{CODENATION}

the Master Course

{CODENATION}

JAVASCRIPT FUNDAMENTALS

Dot Notation

Learning Objectives

To understand what Dot Notation is.

To understand different Data Types

To be able to create a simple Random Number Generator Program

What is Javascript?

The language of the Full Stack Developer

& not just limited to websites!

JS

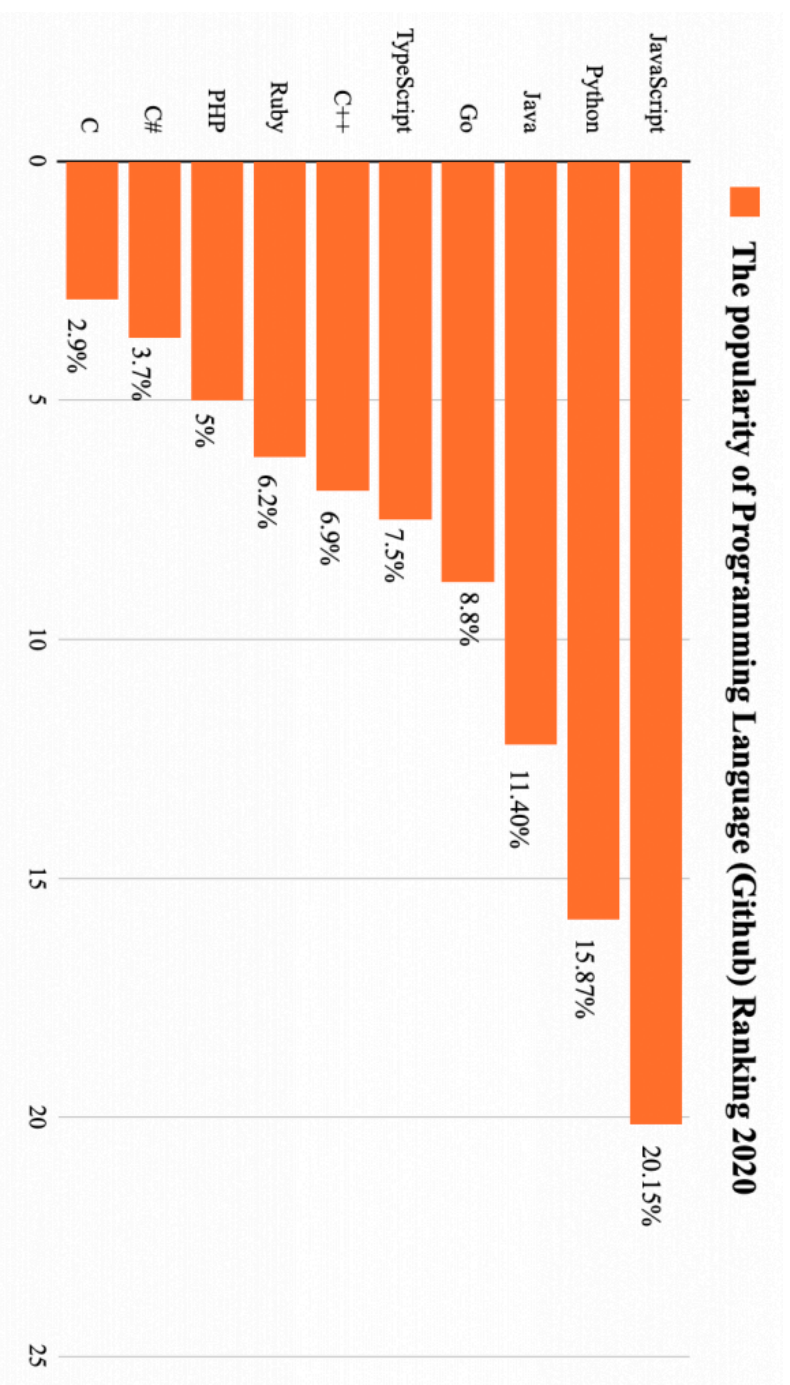{CODENATION}

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

JS

{ CODENATION }

The popularity of Programming Language (Github) Ranking 2020

Language	Percentage
JavaScript	20.15%
Python	15.87%
Java	11.40%
Go	8.8%
TypeScript	7.5%
C++	6.9%
Ruby	6.2%
PHP	5%
C#	3.7%
C	2.9%

Dot Notation

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

{CODENATION}

Dot Notation

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

JS

```js
car.startEngine();
dev.makeCoffee();
```

JS

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

So this is where we're going to start.

METHODS and DATA

...are **intimately** linked

{CODENATION}

JS

Lets look at some...

Data Types

But hang on...

.. what **ARE** data types?

JS

Working with Data Types

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

Simple, right?

JS

Strings

... for representing **text**

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.

{ CODENATION }

JS

What data type am I?

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

JS

{CODENATION}

String

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

JS

All data has **properties**

... additional data or information that is available?

JS

String

Length

For example 'length'

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

JS

All data also has methods

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

JS

Methods

toUpperCase()

trim()

toLowerCase()

String

Length

Data Type

Property

{ CODENATION }

First things first...

... lets download **Vs Code**

JS

{CODENATION}

Some useful Extensions..

> **Beautify**
> **Bracket Pair Colorizer**
> **Live Server**

{CN}

The Terminal

cd, ls, mkdir, touch, rm

{CODENATION}

JS

Node.js

{CODENATION}

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

{ CODENATION }

Hello World!

console.log("Hello World")

is node working?

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

JS

{ CODENATION }

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.

JS

Try this

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

...what happens?

Well done!

... you just used your first string method!

Shh! Libraries

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

JS

So far...

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

Dot notation

Parameters

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

JS

{CODENATION}

Math Library

JS

console.log(Math.random());

Dot notation

Parameters

What happens?

{ CODENATION }

How can we make this better?

{CODENATION}

JS

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

Dot notation

Parameters

What happens?

JS

{ C⏻DENATION }

How can we make this EVEN better?

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

MDN Web Docs
mozilla

JS

Dot notation

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

Parameters

{ C⏻DENATION }

JS

Math.floor

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

JS

{CODENATION}

Math.ceil()

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

Math.floor()

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

Math.round()

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

JS

{ CODENATION }

Learning Objectives

To understand what Dot Notation is.

To understand different Data Types

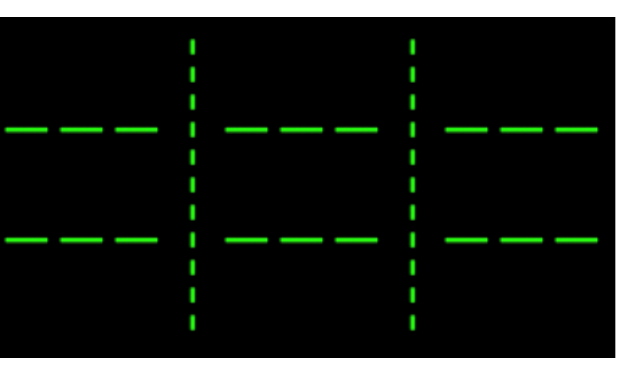To be able to create a simple Random Number Generator Program

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.

JS

{ CODENATION }

For tomorrow…

… 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?**

JS