the Master Course

{CODENATION}

JAVASCRIPT FUNDAMENTALS

Dot Notation

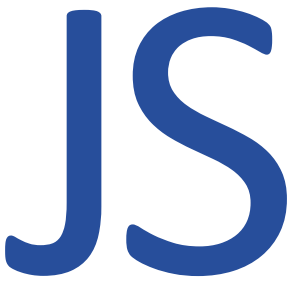
{CODENATION}

{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



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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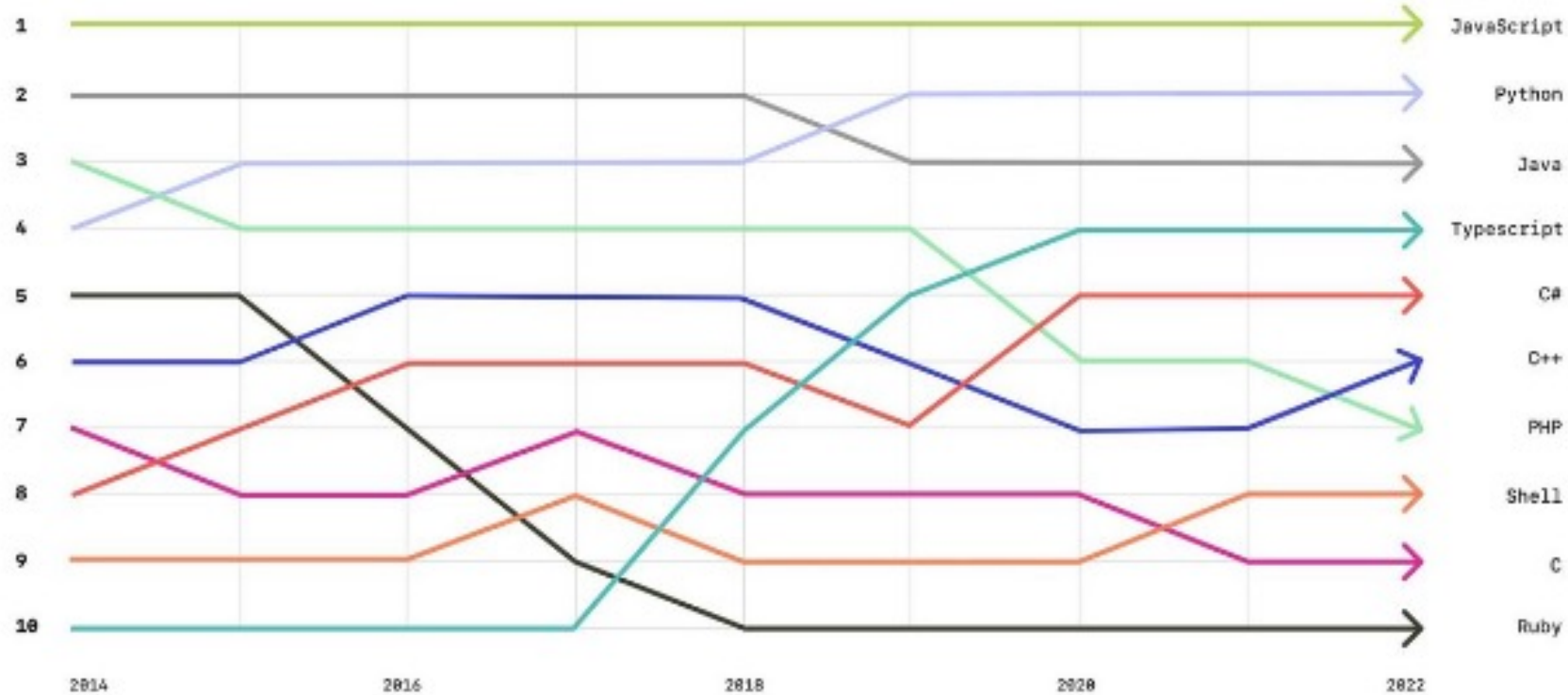
https://solutionshub.epam.com/blog/post/programming-language-popularity-on-github



Top programming languages on GitHub in 2022 (Source: GitHub)

JS

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JS

Dot Notation

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

{CODENATION}

Dot Notation


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

```
object.property
```

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JS

```
car.startEngine();

dev.makeCoffee();
```

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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.

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JS

METHODS and DATA

…are intimately linked

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JS

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 are asking the computer to work with.

Simple, right?

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.

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JS

What data type am I?

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

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String

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

{CODENATION}

JS

All data has properties

... additional data or information that is available?

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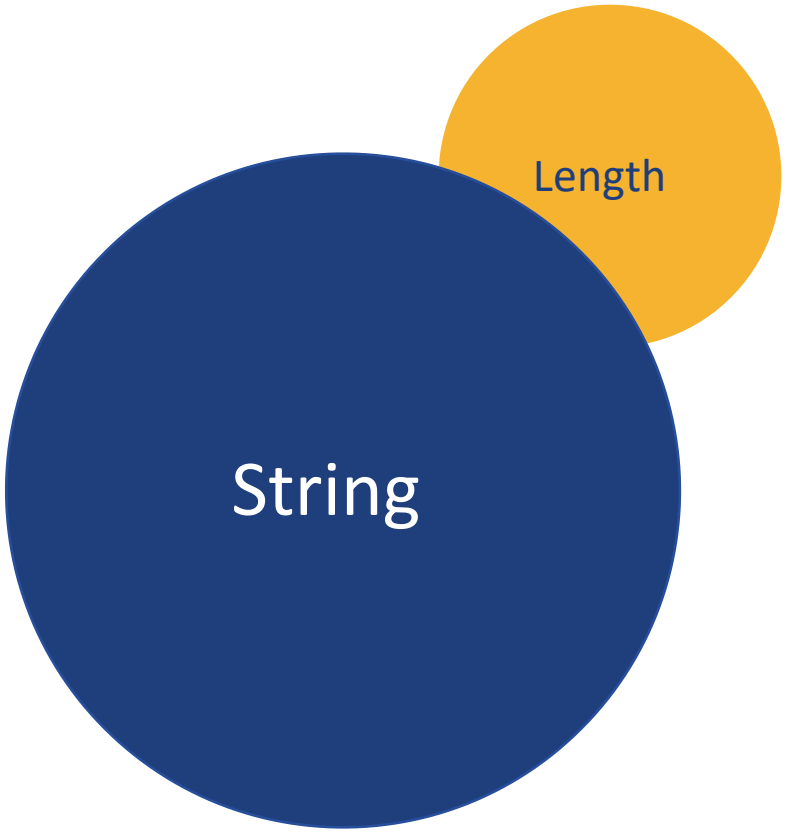

JS

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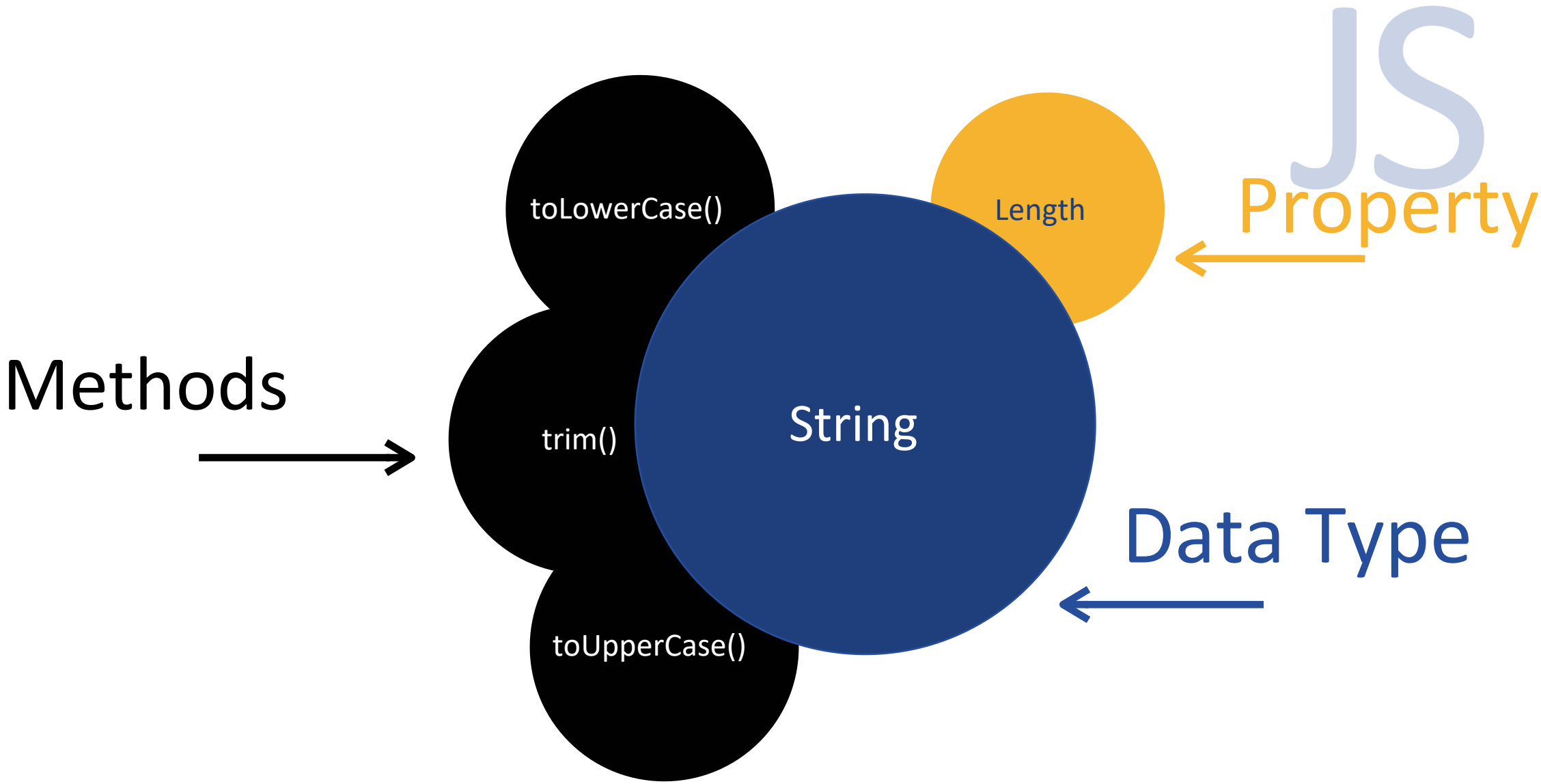
JS
Property
Length
Methods
toLowerCase()
trim()
String
toUpperCase()
Data Type

{CODENATION}

JS

The Terminal

cd, ls, mkdir, touch, rm

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Node.js

http://nodejs.org

{CODENATION}

Activity

Using what you have just learnt I want you to use the terminal to go inside of your 'CodeNation' folder made in week 1.

Inside that folder, create another folder called 'Week2'.

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

You can ONLY use the Terminal

{CODENATION}

Try this

Hello World!

console.log(“Hello World”)

is node working?

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

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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?

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JS

Well done!

… you just used your first string method!

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Shh! Libraries

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?

{CODENATION}

JS

How can we make this better?

{CODENATION}

Try this

Dot notation

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

Parameters

What happens?

{CODENATION}

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

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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{CODENATION}

Learning Objectives

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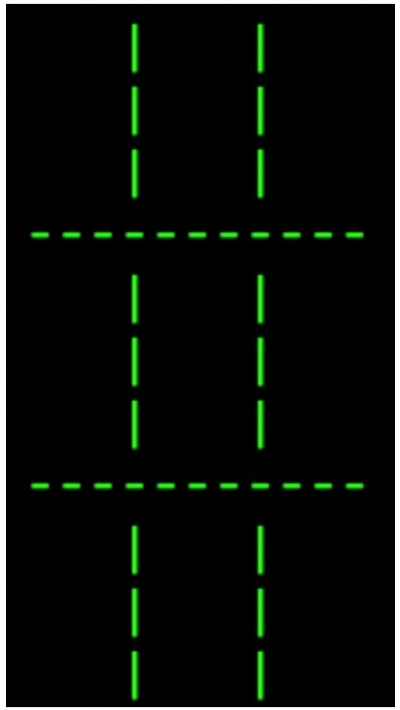
Activity

JS

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 next time...

… 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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