# the Master Course

{CODENATION}

# JAVASCRIPT FUNDAMENTALS

## Dot Notation

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# Learning Objectives

To recognise what Dot Notation is & use it

To identify different Data Types

To be able to create a simple Random Number Generator Program

JS

# What is Javascript?

The language of the Full Stack Developer

**& not just limited to websites!**

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JS

# It's also the most popular language in the world

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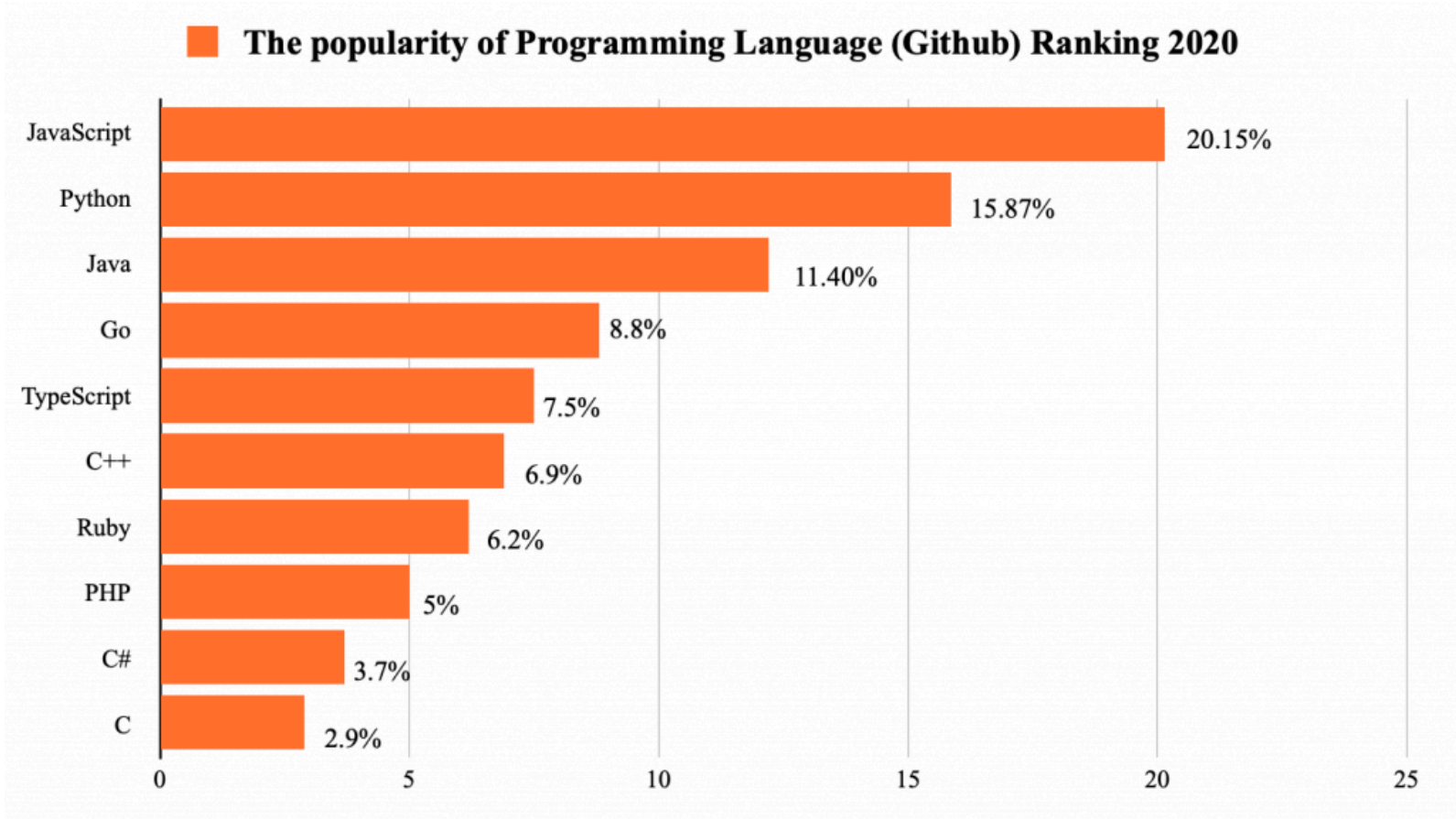


JS

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JS

# Dot Notation

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

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# Dot Notation

```
console.log(i);

object.property
```

```
car.startEngine();

dev.makeCoffee();
```

JS

**If we break it down, coding in it's simplest and snappiest is all about METHODS and DATA.**

So this is where we're going to start.

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# METHODS and DATA

...are **intimately** linked

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Lets look at some...

# Data Types

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# But hang on...

.. what **ARE** data types?

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# Working with Data Types

Data Types refer to the kind of data that we're asking the computer to work with.

## Simple, right?

# Strings

... for representing **text**

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# Numbers

... for representing **numbers** (decimals & 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.

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# What data type am I?

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

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# String

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

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# All data has properties

... additional data or information that is available.

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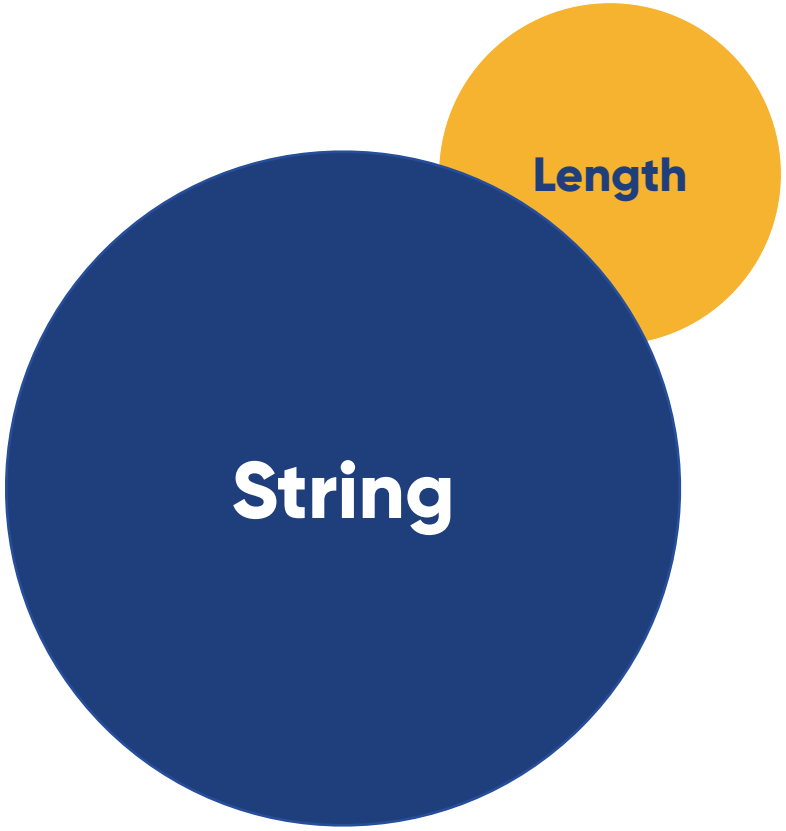


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# For example ‘length’

This will tell us **how long** the string is

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# All data also has methods

... methods allow us to **manipulate** the data type

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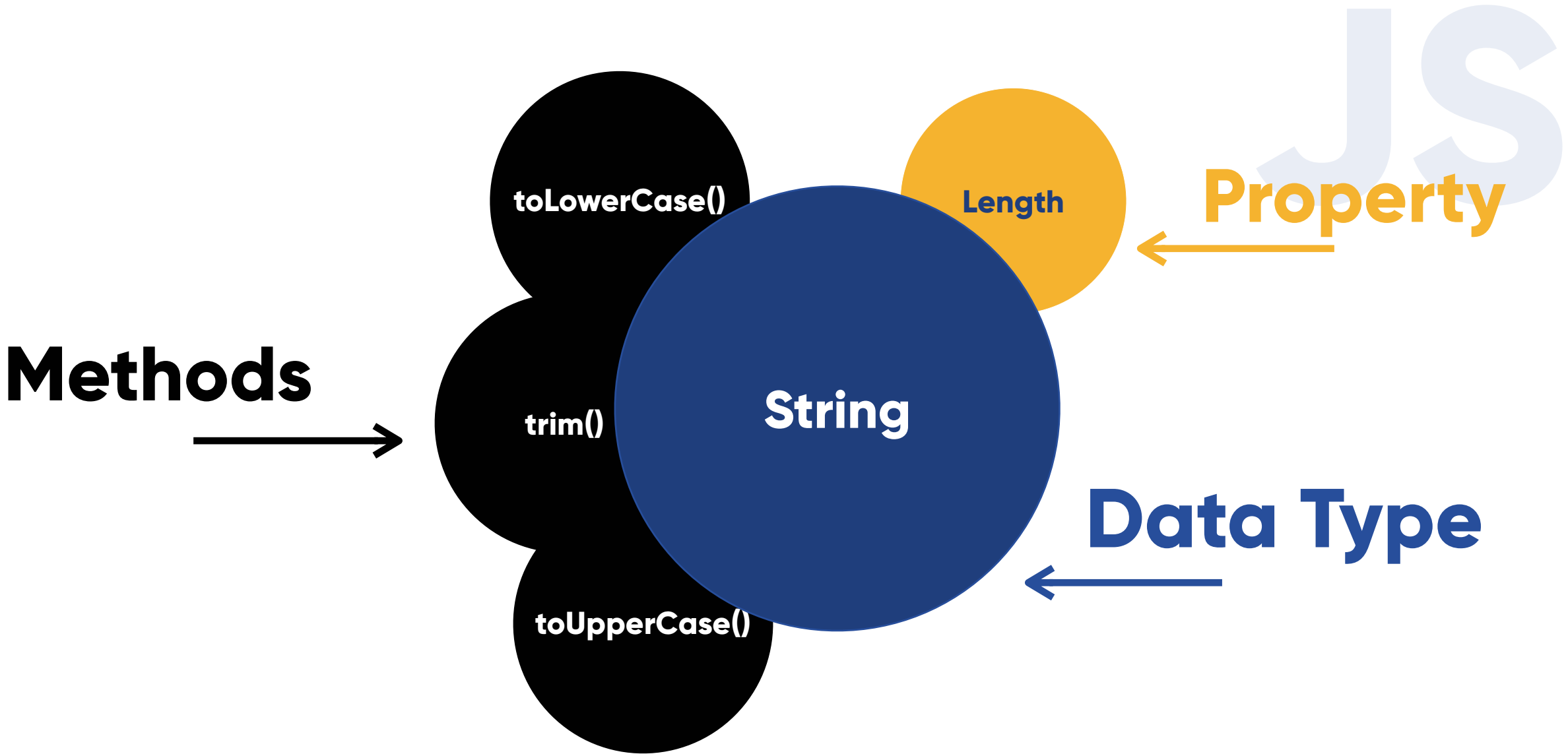
Methods
toLowerCase()
trim()
toUpperCase()
String
Length
Property
Data Type

JS

# First things first...

... lets download **VS Code**

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# Some useful Extensions..

> Beautify
> Bracket Pair Colorizer
> Live Server

JS

# The Terminal

cd, ls, mkdir, touch, rm

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JS

# Node.js

http://nodejs.org

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# Activity

Using what you have just learnt I want you to create a new Folder on your Desktop called **"CodeNation"**.

Inside that folder, create another Folder called **'Week1'.**

Inside that folder, create a file called **'dotNotation.js'**

**You can ONLY use the Terminal**

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# Try this

JS

# Hello World!

console.log("Hello World")

# is node working?

...in your terminal, type in node **'dotNotation.js'**

**node dotNotation.js**

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JS

# Why do we even need node?!

Node allows us to **run our Javascript code in our own Terminal**. Without this, we'd have to set up multiple files, use Google Chrome's Console and link up our files.

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# Try this

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

...what happens?

# Well done!

... you just used your first string method!

# Shh! Libraries

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

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# So far...




**Dot notation**

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

**Parameters**

... we've stuck to the console library when using **console.log** and that's about it.

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# Try this

# Math Library

Dot notation

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

Parameters

## What happens?

# How can we make this better?

# Try this



Dot notation

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

Parameters

**What happens?**

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# How can we make this EVEN better?

JS


Go to the link for **MDN Math Library** and find out **HOW** we could round this number down.

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## Dot notation

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

## Parameters

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# Math.floor

...returns an integer **less than or equal** to the specified number

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# Math.ceil()

... will always **round a number UP** to the next largest integer

# Math.round()

... returns the value of a number rounded **to the nearest integer**

# Math.floor()

...returns an integer **less than or equal** to the specified number

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# Learning Objectives

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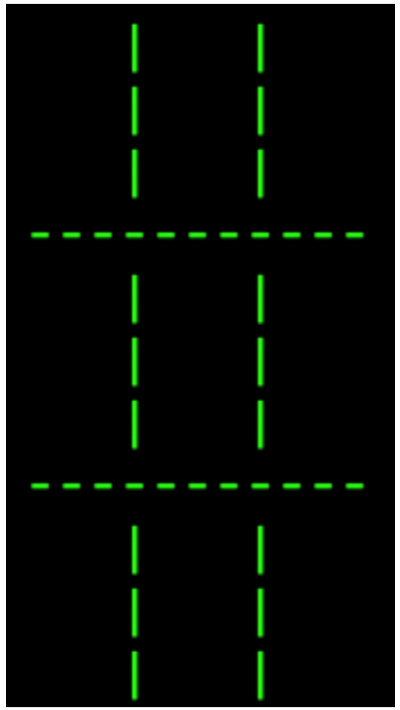
JS

# Activity

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



# Stretch

If you figure it out, try researching **arrays** and **loops** and see if you can do it that way.

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# For tomorrow...

JS

... take a look at **variables** and **mathematical operators.**

https://developer.mozilla.org/en-US/docs/Learn/JavaScript/First_steps/Variables

https://www.youtube.com/watch?v=XgSjoHgy3Rk

https://www.w3schools.com/js/js_arithmetic.asp

What is the difference between **let** & **const?**
What mathematical operator **returns the remainder**?

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