CLASSES

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- ...a concept in OOP (object oriented programming)
- ...a template or blueprint for an object
- ...quite hard to get your head around the first time!

Just one more thing...

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Classes (in JavaScript) were added in ES6

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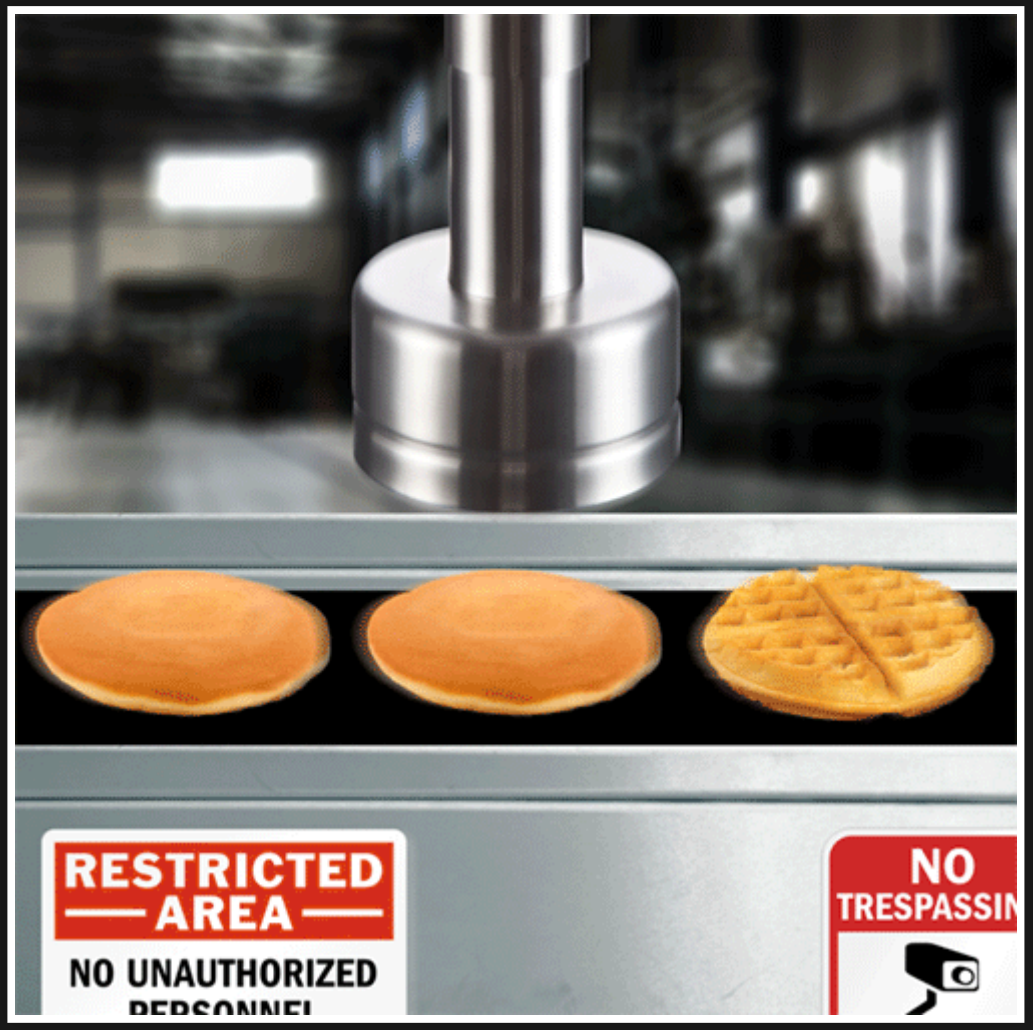
Before we used **prototypes** (not covered in this course)

New words we must learn

- **instantiate** (verb) - to make a copy of something
- **instance** (noun) - refers to the copy
- **method** (noun) - a special function which is attached to an object. Describes some behaviour on that object.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What does a class look like in JavaScript?

```
1 class Animal {
2 }
```

Classes are just like objects - we can store methods and properties on them

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In fact, we could represent our classes as objects.

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In fact, we could represent our classes as objects.

However classes give us a few extra advantages (more on this later)

We don't use classes directly, we must instantiate (copy) them

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We copy using the new keyword

```
1 class Animal {
2 }
3
4 const dog = new Animal();
```

```
class Animal {
}

const dog = new Animal();
const cat = new Animal();
const horse = new Animal();
```

Naming conventions when writing a class

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Class names should be capitalised!

```
Animal {} ✔️
```

not

```
animal {} ❌
```

Naming conventions when writing a class

Class names should be capitalised!

```
Animal {} ✔️
```

not

```
animal {} ❌
```

Instances should NOT be capitalised!

```
const dog = new Animal() ✔️
```

not

```
const Dog = new Animal() ❌
```

Classes can include a special method called the **constructor**, which is called when the class is instantiated

```
class Animal {

        constructor() {
                console.log("I am being instantiated");
        }
}

const dog = new Animal();
```

We can also use the constructor to set properties

We can also use the constructor to set properties

We must use **this** to refer to the itself

```
1  class Animal {
2
3          constructor() {
4                  this.noise = "woof!";
5          }
6  }
7
8  const dog = new Animal();
9
10 console.log(dog.noise); // "woof!"
```

constructor is optional!

```
class Animal {

        constructor() {
                this.noise = "woof!";
        }
}

const dog = new Animal();
const cat = new Animal();

console.log(dog.noise); // "woof!"
console.log(cat.noise); // "woof!" 😹
```

We can also pass in properties via the **constructor**

We can also pass in properties via the **constructor**

Remember the **constructor** is basically just a function

```
class Animal {

        constructor(noise) {
                this.noise = noise;
        }
}

const dog = new Animal("woof!");

console.log(dog.noise); // "woof!"
```

Let's add a method now

```
class Animal {

        constructor(noise) {
                this.noise = noise;
        }

        playNoise() {
                console.log(this.noise);
        }
}

const dog = new Animal("woof!");

dog.playNoise(); // "woof!"
```

I Am Devloper

@iamdevloper

manager: we need to design an admin system for a veterinary centre

dev: ok, this is it, remember your training

class Dog extends Animal {}