

# Nation

# Code

# Master

{ C0DENATION }™

On it.

Your problem-solving skills are  
foundational to  
“getting” coding

# Problem- solving

# Classic example of problem-solving



- Breaking problems down into small chunks

Decide genre

Decide platforms

Choose engine

Decide art and style approach

Problem : Create game

Conceptualise

Development



Testing

Release

Activity :: the doctor just told  
you to **get fit**.  
Then kicked you out.

Solve that problem for me in  
15 minutes in groups of 2-3

# First things first



Create a loop that logs the numbers 44 to 66 on the console

# First thing's first



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





# JavaScript

*The* language of the web

## Full-stack

Not limited to websites

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



## Create an account

It's free and always will be.



Birthday



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

☐ Female ☐ Male

By clicking Create an account, you agree to our [Terms](#) and confirm that you have read our [Data Policy](#), including our [Cookie Use Policy](#). You may receive SMS message notifications from Facebook and can opt out at any time.

Create an account

[Create a Page](#) for a celebrity, band or business.



# Visual Studio Code

Editing evolved

## Start

[New file](#)

[Open folder...](#)

[Clone Git repository...](#)

## Recent

No recent folders

## Help

[Printable keyboard cheatsheet](#)

[Introductory videos](#)

[Tips and Tricks](#)

[Product documentation](#)

[GitHub repository](#)

[Stack Overflow](#)

☒ Show welcome page on startup

## Customize

### Tools and languages

Install support for [JavaScript](#), [TypeScript](#), [Python](#), [PHP](#), [Docker](#) and [more](#)

### Install keyboard shortcuts

Install the keyboard shortcuts of [Vim](#), [Sublime](#), [Atom](#) and [others](#)

### 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 (⇧⌘P)

### Interface overview

Get a visual overlay highlighting the major components of the UI

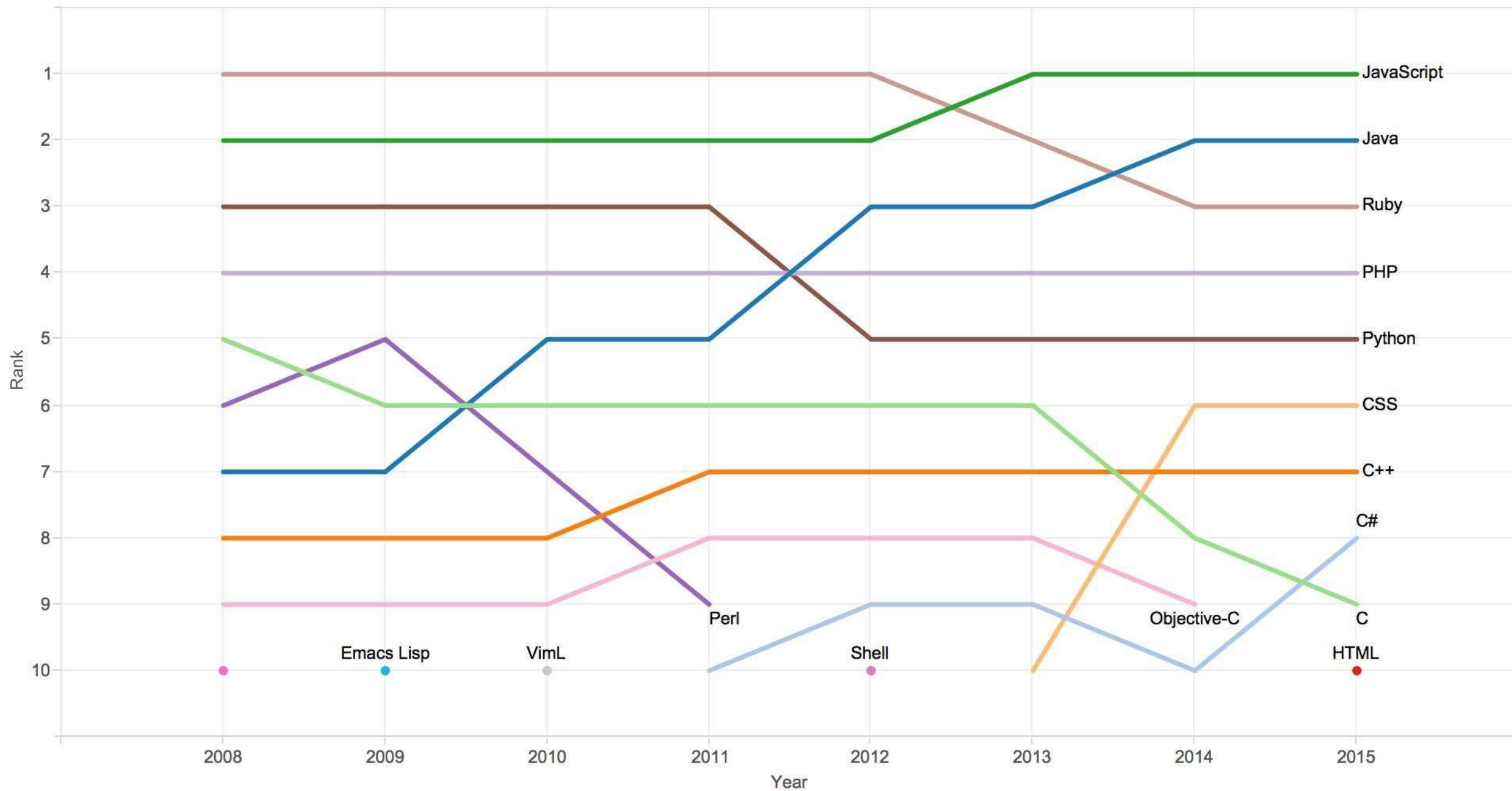
### Interactive playground

Try essential editor features out in a short walkthrough



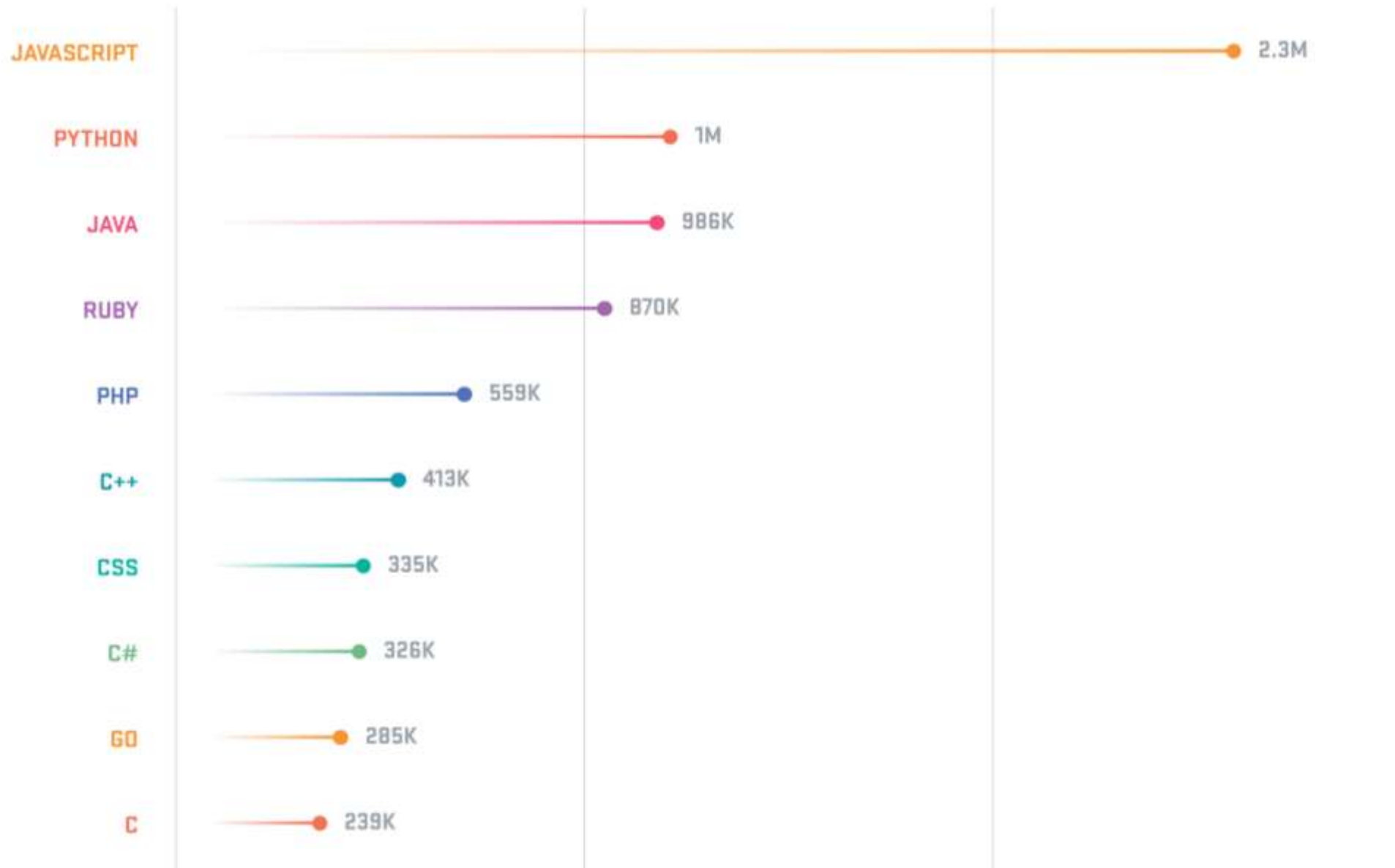
It's also pretty much the  
most popular language in  
the world

## Rank of top languages on GitHub.com over time



# The ten most popular languages on GitHub in 2017

GitHub is home to open source projects written in 337 unique programming languages—but especially JavaScript.



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

# Let's setup all the accounts we'll need







Wifi:FWMCodensation, DwD3hemWgz {CN}™

Your own Gmail or create a new one



<https://bit.ly/2zDQCeF>

Codensationmaster4.slack.com



Github.com



Codepen.io

Use your GitHub account

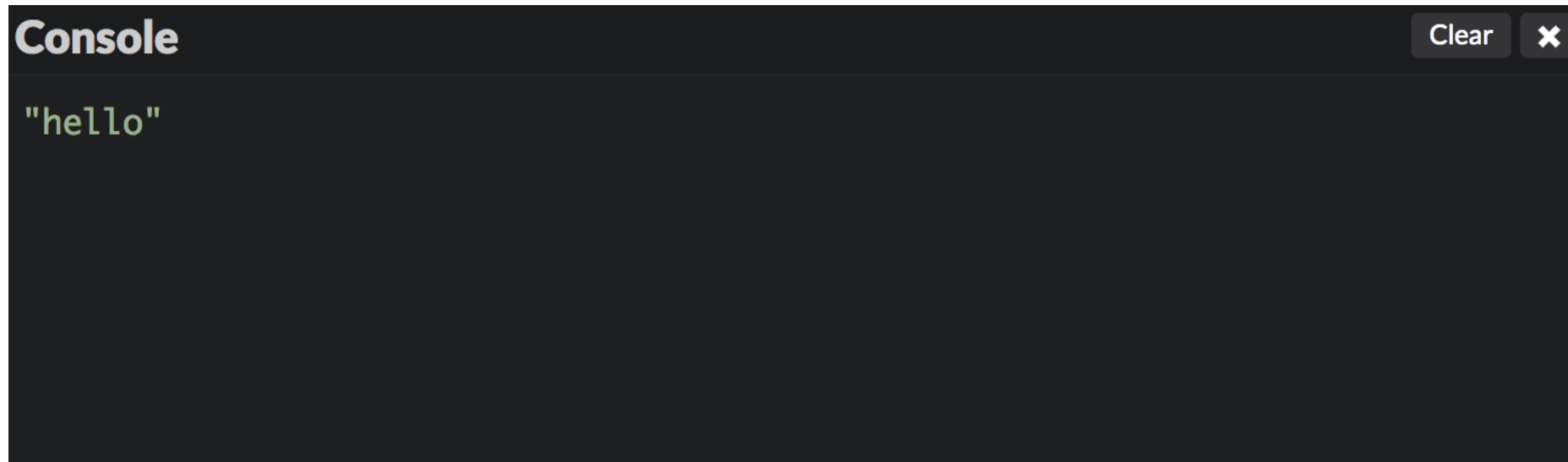
<https://goo.gl/forms/Ek5iwockeKUhCEPt1>

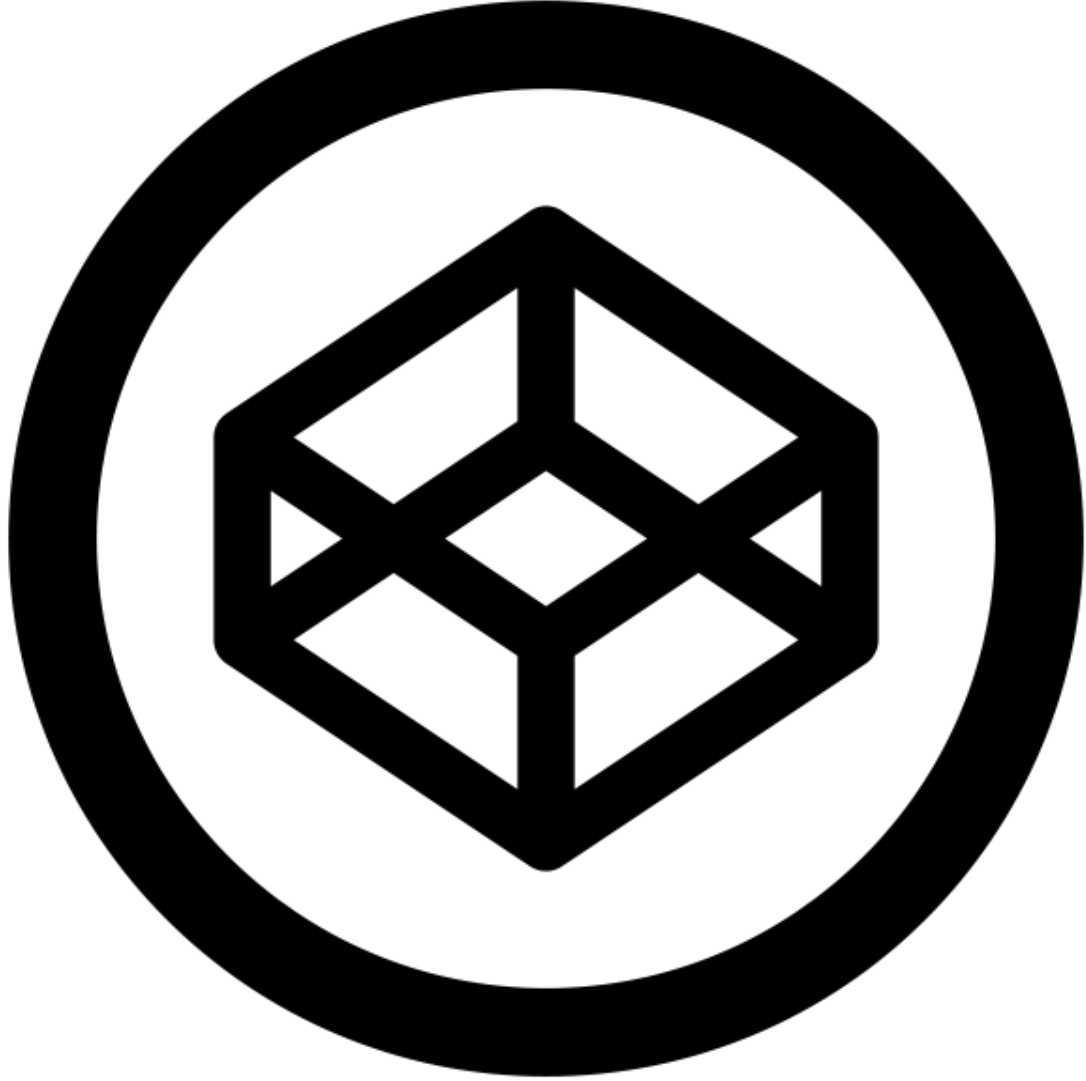
# Using the console



um... what's a console?

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





To CodePen

# 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

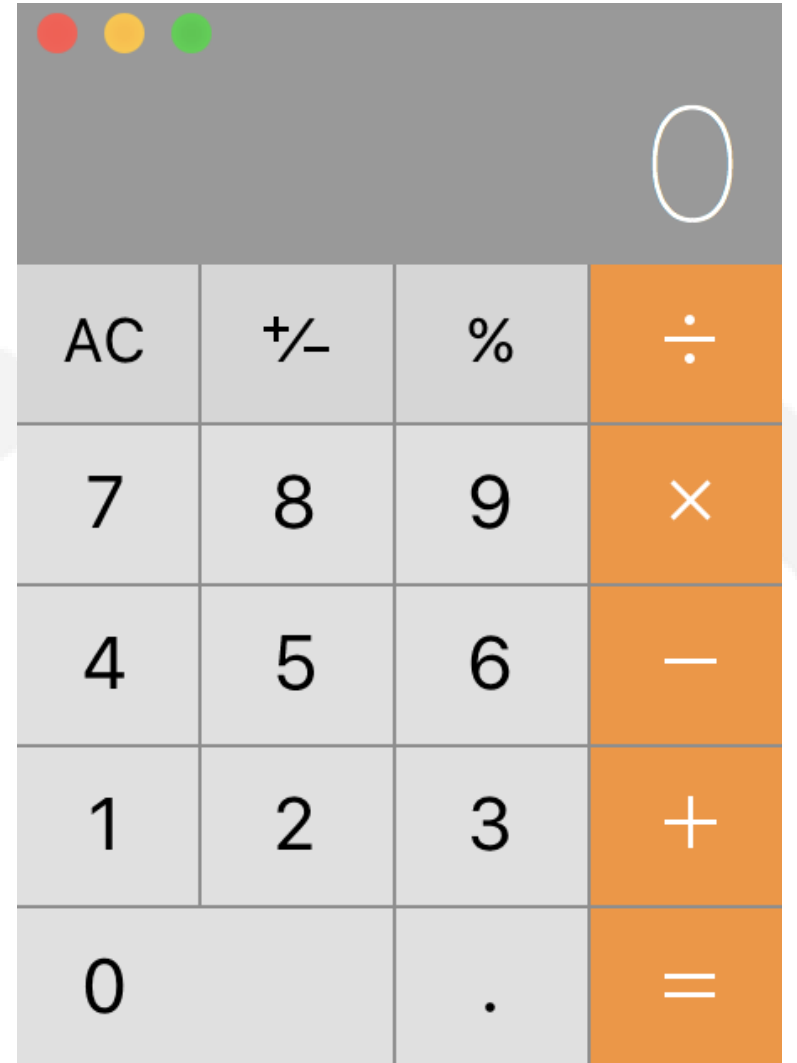


Methods

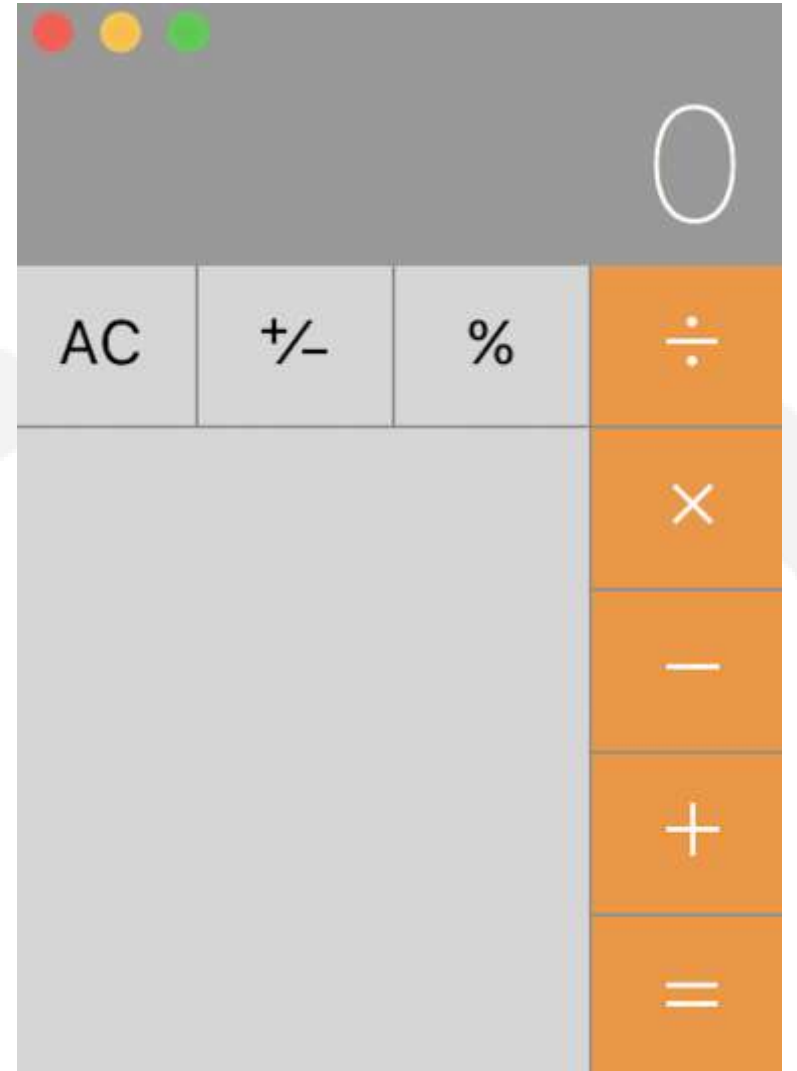
ta



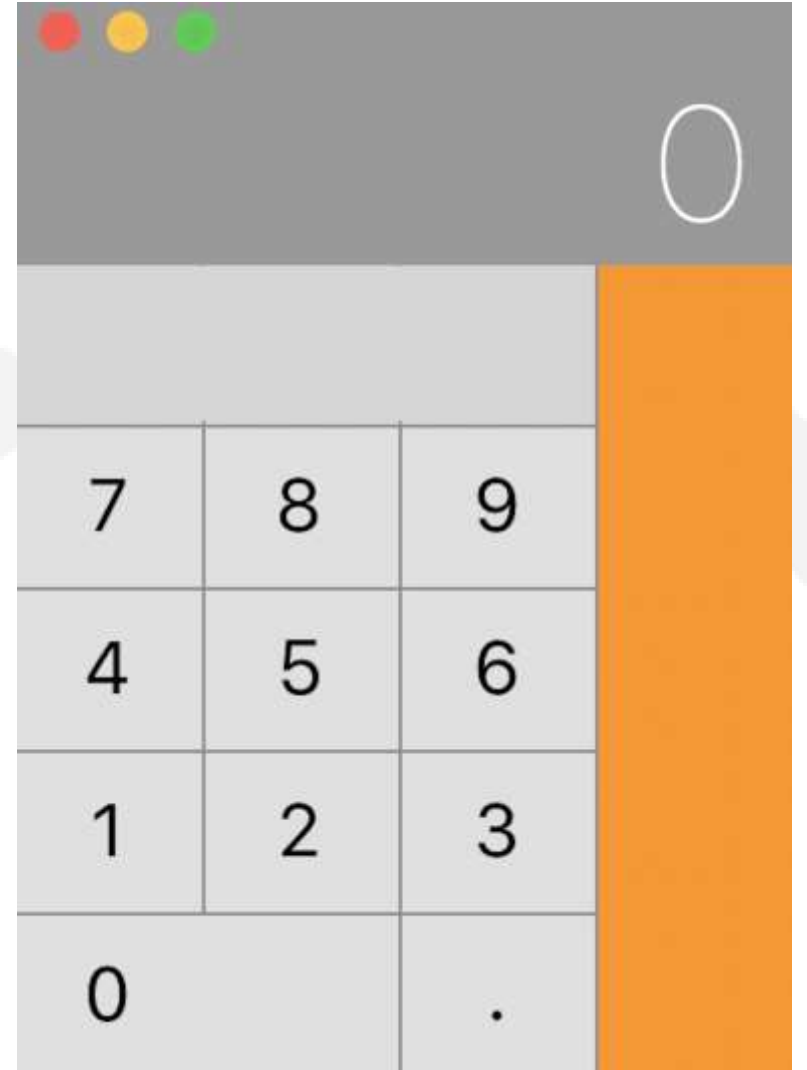
# Everyone loves a calculator



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)

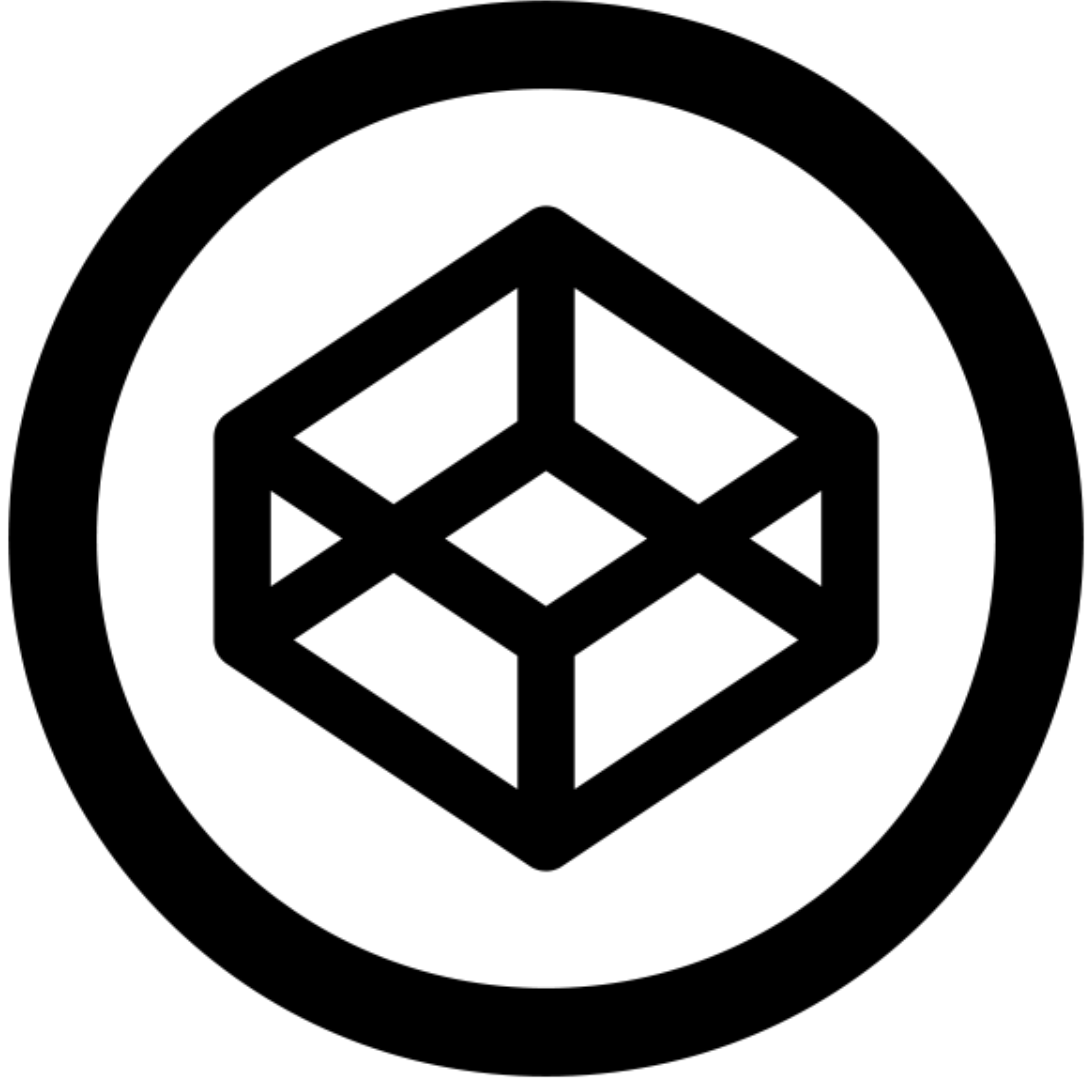
Boolean : for true and false

Null : for nothing

Undefined : for when a data type isn't determined

Symbol : brand new to ES6, the latest version of JavaScript





To CodePen

Get on my  
property

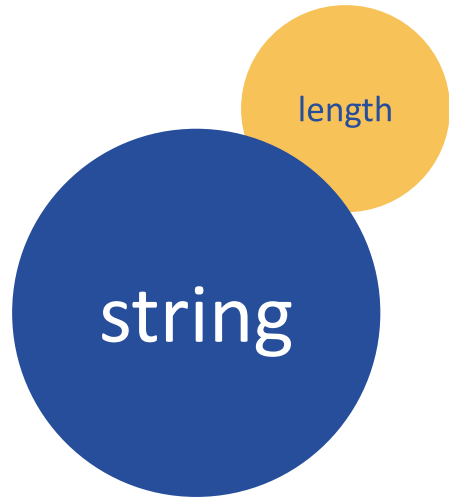
```
console.log("what data type am I?");
```

Good stuff,  
it is indeed a  
string





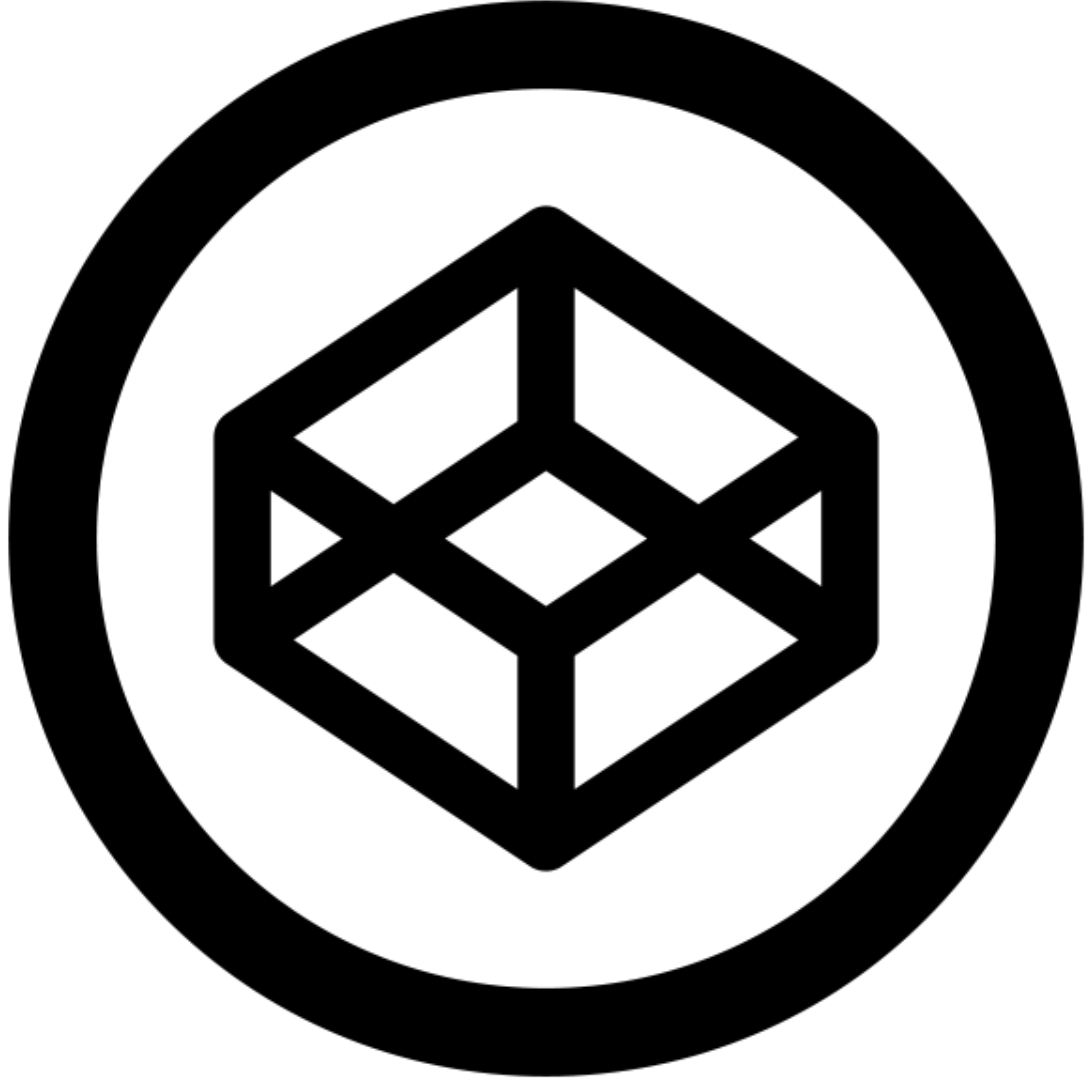
# Properties



Strings have associated  
data or additional  
information available

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

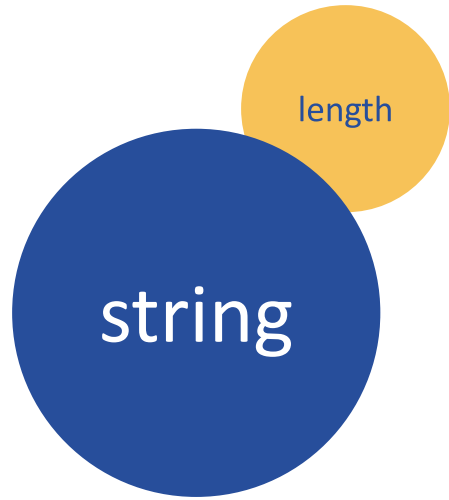
How many letters does hello have?



To CodePen



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



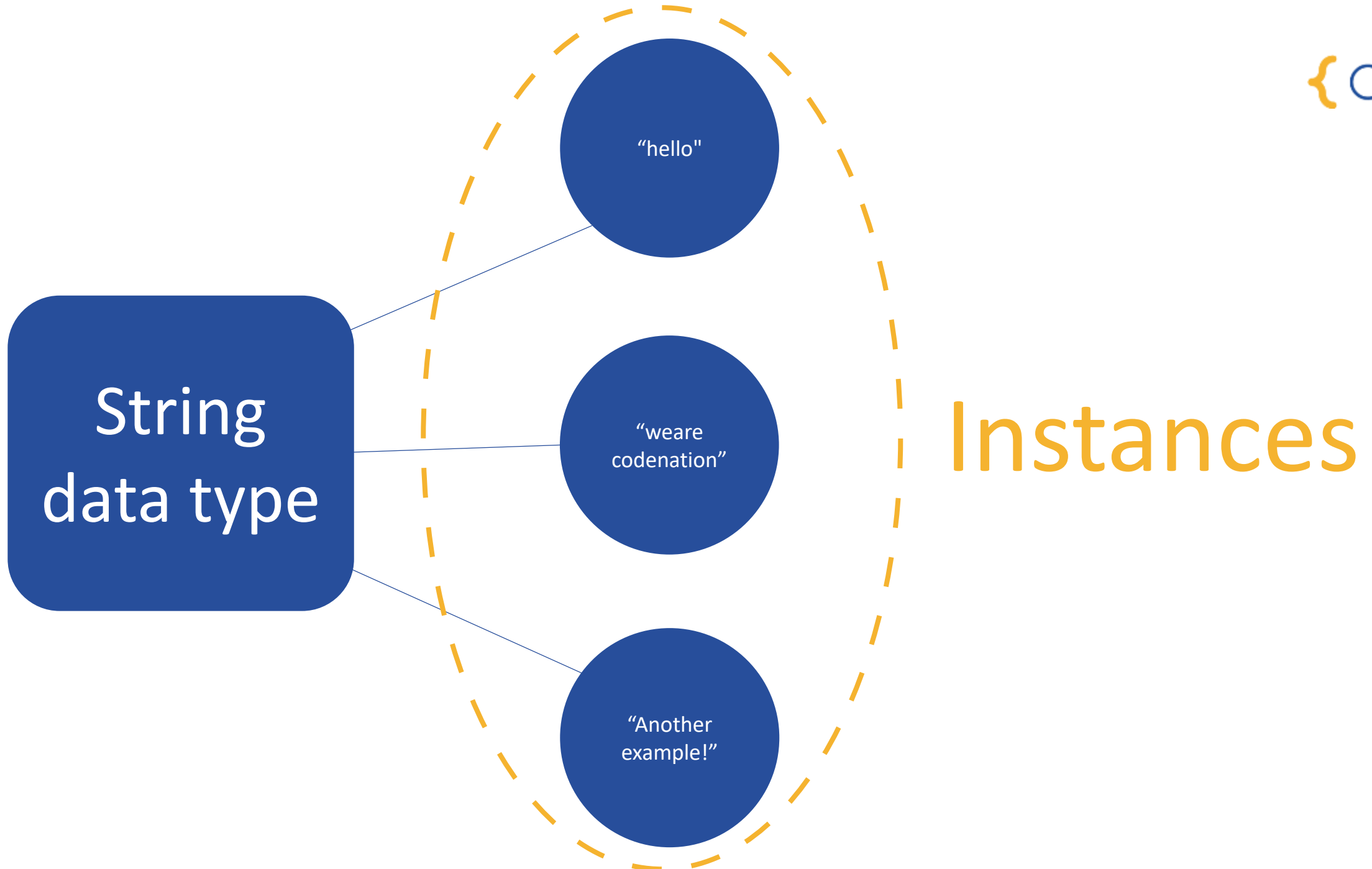
Strings have associated or  
linked data

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

Come here this  
instance.

What are all these strings  
and numbers and  
everything, anyway?  
Where do they live?

“hello” is an  
instance of the  
string data type



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

"hello"

"hello"

"hello"

"hello"

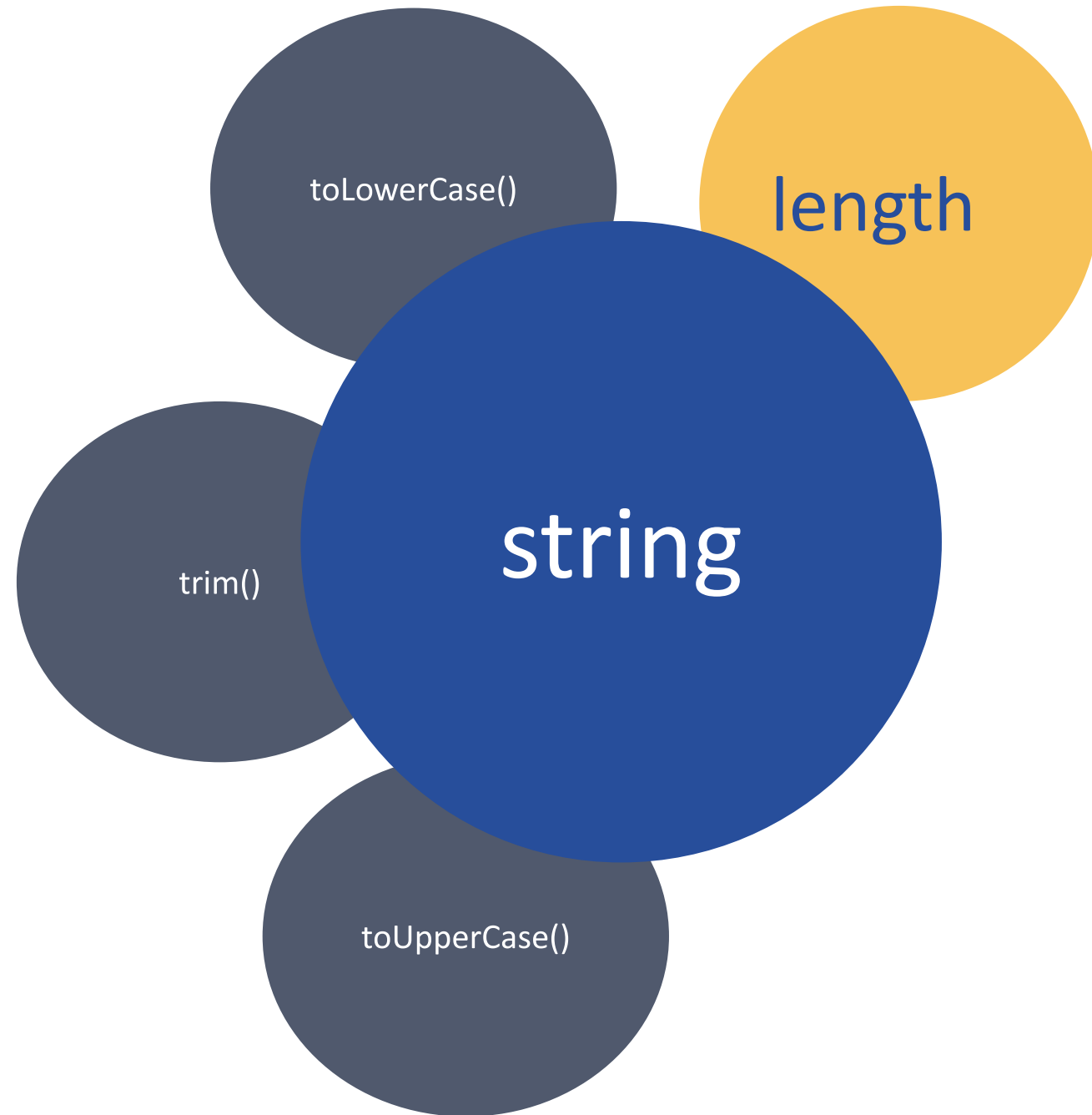
"hello"



# Methods in the madness

Methods and data  
intimately linked

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

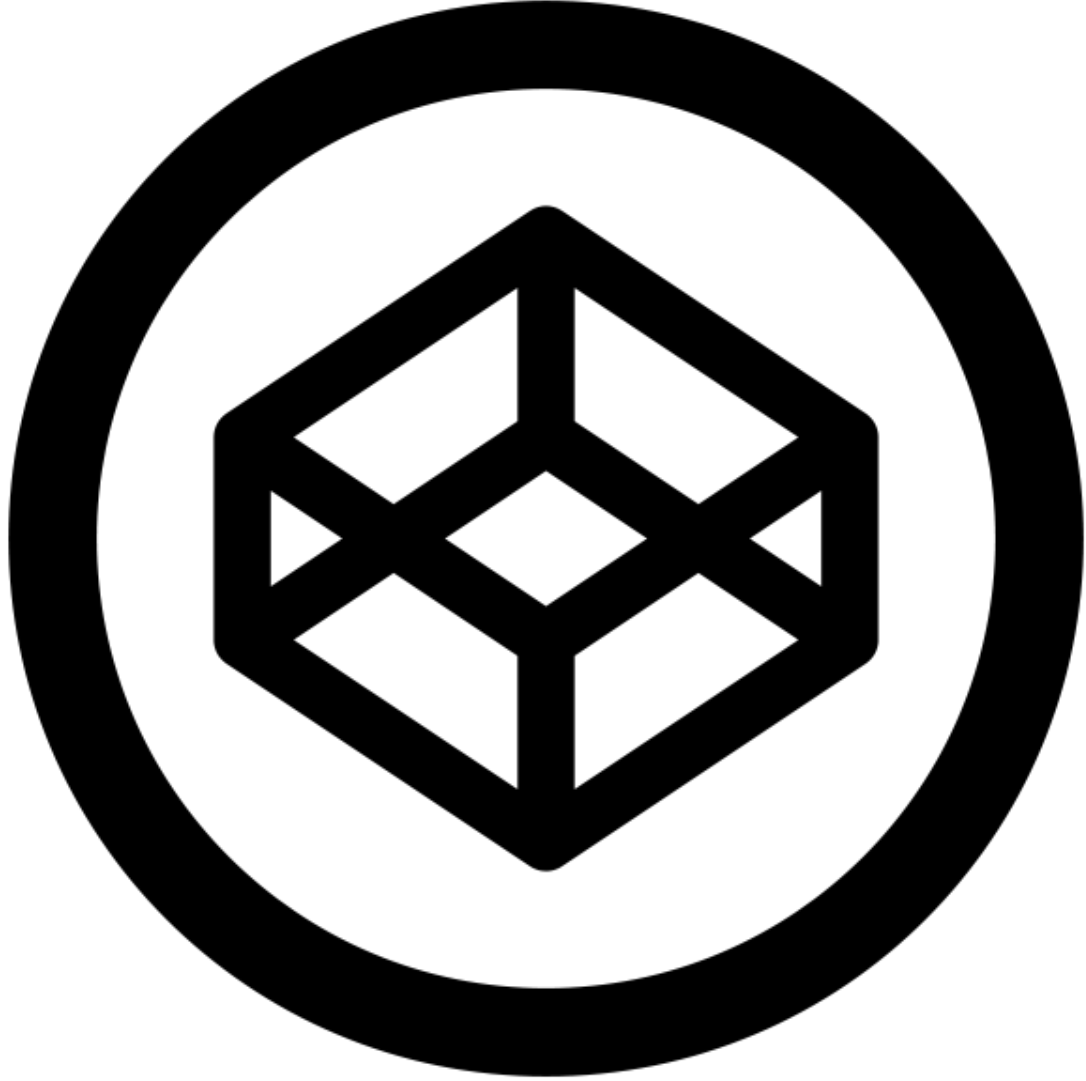


Strings have  
methods that  
we can use to  
manipulate  
them

# Methods let us do stuff!

Unlike properties, which are essentially  
just information

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



To CodePen

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 CodePen. 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 in CodePen. 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 in CodePen. What happens?

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



Let's have a play