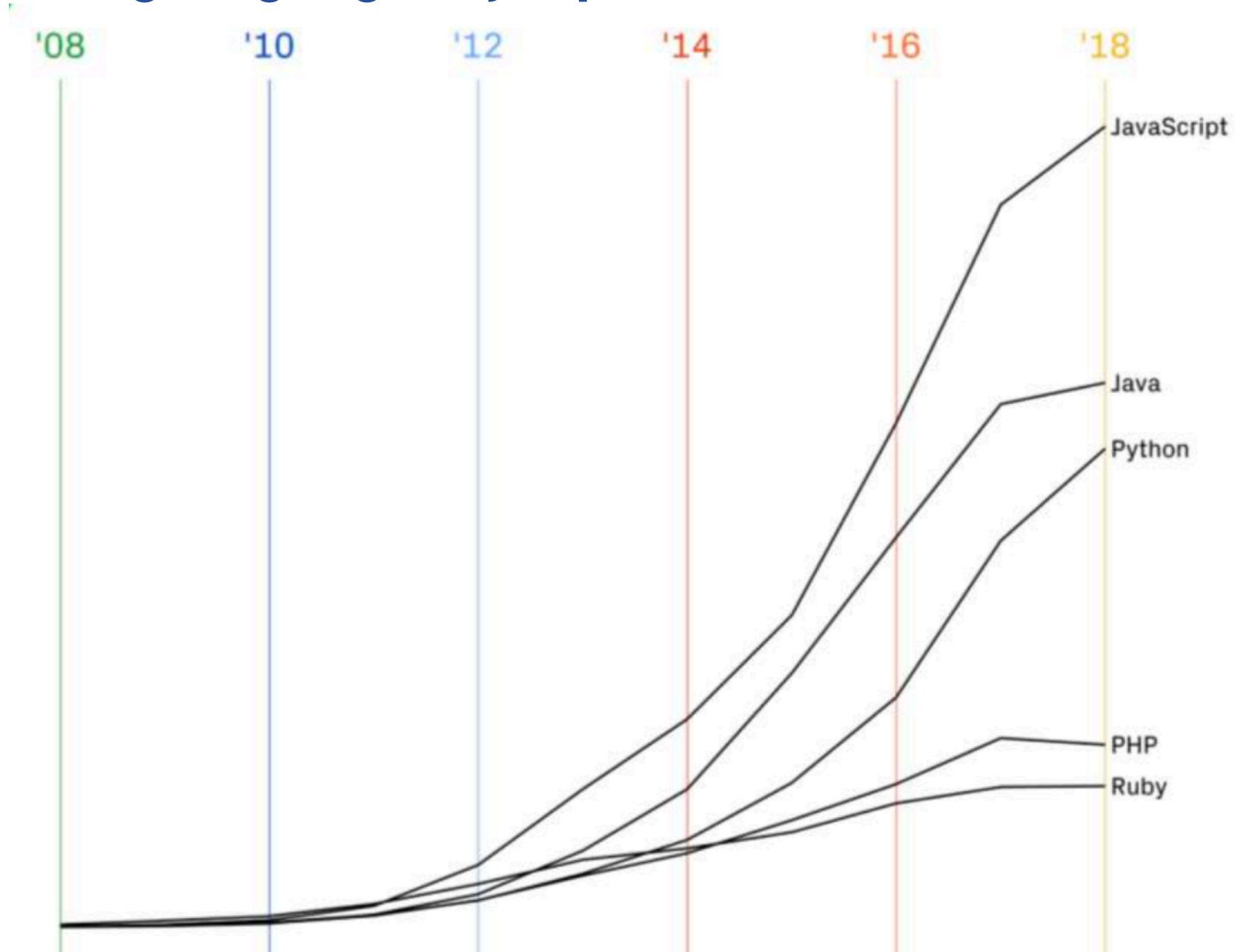
Interface overview

Get a visual overlay highlighting the major components of the UI

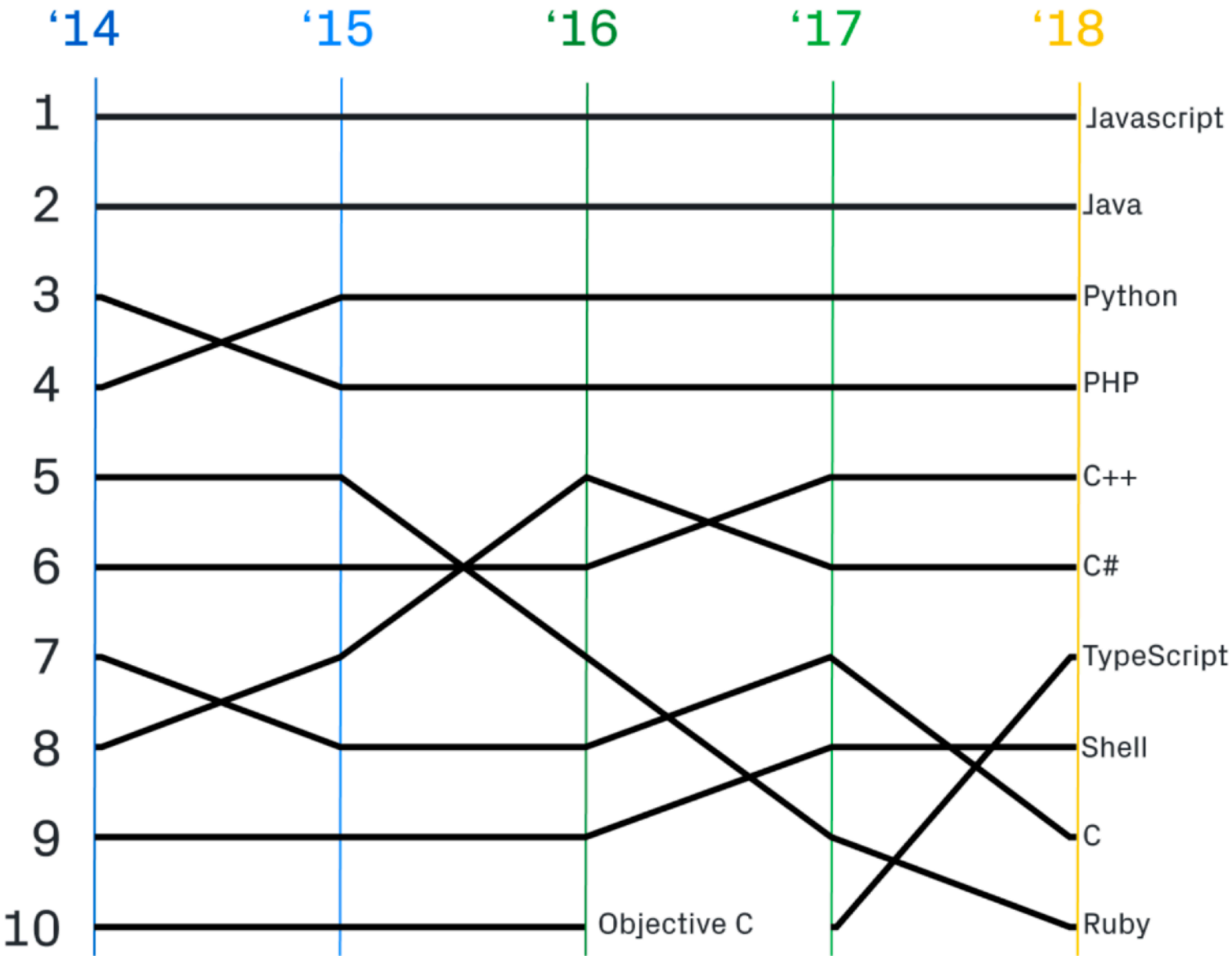


**It's also pretty much the most
popular language in the world**

Top programming languages by repositories created, 2008–2018 {Cn}[®]



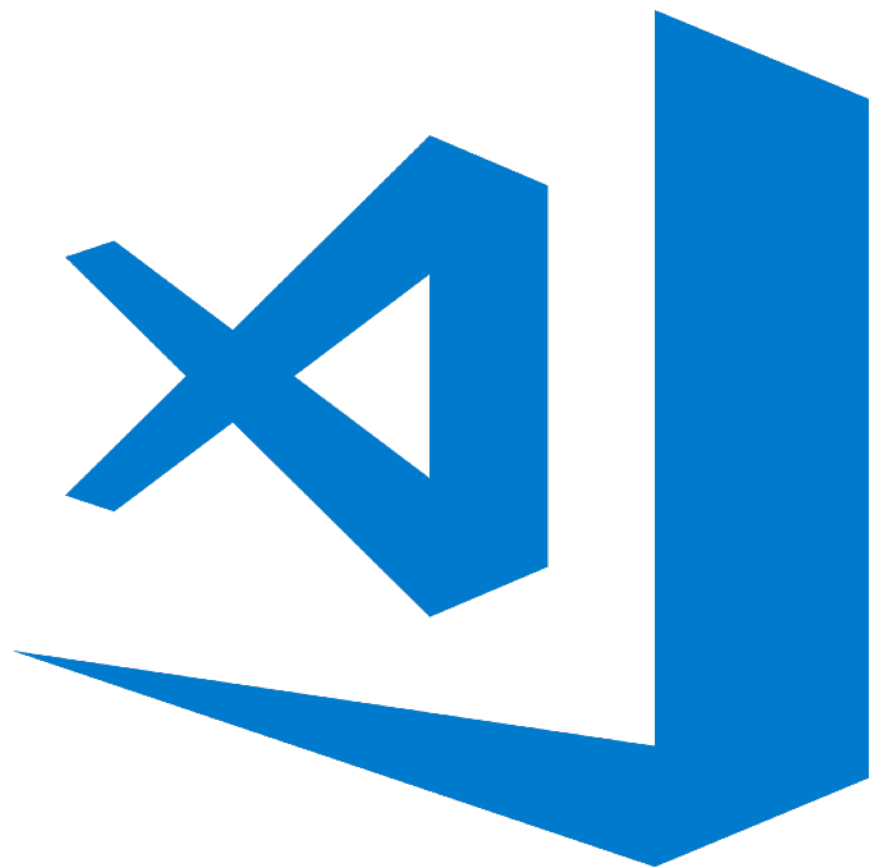
Rank of top programming languages over time



Too long; didn't read? A very good language to learn!

Using the console

um... what's a console?



To VS Code

A little tip

Copy anything

- Use the keys `command, c`

Paste

- Use the keys `command, v`

Undo

- Use the keys `command, z`

Save your work

- Use the keys `command, s`

Run the code

- Use the keys `^, fn, F5`
- Or type `node filename.js`

```
console.log("Hello");
```



JS hello.js



```
1 console.log("Hello");
```

TERMINAL



2: bash



```
Leonas-MacBook-Pro:demo leona$ node hello.js  
Hello
```

Dot notation

```
console.log(i);
```

Dot notation

```
console.log(i);
```

```
object.property
```

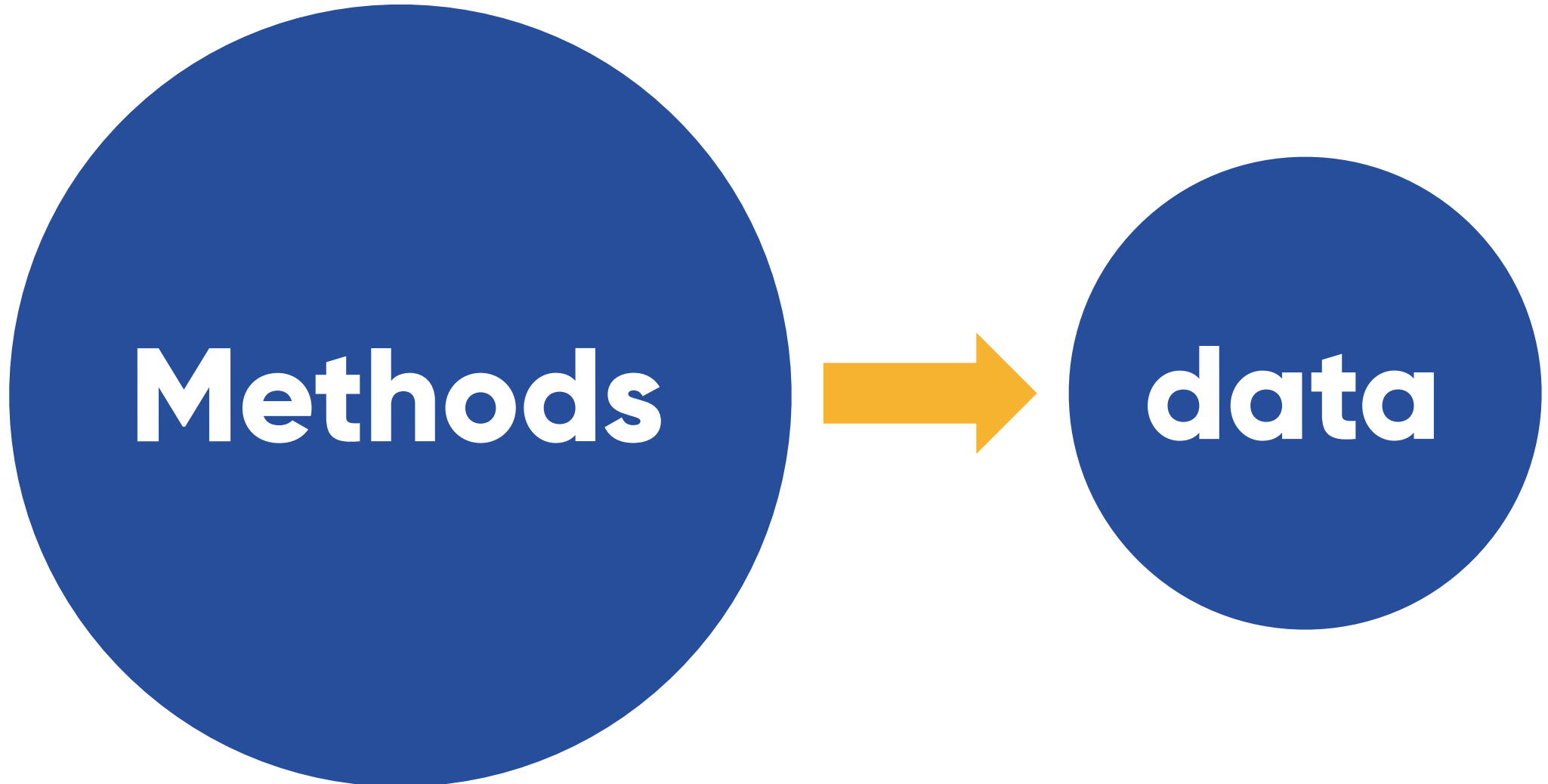


```
ceo . approvePayrise ( ) ;
```

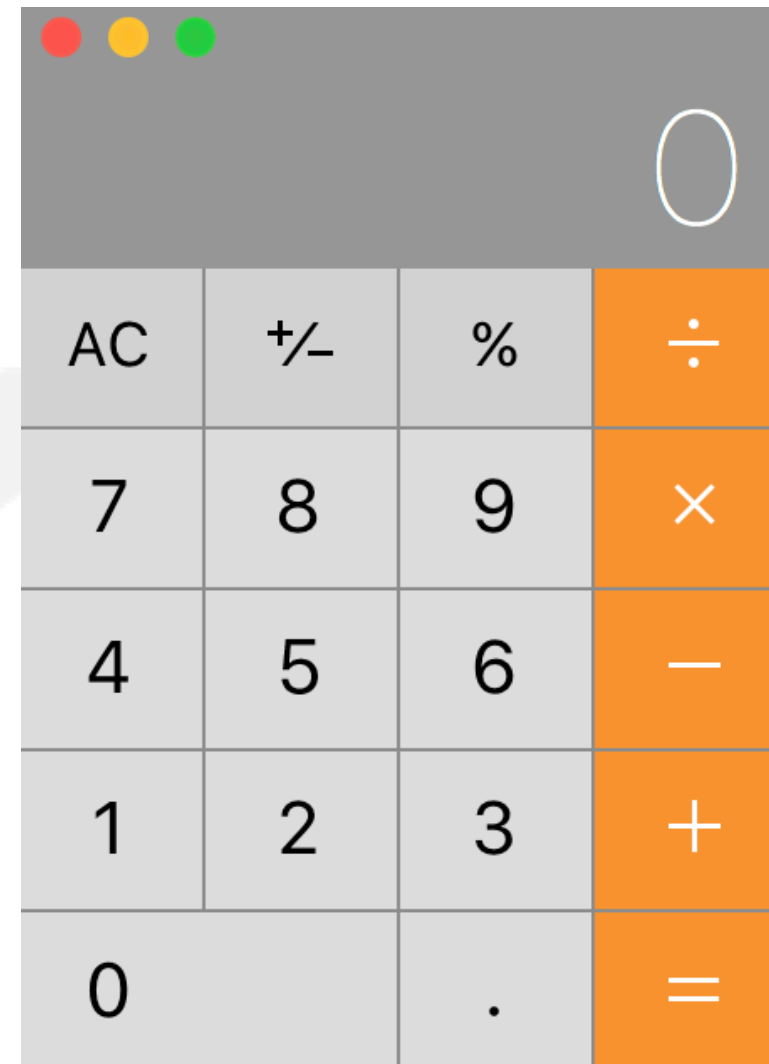
```
adam . makeTea ( ) ;
```

Everyone loves a bit of
data

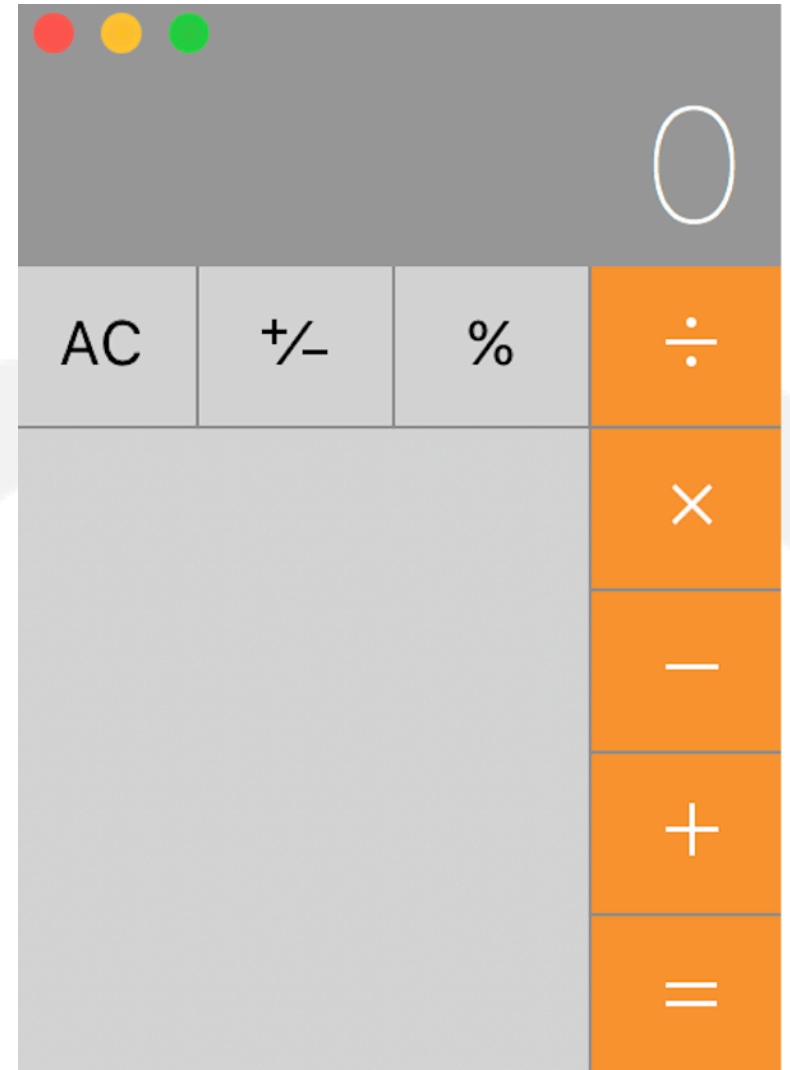
**If we break coding down to its
simplest and snappiest**



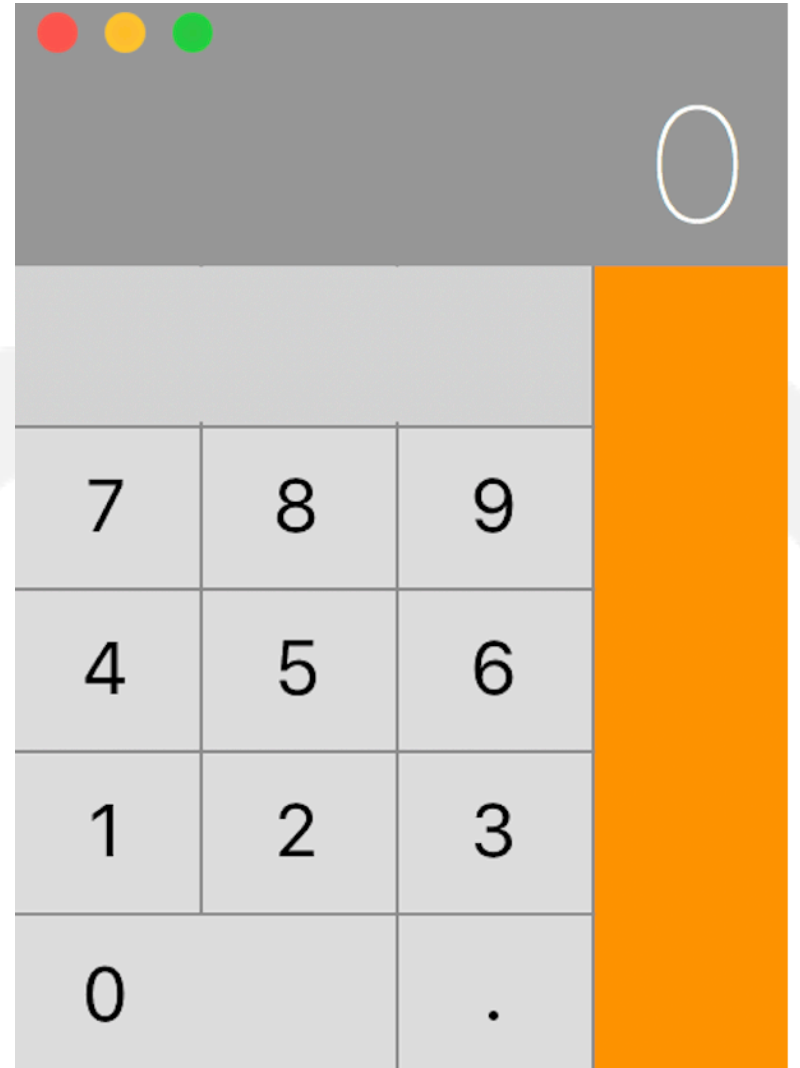
Everyone loves a calculator



**But how much
would you love
it if you took this
to your maths
exam?**



**Perhaps the
cruellest of
them all!**



**Methods and data
intimately linked**

Working with **data types**

Data types refers to the kind of data that we're asking the computer to work with

Working with data types

In JavaScript, we have a few simple (**primitive** is the technical posh word) kinds of data

These are :

String : for representing text

Number : for representing numbers (decimal and integers)

Boolean : for true and false

Null : for nothing

Undefined : for when a data type isn't determined

Symbol : This data type is used as the key for an object property when the property is intended to be private, for the internal use of a class or an object type

**Get on my
property**

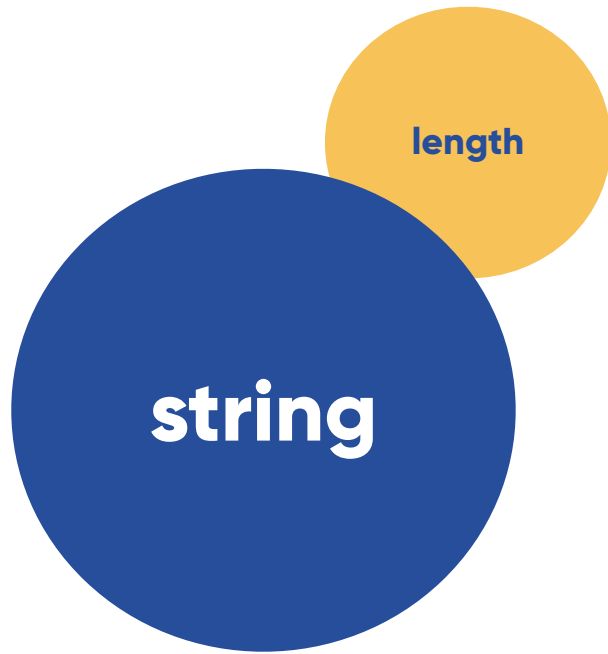
```
console.log("what data type am I?");
```

**Good stuff,
it is indeed a string**

In the bottom right area of the slide, there are three light gray decorative elements: a curved line segment, a vertical rounded rectangle, and another curved line segment, all partially visible.



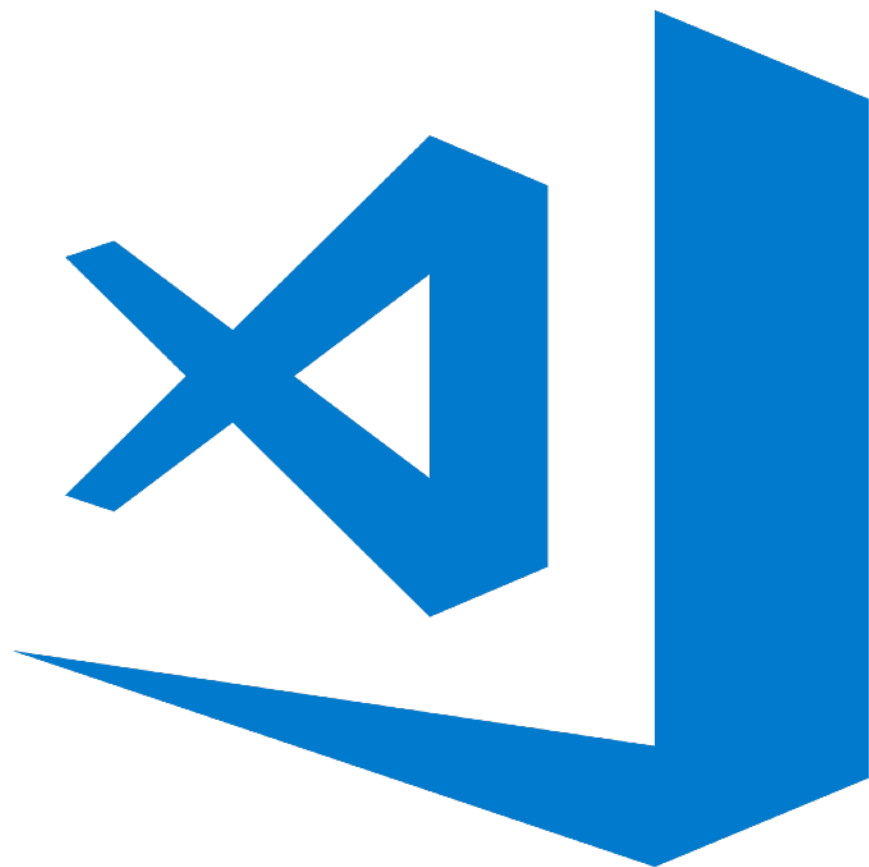
Properties



Strings have associated data or additional information available

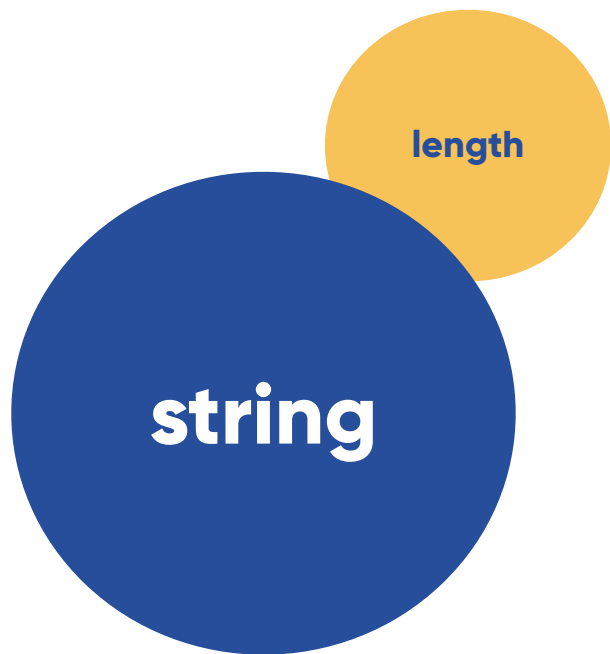
```
console.log("Hello");
```

How many letters does hello have?



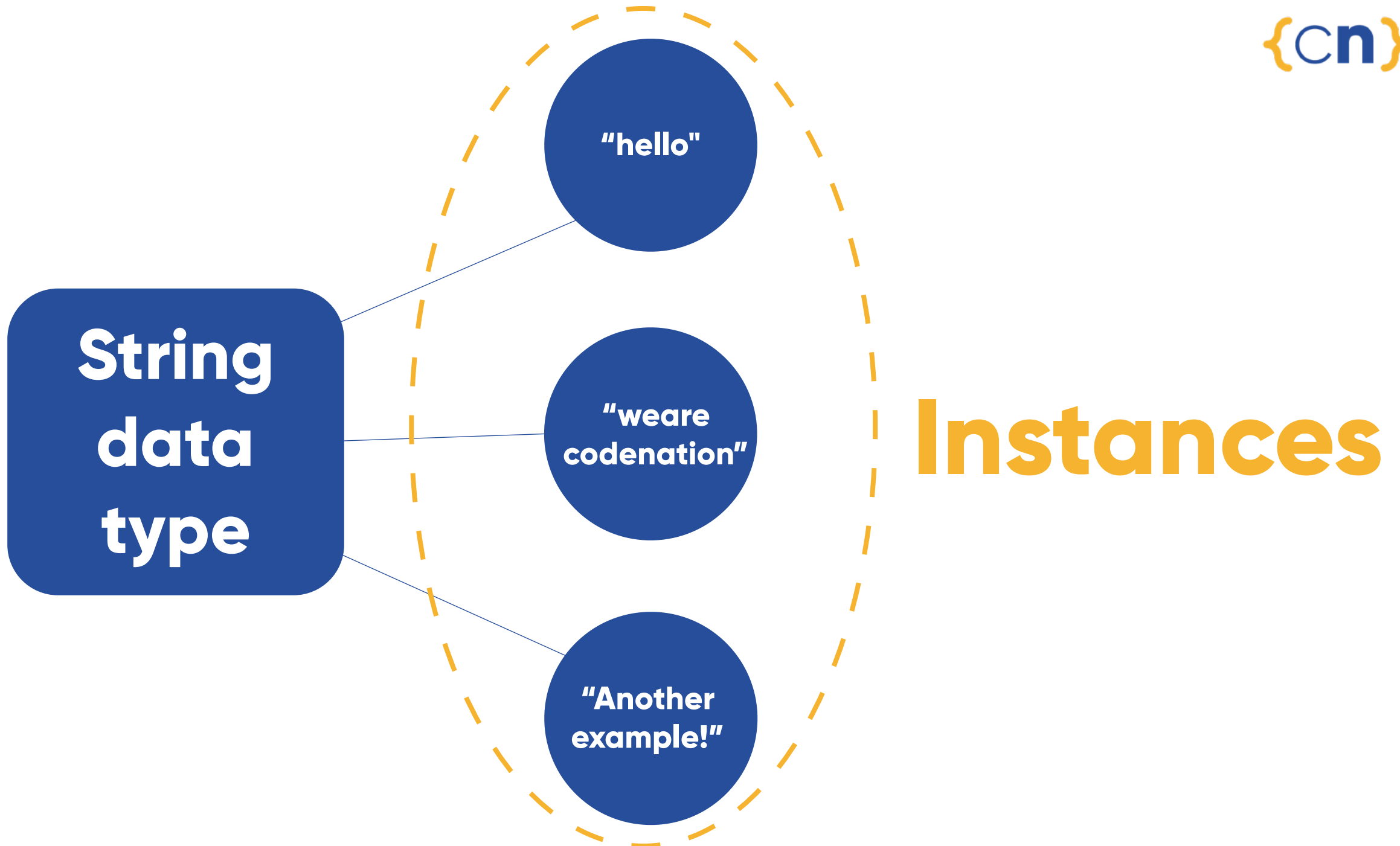
To VS Code


```
console.log("Hello".length);
```



Strings have associated data or linked data

```
console.log("Hello");
```



**These instances live in
the computer's memory
(Random Access Memory)**

Methods in the madness

Methods and data
intimately linked

**The built-in data
types have built-in
associated methods**

`toLowerCase()`

`length`

`string`

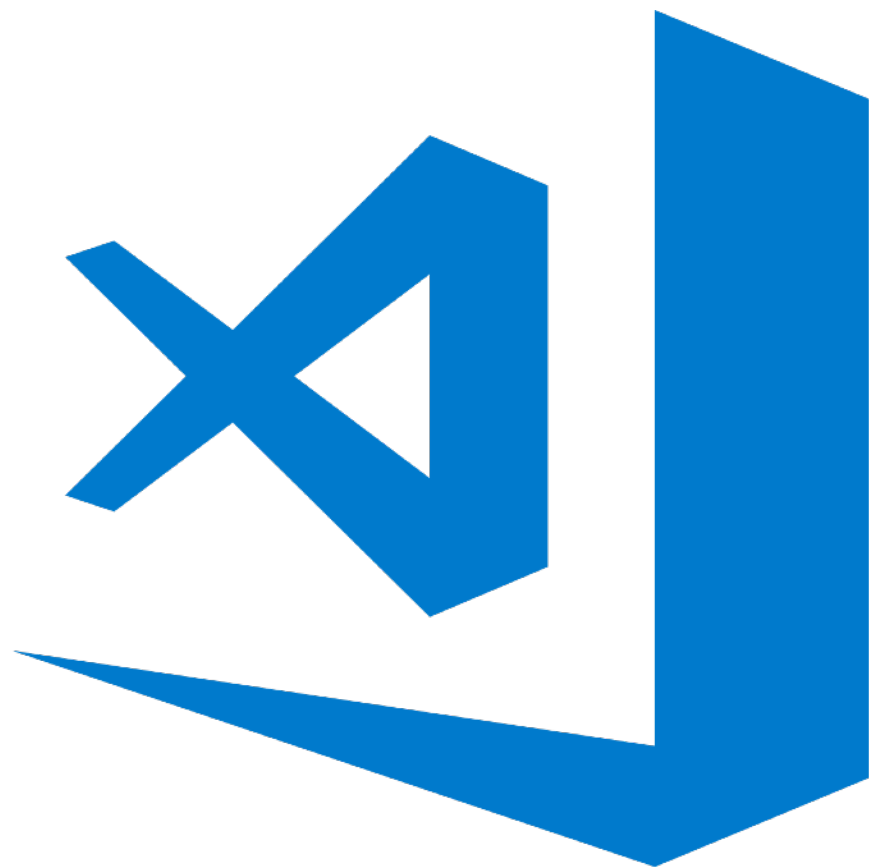
`trim()`

`toUpperCase()`

**Strings have
methods that we
can use to
manipulate them**

Methods let us do stuff!

Unlike properties, which are
essentially just information



To VS Code

```
console.log("hello".toUpperCase());
```

Ssh. Libraries

**In coding, libraries give us
access to a bunch of features
that we don't have to code
ourselves**

**So far, we've stuck to `console.log`
and... that's about it**

**Let's see the power of a library in action. A classic example :
generating a random number**

Dot notation

console.log();

Parameters

Dot notation

```
console.log("Hello");
```

Parameters

Give that a go. What happens?

Dot notation

```
console.log(Math.random());
```

Parameters

Give that a go. What happens?

Dot notation

```
console.log(Math.random());
```

Parameters

Generates a random number between 0-1 (0.1, 0.2 etc)

**Let's do that a
little better**

Dot notation

```
console.log(Math.random()*10);
```

Parameters

Give that a go. What happens?

Dot notation

```
console.log(Math.random()*10);
```

Parameters

Generates a random number between 0-10

So we're almost
there but it could
probably **still** be a
little better

Dot notation

```
console.log(Math.floor(Math.random()*10));
```

Parameters

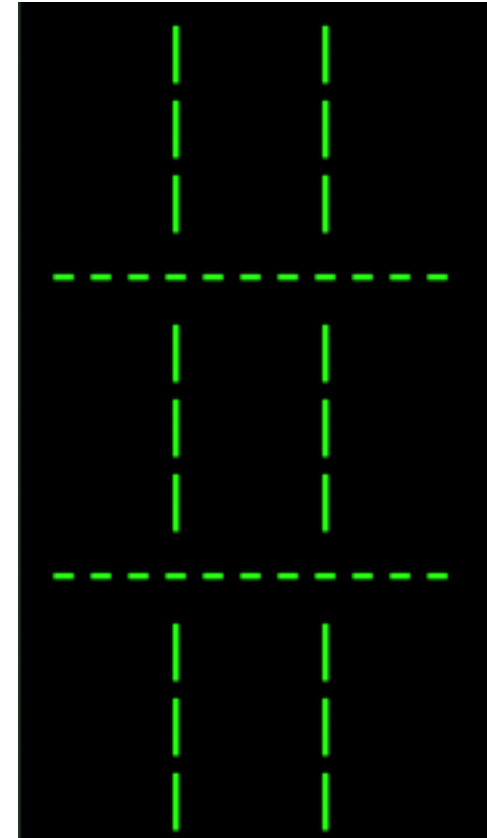
Give that a go. What happens?

Math.floor returns an integer (whole number) less than or equal to the specified number.

Learning Objectives

- To understand dot notation
- To understand different data types
- To use Code Pen to create simple programs, e.g. generate a random number

**Have a go at
logging a grid like
this to the console**



<https://codepen.io/>

