

Nation

Code

JavaScript Fundamentals

Dot Notation

{codenation}[®]

Learning Objectives

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



JavaScript

The language of the web

Full-stack

Not limited to websites

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



Create an account

It's free and always will be.

 First name Surname Mobile number or email address New password

Birthday

12 Apr 1994 Why do I need to provide my date of birth?

Female Male

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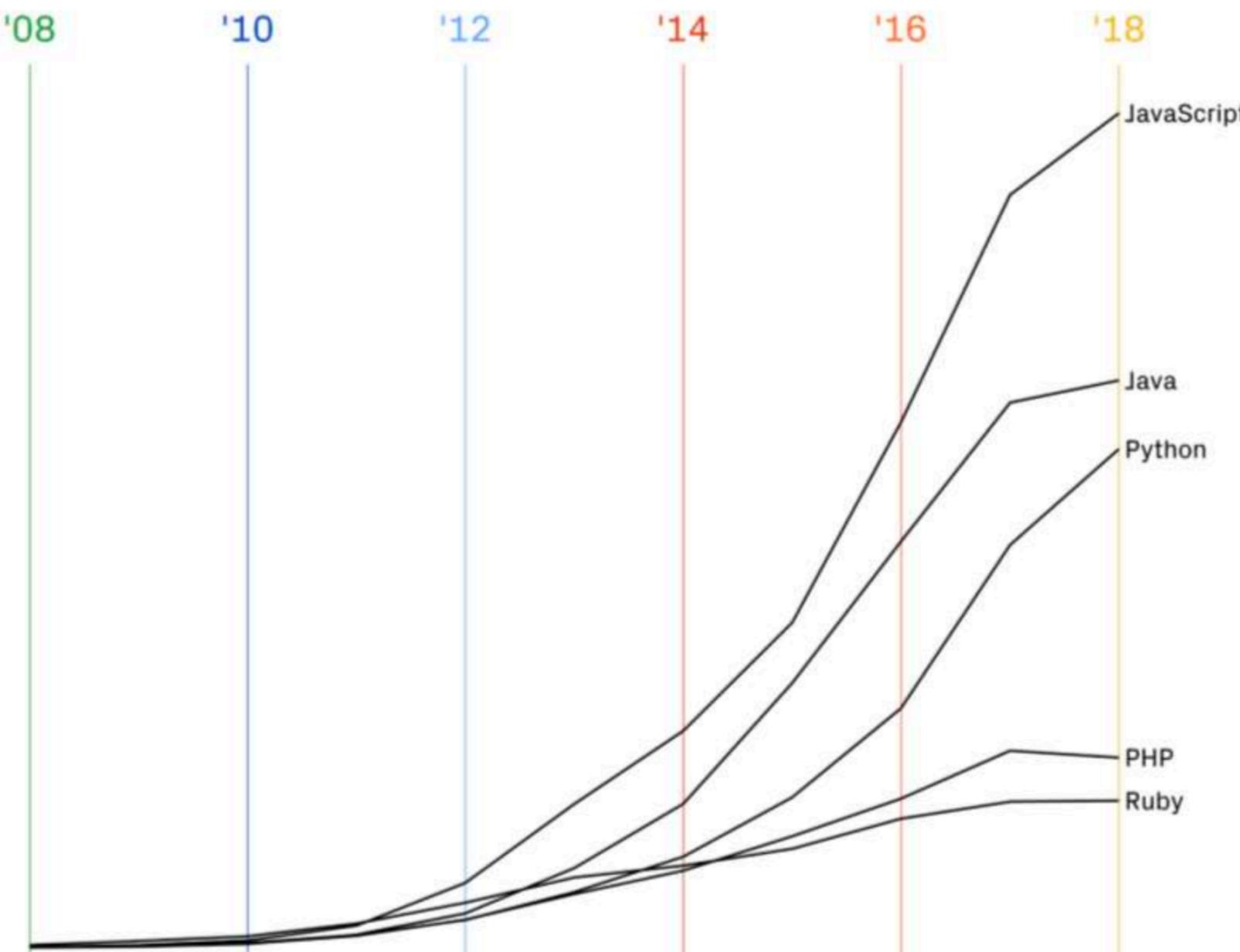
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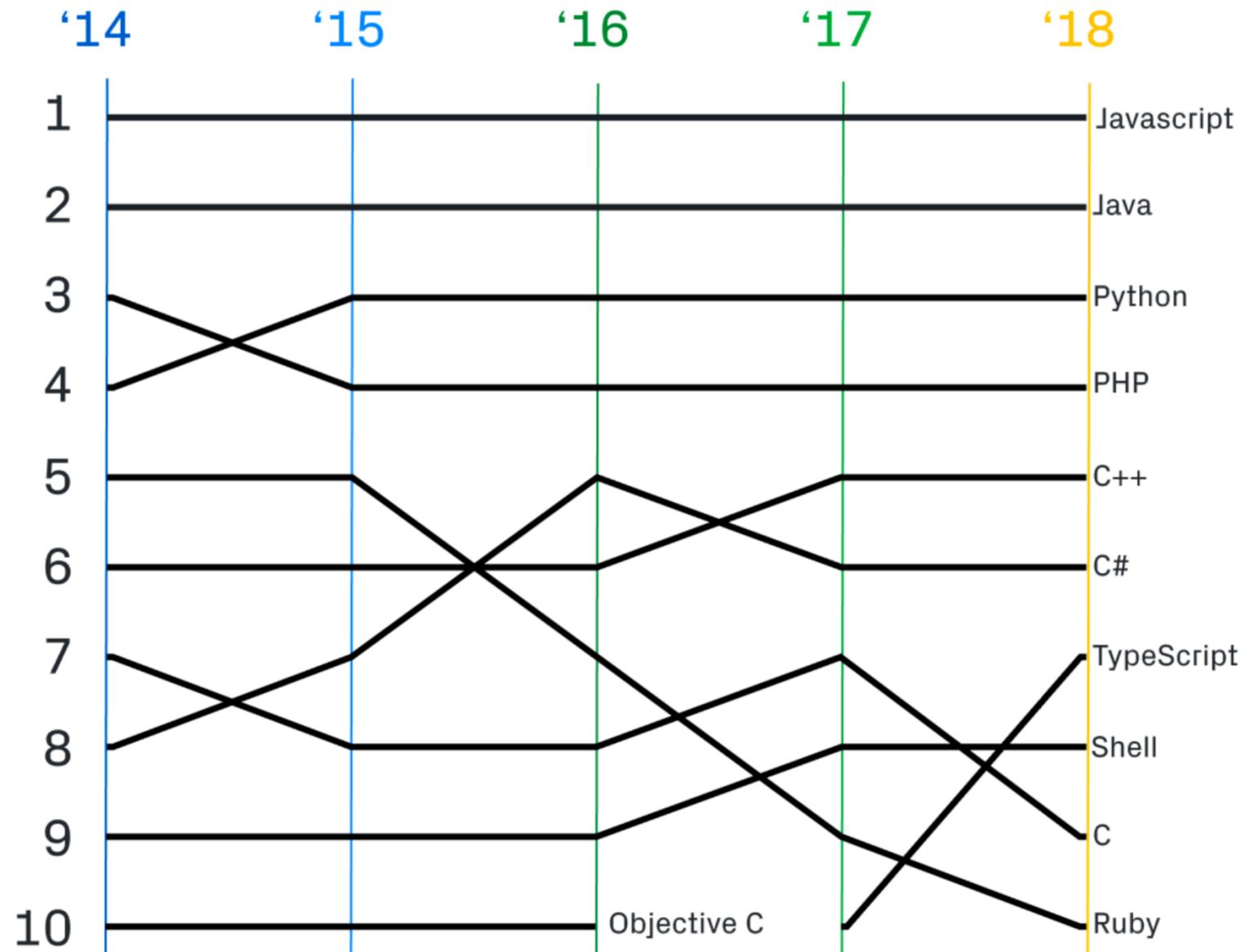


**It's also pretty much the most
popular language in the world**

Top programming languages by repositories created, 2008-2018



Rank of top programming languages over time





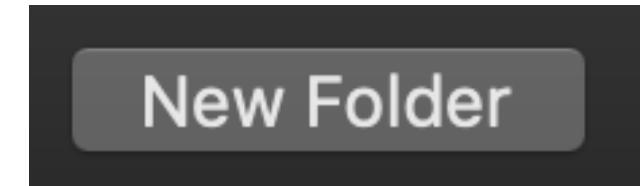
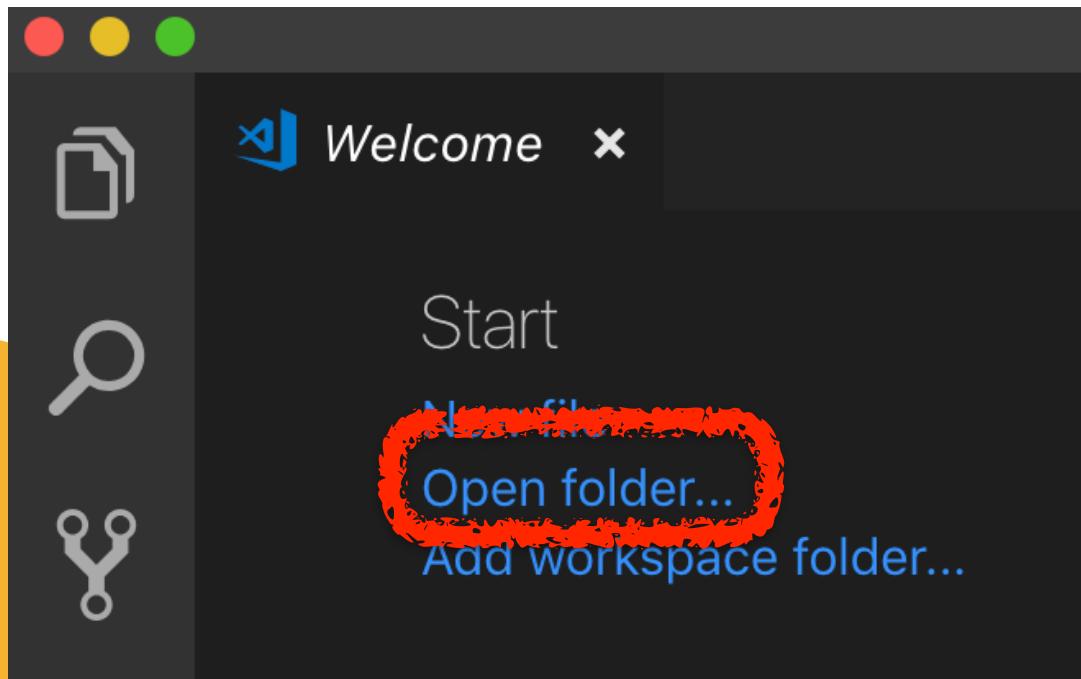
**Too long; didn't read? A very
good language to learn!**



Open Visual Studio Code



First things first



First things first

New File > Save as > filename.js

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



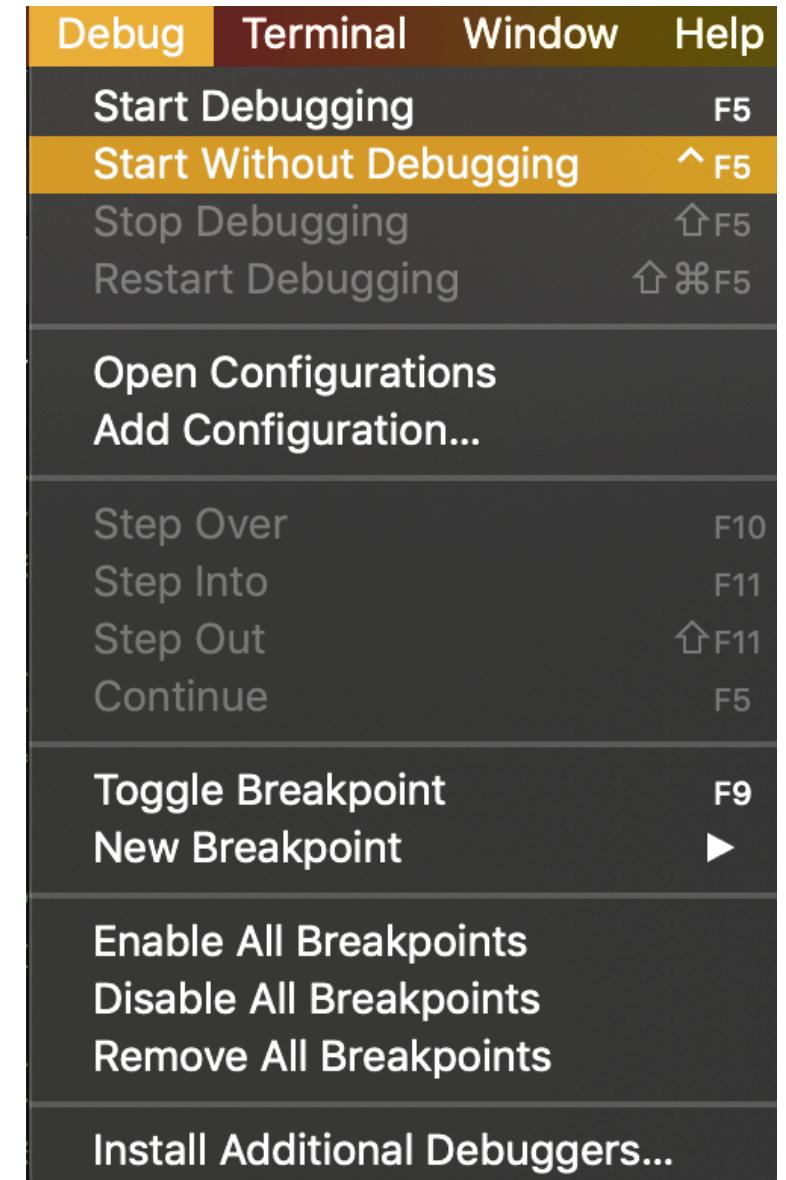
A screenshot of a terminal window. The title bar says "JS hello.js" with a close button. The main area shows the number "1" followed by the code "console.log("Hello");". A cursor is visible at the end of the line.



Run



fn+control+F5



Dot notation

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



Dot notation

console.log(i);

object.property



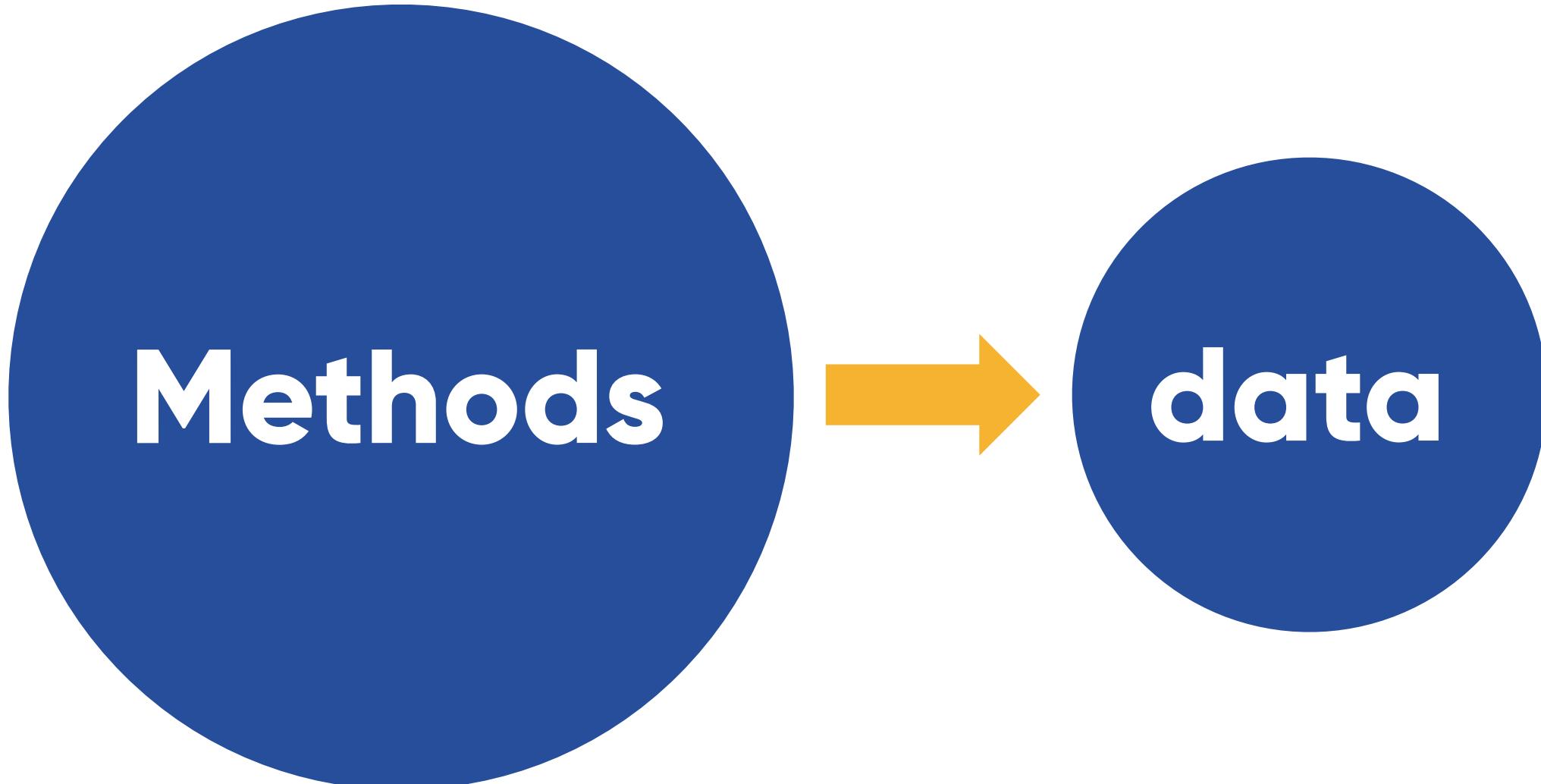
ceo.approvePayrise();

adam.makeTea();

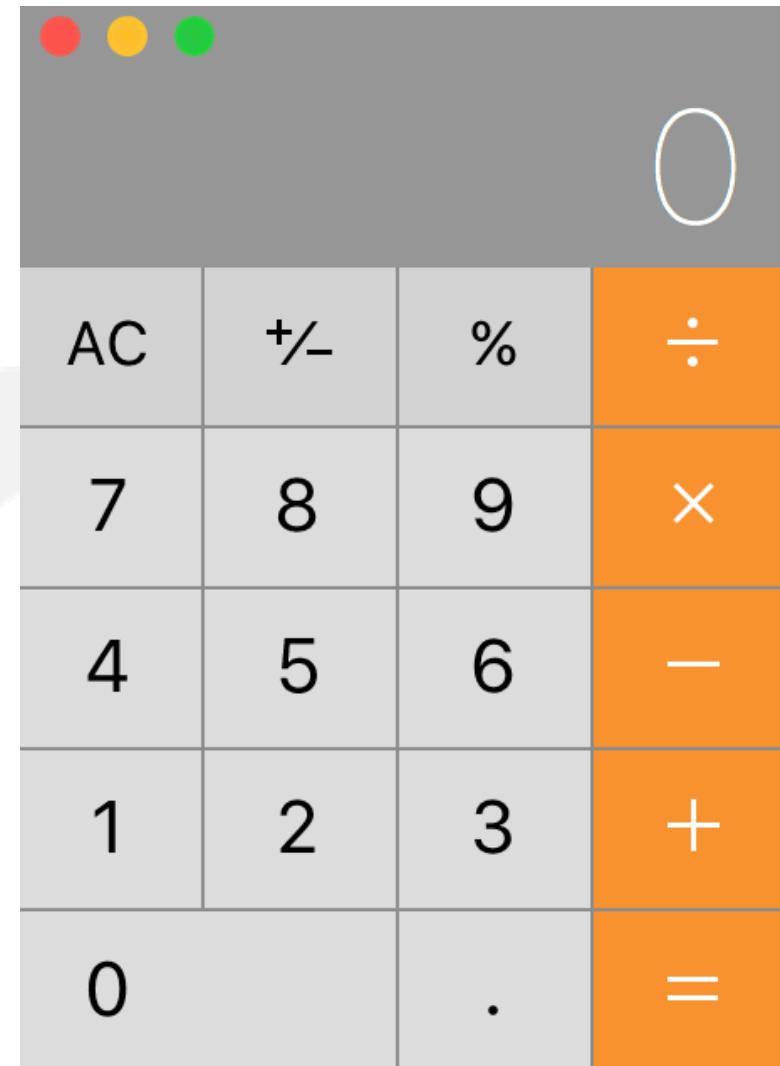


**Everyone loves a bit of
data**

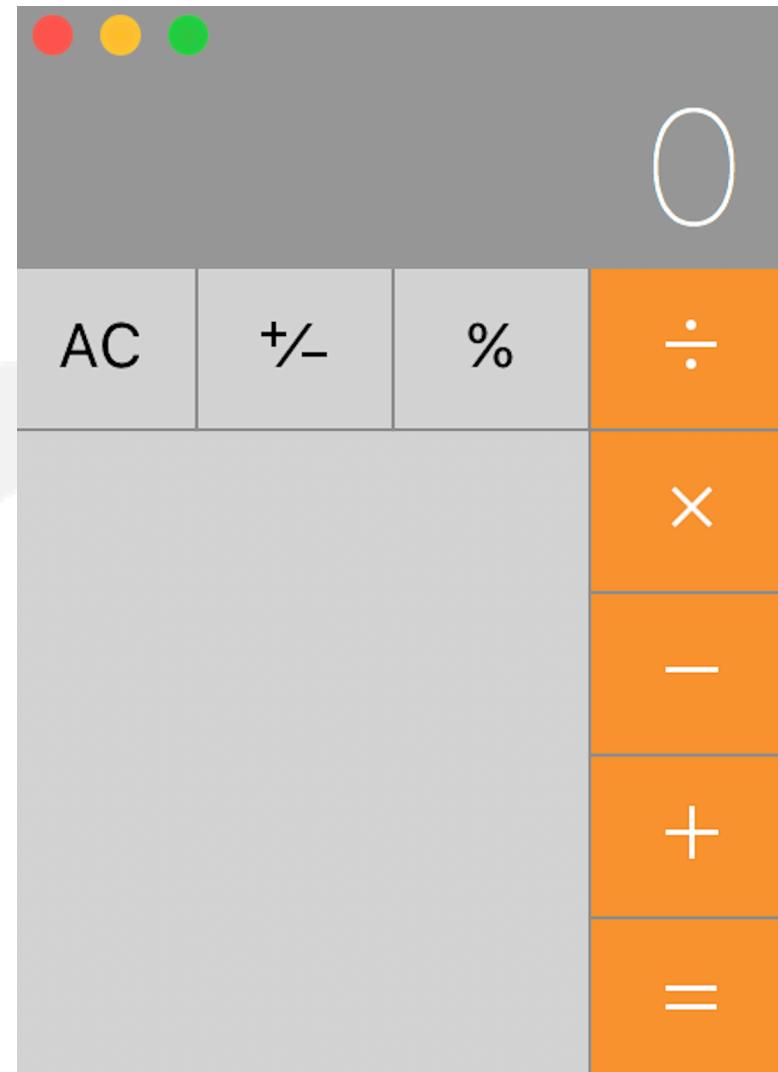
If we break coding down to its
simplest and snappiest



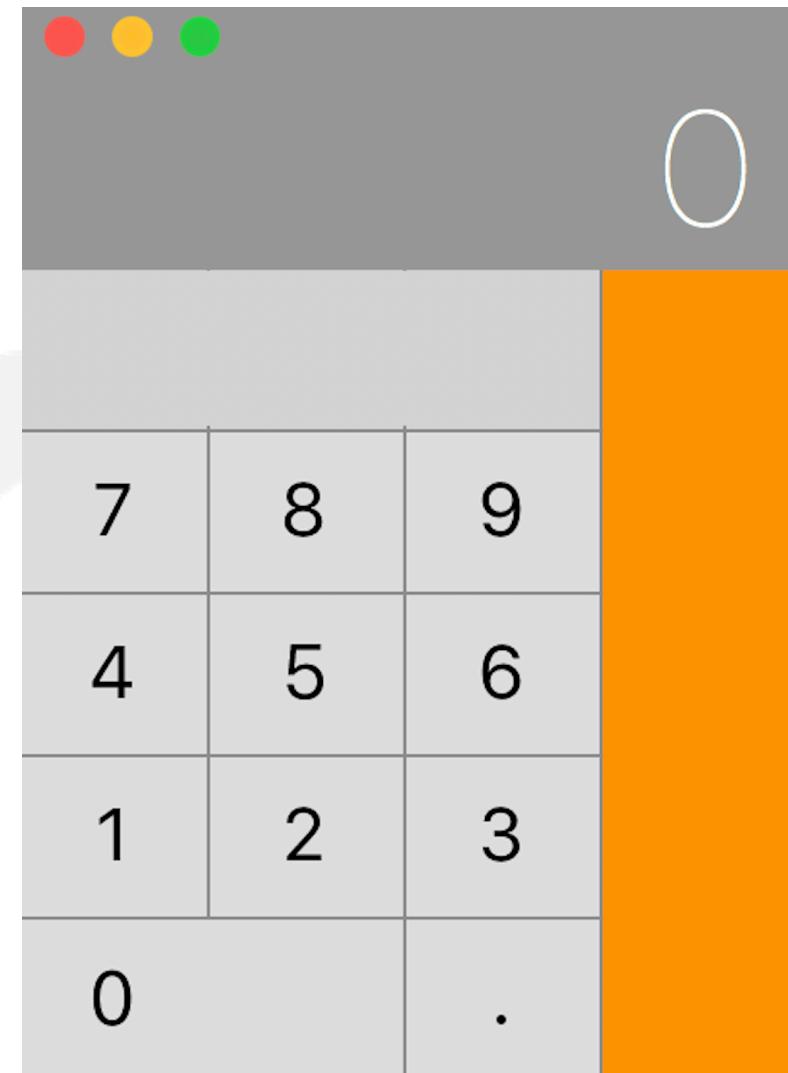
Everyone loves a calculator



**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 :

Number

String

Boolean

Symbol

Undefined

Null

These are :

String : for representing text

Number : for representing numbers (decimal and integers)

Boolean : for true and false

Undefined

Null

Symbol



**Get on my
property**

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

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





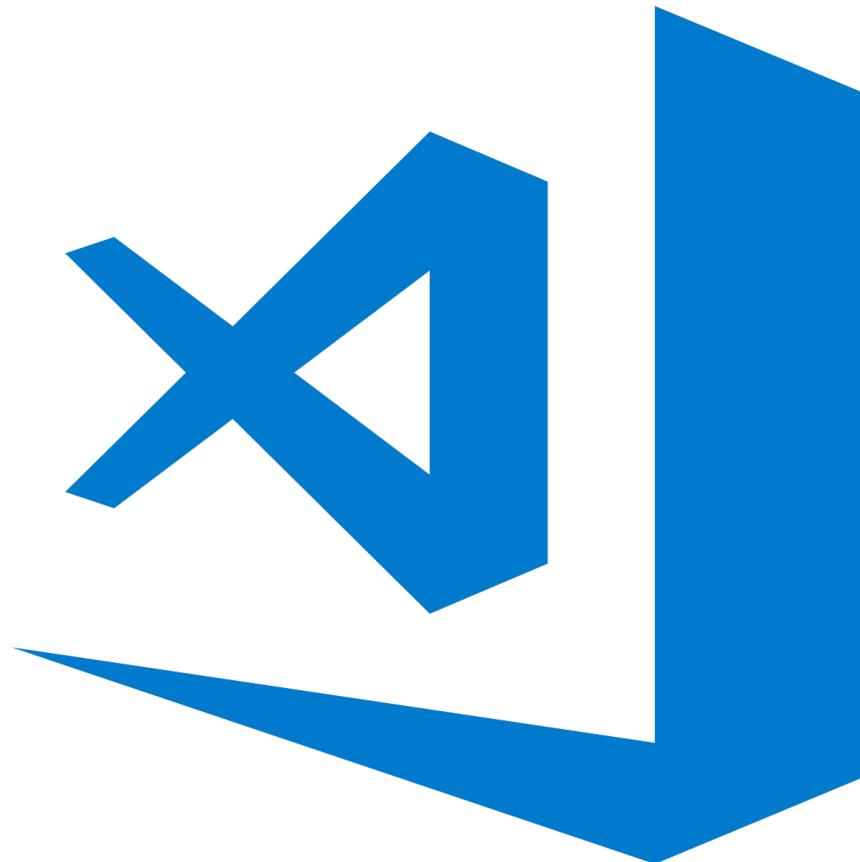
Properties



Strings have associated data or additional information available

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

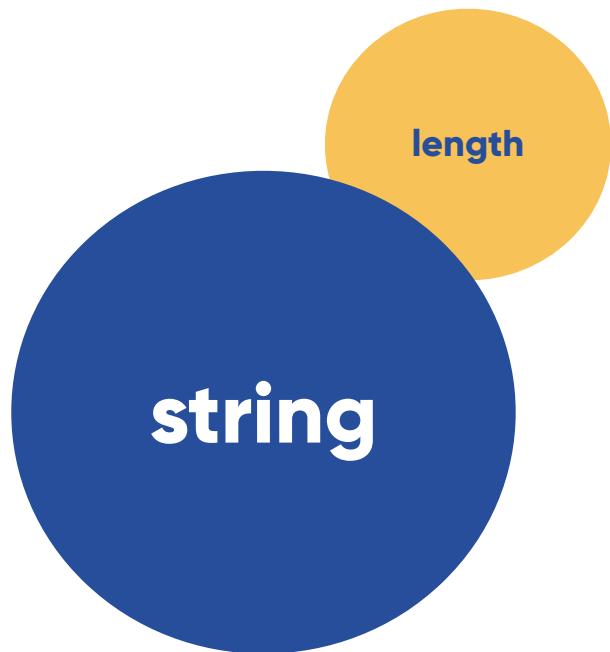
How many letters does hello have?



To VS Code



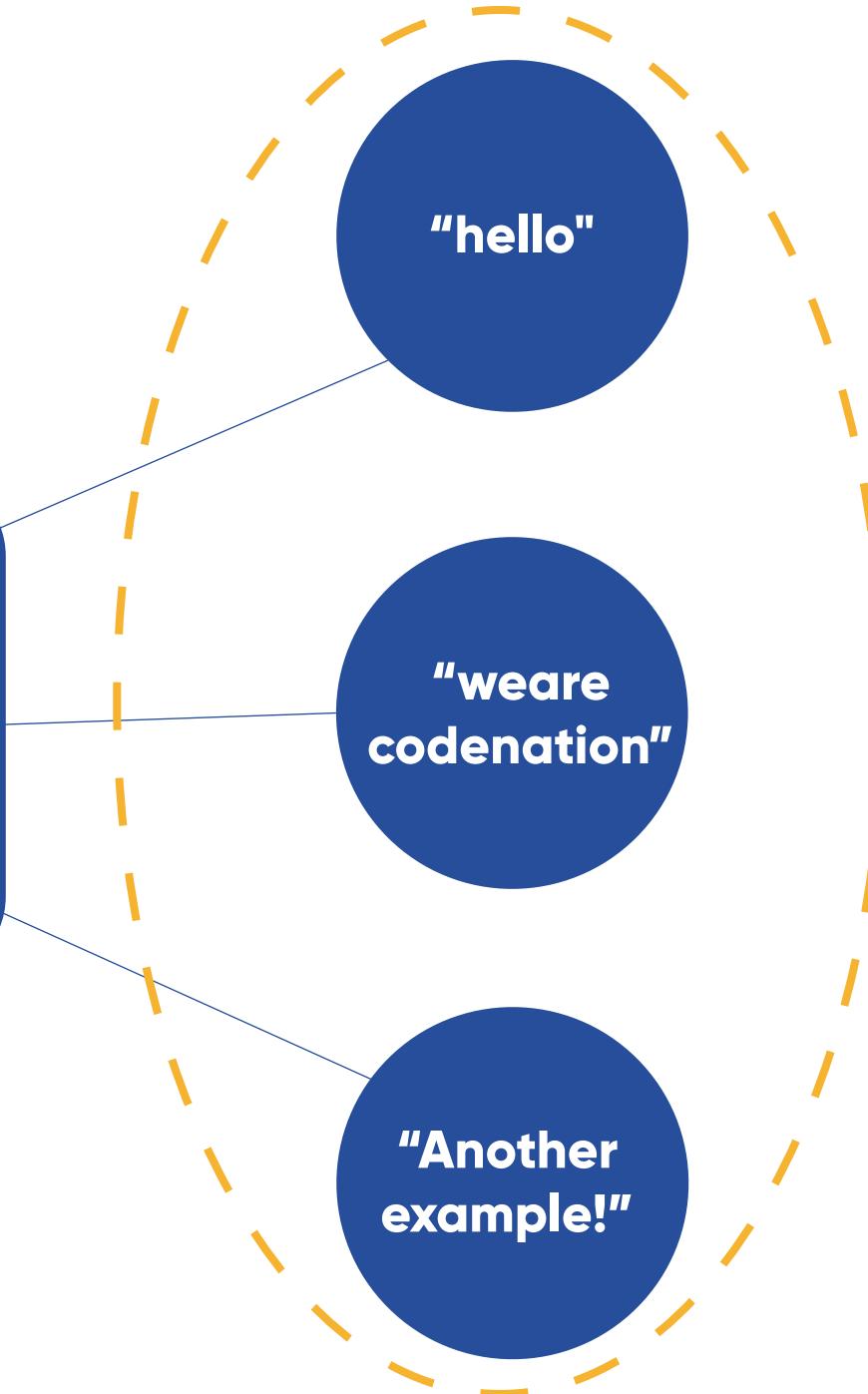
```
console.log("Hello".length);
```



Strings have associated data or linked data

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

**String
data
type**



Instances

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

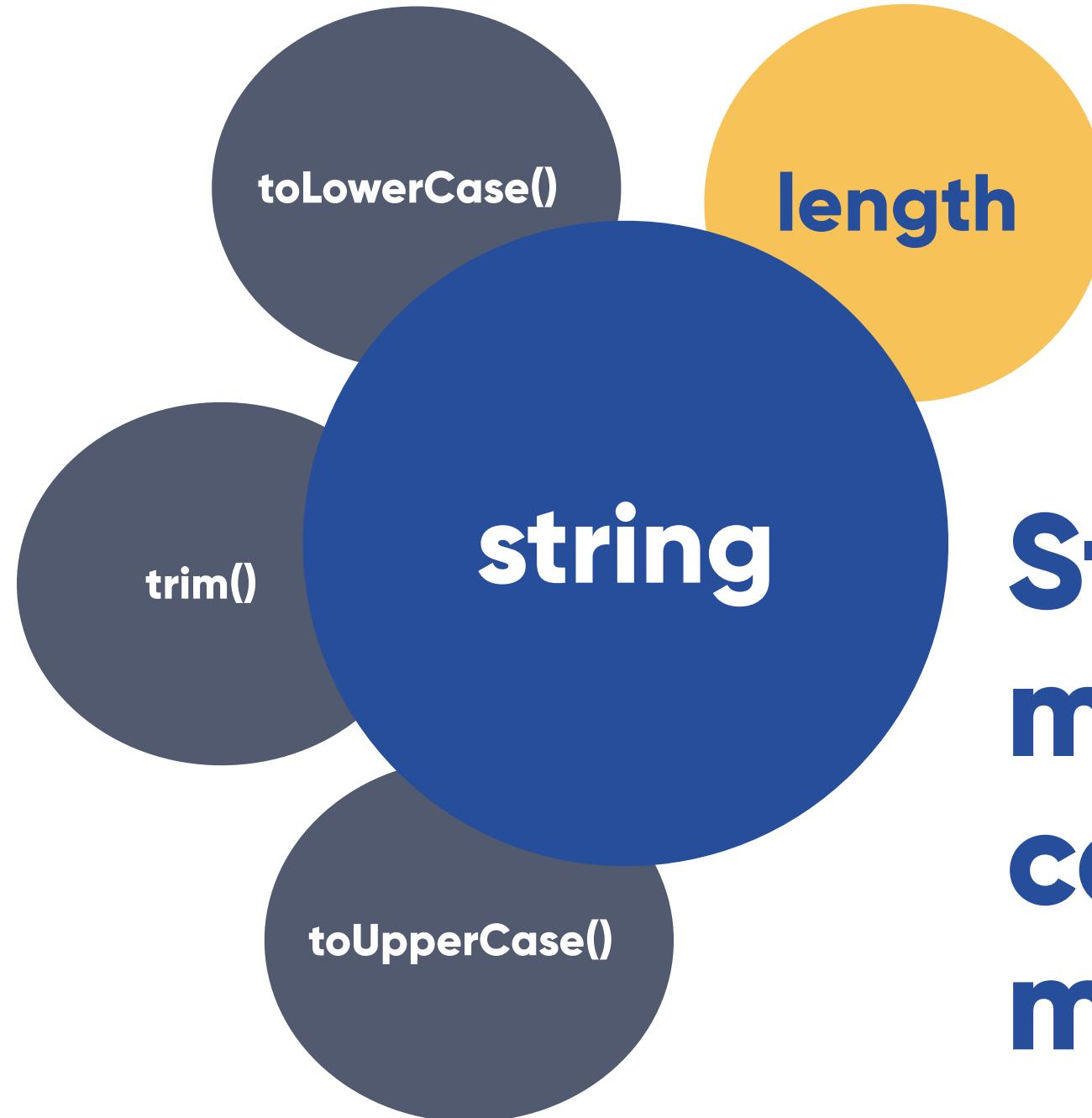


Methods in the
madness



**Methods and data
intimately linked**

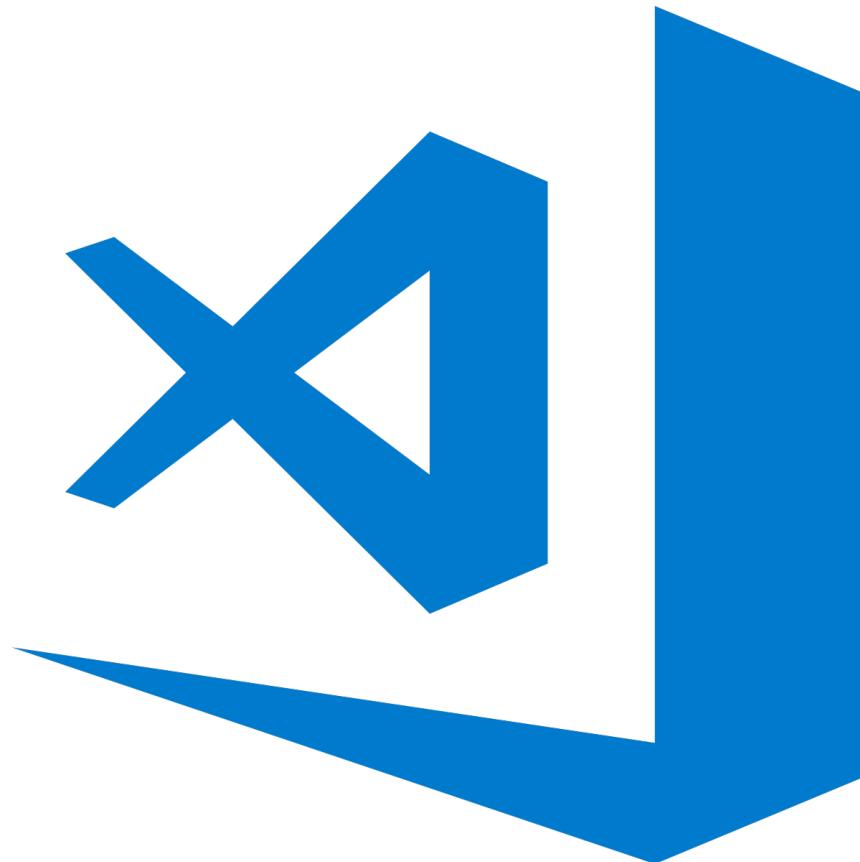
The built-in data
types have built-in
associated methods



**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 in VSCode. 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

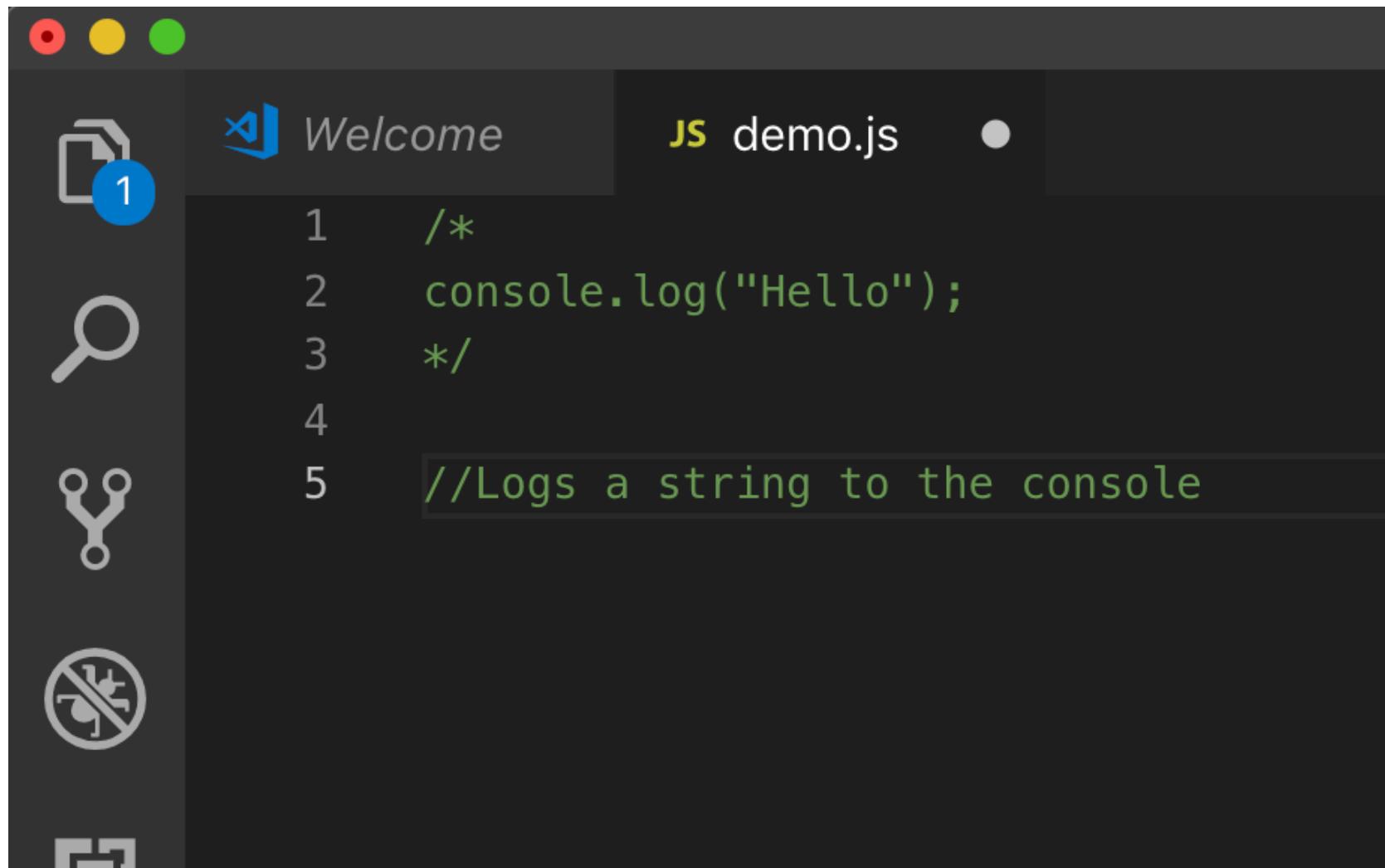
```
console.log(Math.floor(Math.random()*10));
```

Parameters

Give that a go. What happens?



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



demo.js

```
1  /*
2   console.log("Hello");
3   */
4
5 //Logs a string to the console
```

```
for( i = 0 ; i < 10 ; i++ ){
    console.log(i);
}
```

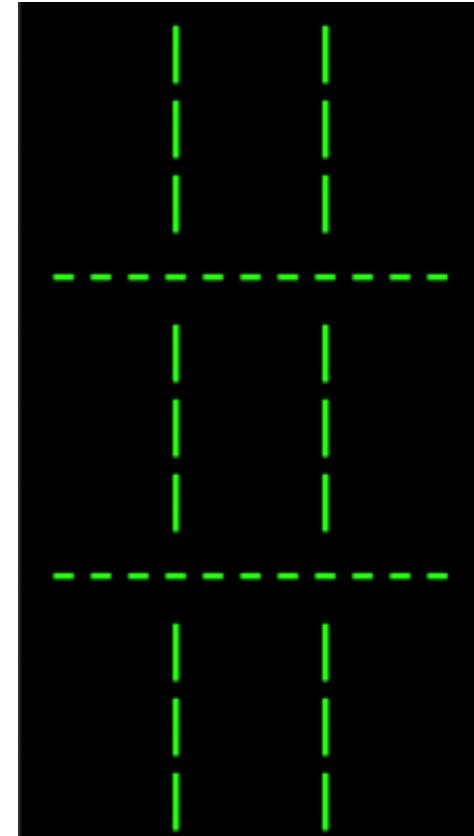
Now create a loop that logs the numbers 44 to 66 on the console

```
for (i = 44; i < 67; i++) {  
    console.log(i);  
}
```

Learning Objectives

- To understand dot notation
- To understand different data types
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**Have a go at
logging a grid like
this to the console**



**Hint: use 11
lines of code**

