Prototype Property

This lesson explains the prototype property of objects and what __proto__ is used for by using an example.

WE'LL COVER THE FOLLOWING

`__proto__` Property

As discussed, in JavaScript, objects contain a property `[[Prototype]]` that is hidden. This property either points to another object or is `null`.

The `[[Prototype]]` property of objects, i.e., `anObject.[[Prototype]]` defines the prototype of `anObject`. It is defined through the `__proto__` property which is used as a setter/getter for the `[[Prototype]]` property; i.e., `__proto__` is used in order to access/set the `[[Prototype]]` property of an object.

Syntax

Let's take a look at the syntax for accessing and setting the `[[Prototype]]` property of an object.

```
//using __proto__ to access and set the [[Prototype]] of "anObject"
anObject.__proto__ = someotherObject
```

Example

Let's take a look at an example to make this concept more clear.

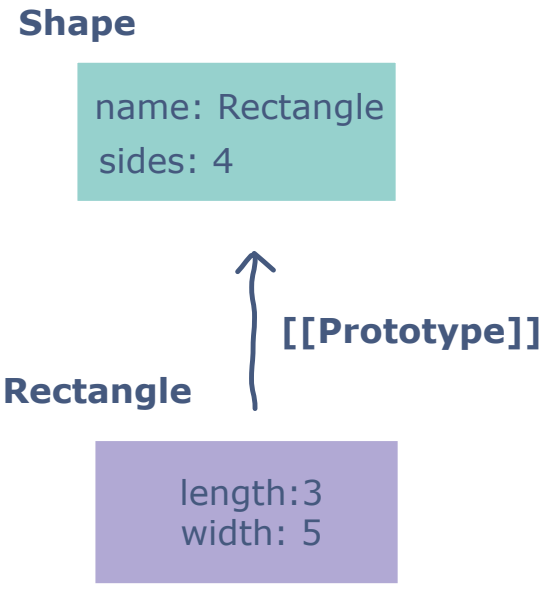
```
//Shape object
var Shape {
```

```
var Shape={
  name: 'Rectangle',
  sides: 4
}

//Rectangle object
var Rectangle = {
  length: 3,
  width: 5
}

//setting [[Prototype]] of Rectangle equal to Shape
Rectangle.__proto__ = Shape

//displaying Rectangle object's properties
console.log("Name of shape is:",Rectangle.name)
console.log("Number of sides are",Rectangle.sides)
console.log("Length is:",Rectangle.length)
console.log("Width is:",Rectangle.width)
```



Rectangle's prototype property set to Shape

Explanation

As seen in the code above:

- Two objects `Shape` and `Rectangle` are created.
- `Shape` contains the properties:
  - `name`
  - `sides`
- At the start, `Rectangle` contains the properties:

    - `length`

    - `width`

- In **line 14**, the `__proto__` property sets `Rectangle`'s `[[Prototype]]` property equal to `Shape`.

Line 14 can translate to:

`Shape` is the prototype of `Rectangle`

or

`Rectangle` inherits prototypically from `Shape`

What do both of the above lines mean? Why does the code above display the `name` and `sides` value when accessed from `Rectangle`? Let's discuss the answers to these questions in the next lesson.