JavaScript Classes and Object Creation

In this lesson, we briefly look at object-oriented programming concepts in JavaScript like classes and objects.

Background

Classes are relatively new to JavaScript as previously, there was only JavaScript's prototype chain which could be used for inheritance too. JavaScript classes build up on top of the prototypical inheritance giving the whole thing a more straightforward representation. Classes in JavaScript are syntactical sugar over prototype chains. You don't need to understand what a prototype chain or prototypical inheritance is for this course but knowing these concepts would give you some context of classes in the language.

What is a class?

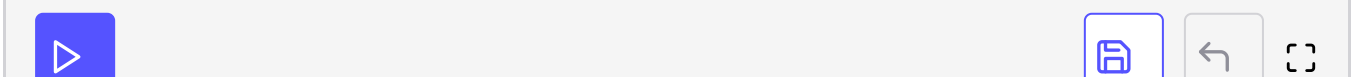
A class is a kind of separate mini-program with a context of its own — methods (functions) and properties (variables). They describe an entity in a way that a computer can understand. Disparate 'instances' (called objects) of a class can be created and treated as variables. Let's examine the following code to learn how classes work in JavaScript.

```
class Developer {
  constructor(firstname, lastname) {
    this.firstname = firstname;
    this.lastname = lastname;
  }

  getName() {
    return `${this.firstname} ${this.lastname}`;
  }
}

var me = new Developer('Robin', 'Wieruch');

console.log(me.getName());
```



Class Object Creation & Initializing Class Variables

The entity described in this example is a 'Developer.' A new object can be created with the `new` keyword and the 'constructor' of the class can be called at the same time as on line 12 to assign values to the class's properties, namely the `firstname` and the `lastname`. The `firstname` of the `me` instance of the class `Developer` is assigned the value 'Robin,' and the `lastname` is assigned 'Wieruch.'

Also, various class methods such as `getName()` can be used to read or write the properties of the object. The `console.log()` method prints whatever is passed as an argument to it.

That's all you need to understand React class components. A JavaScript class is used for defining a React component, but as you will see in the next lesson, the React component is only a React component because it inherits all the abilities from the `_React Component class_` which is imported from the React package.

Coding Challenge: Create a JavaScript class

In the following coding challenge, write a class in JavaScript that describes a car with the properties `color`, `model`, `engineCap` (engine capacity), and `registrationNum` registration number and methods `getColor()`, `getModel()`, `setColor()`, and `setModel()`. Remember to use the exact spelling given here or your code won't pass.

```
// Write-your-code-here
```

Object Creation in JavaScript

Classes — as mentioned previously — are relatively new to Javascript. Objects are a lot like classes. Have a look at the code sample below. Here, we define three objects `computer`, `computer2` and `computer 3`. Each of them has the properties `brand`, `RAM` and `clockspeed`. In addition, `computer3` has the method `printRam()`. Note that objects can be defined on one line as `computer` is

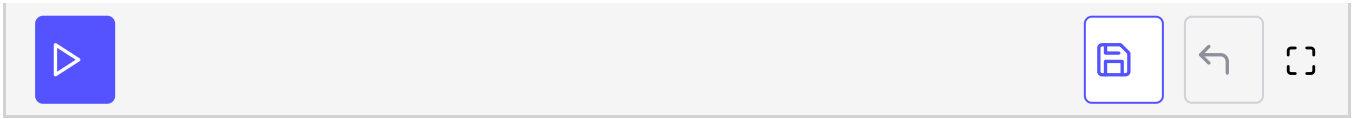
defined or can span multiple lines as the other two are.

```
let computer = { brand : 'HP', RAM : '8 GB', clockspeed : "2 GHz"};

// object definitions can have spaces and newlines!
let computer2 = {
  brand : 'HP',
  RAM : '8 GB',
  clockspeed : "2 GHz"
};

// Objects can also have 'functions' called methods
let computer3 = {
  brand : 'HP',
  RAM : '8 GB',
  clockspeed : "2 GHz",

  printRam() {
    console.log(this.RAM)
  }
}
```



You may have noticed the keyword `this` used in the class declarations, we'll study it in depth in the next lesson.