JavaScript

Object Essentials

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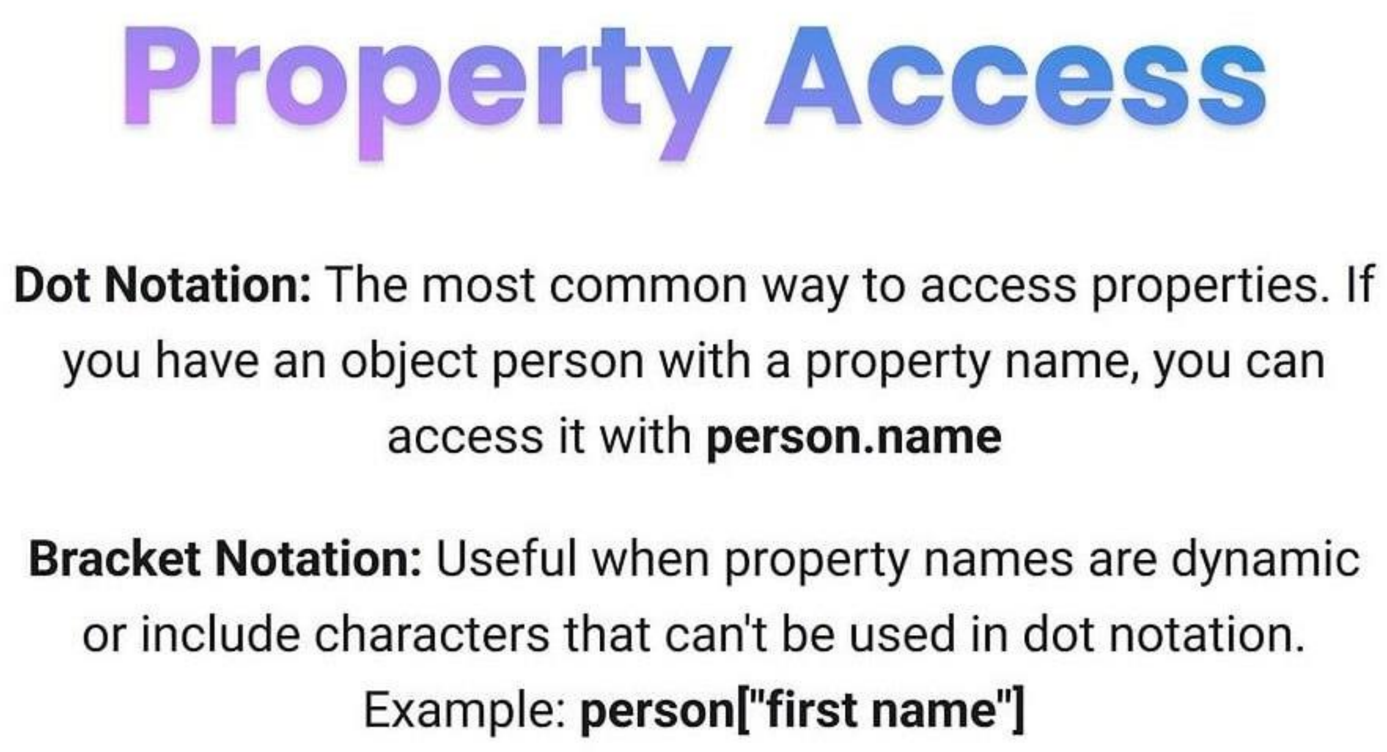


Property Access

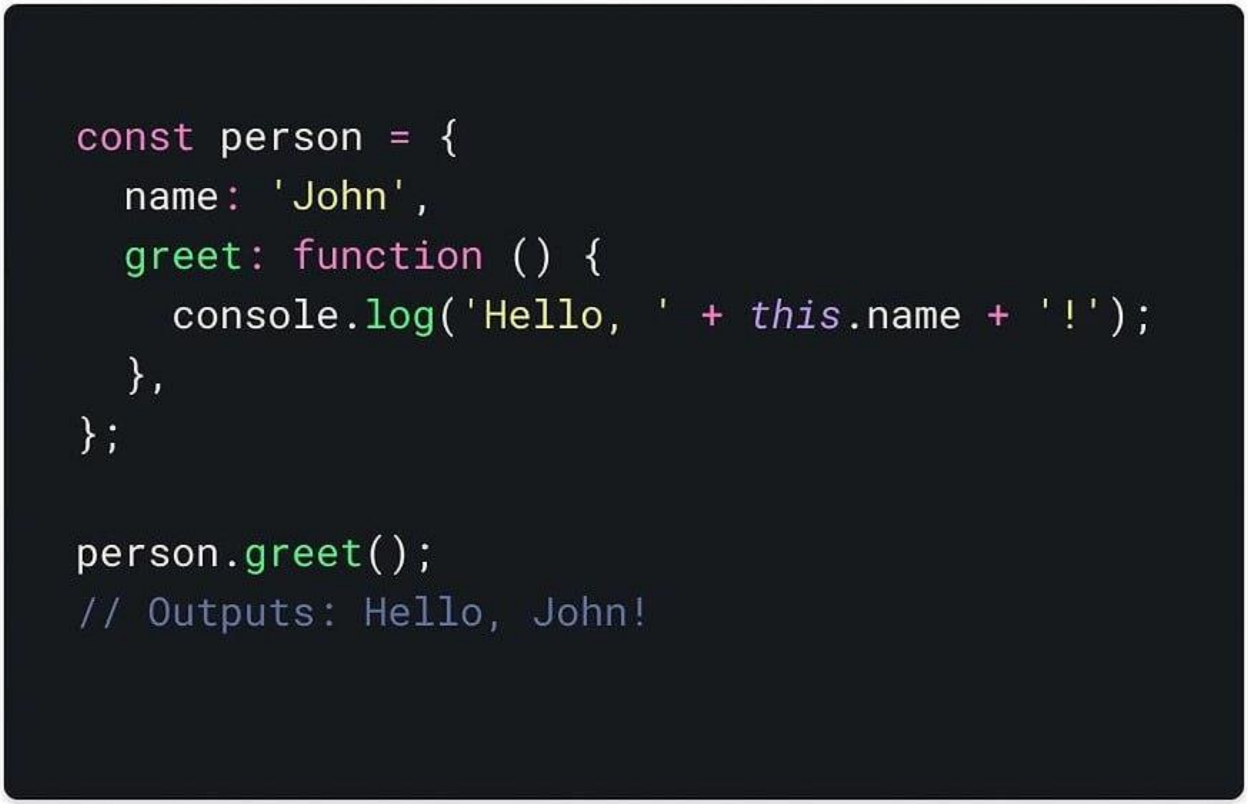
Dot Notation: The most common way to access properties. If you have an object person with a property name, you can access it with **person.name**

Bracket Notation: Useful when property names are dynamic or include characters that can't be used in dot notation. Example: **person["first name"]**

Object Methods

Objects can store functions as properties. These functions are typically called methods when associated with objects.

Within an object method, **this** refers to the object that the method belongs to. However, the value of **this** can change depending on the context in which a function is called.

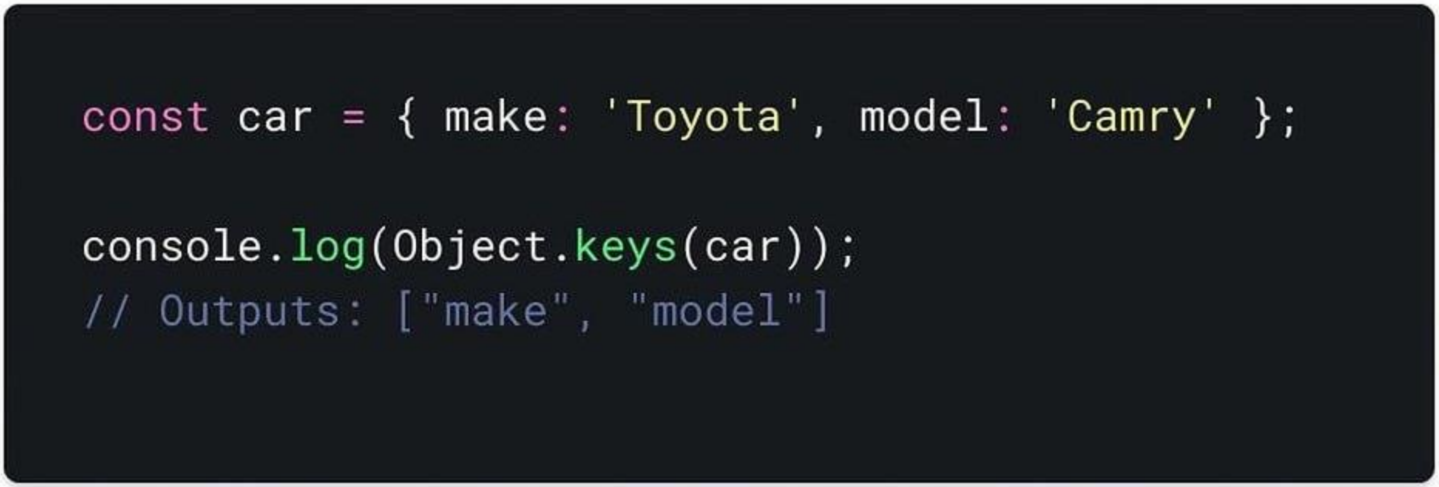


```
const person = {
  name: 'John',
  greet: function () {
    console.log('Hello, ' + this.name + '!');
  },
};

person.greet();
// Outputs: Hello, John!
```

Object Keys

Object.keys() Returns an array of an object's own enumerable property names.

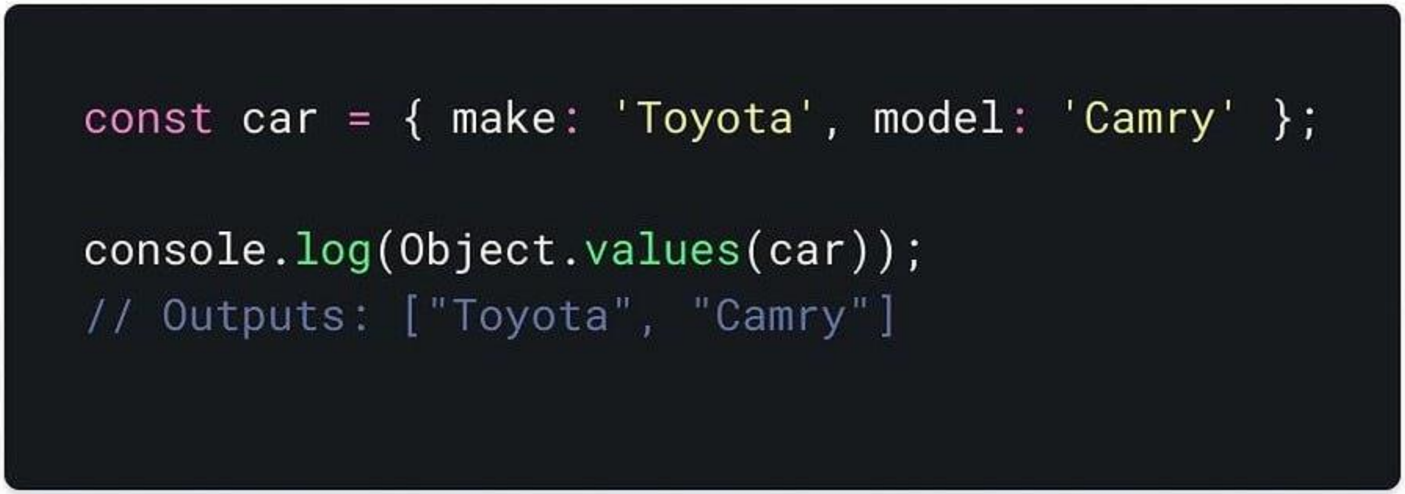


```
const car = { make: 'Toyota', model: 'Camry' };

console.log(Object.keys(car));
// Outputs: ["make", "model"]
```

Object Values

Object.values() Returns an array of an object's own enumerable property values.

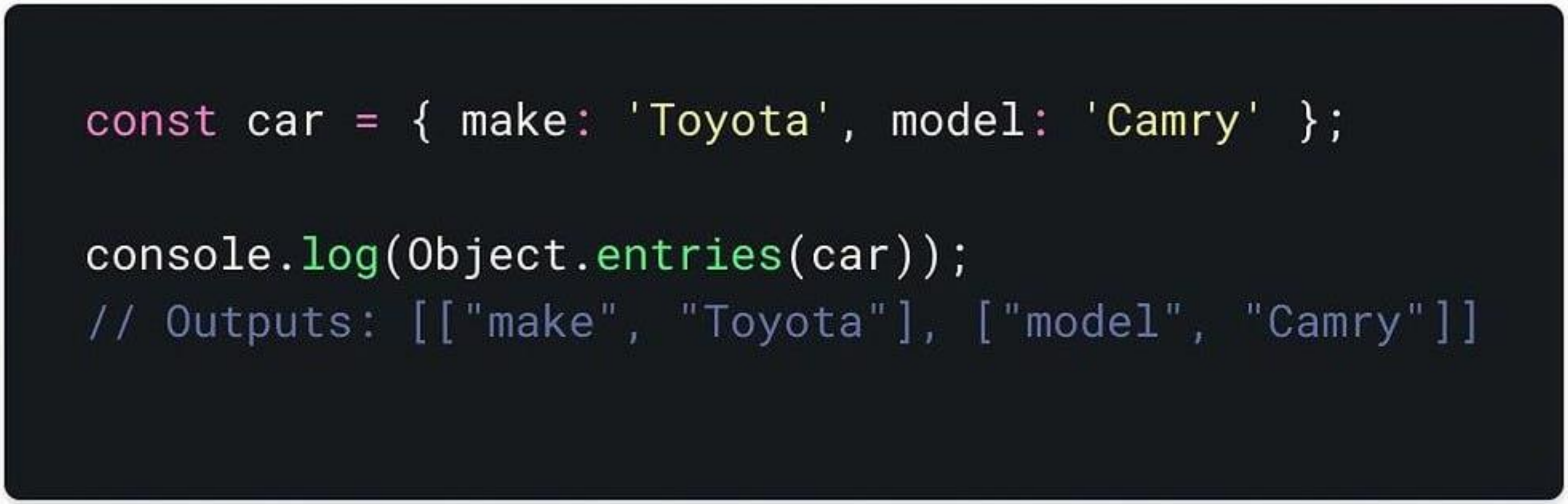


```
const car = { make: 'Toyota', model: 'Camry' };

console.log(Object.values(car));
// Outputs: ["Toyota", "Camry"]
```

Object Entries

Object.entries() Returns an array of [key, value] pairs for an object.

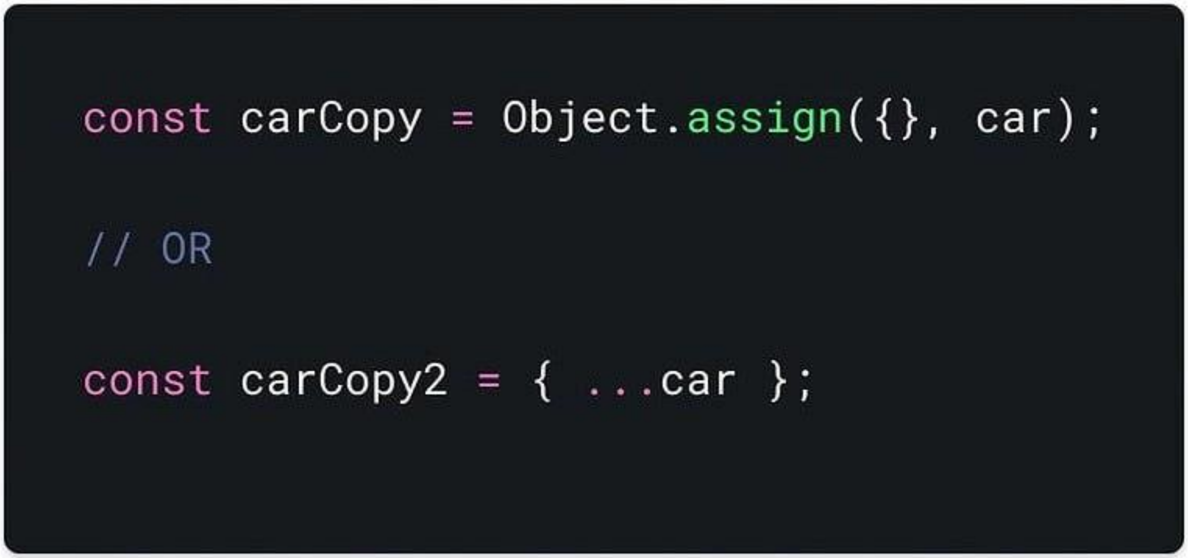


```
const car = { make: 'Toyota', model: 'Camry' };

console.log(Object.entries(car));
// Outputs: [["make", "Toyota"], ["model", "Camry"]]
```

Cloning Objects

Copying objects in JavaScript can be tricky since objects are reference types. To create a shallow copy, you can use the **Object.assign()** method or the spread operator.



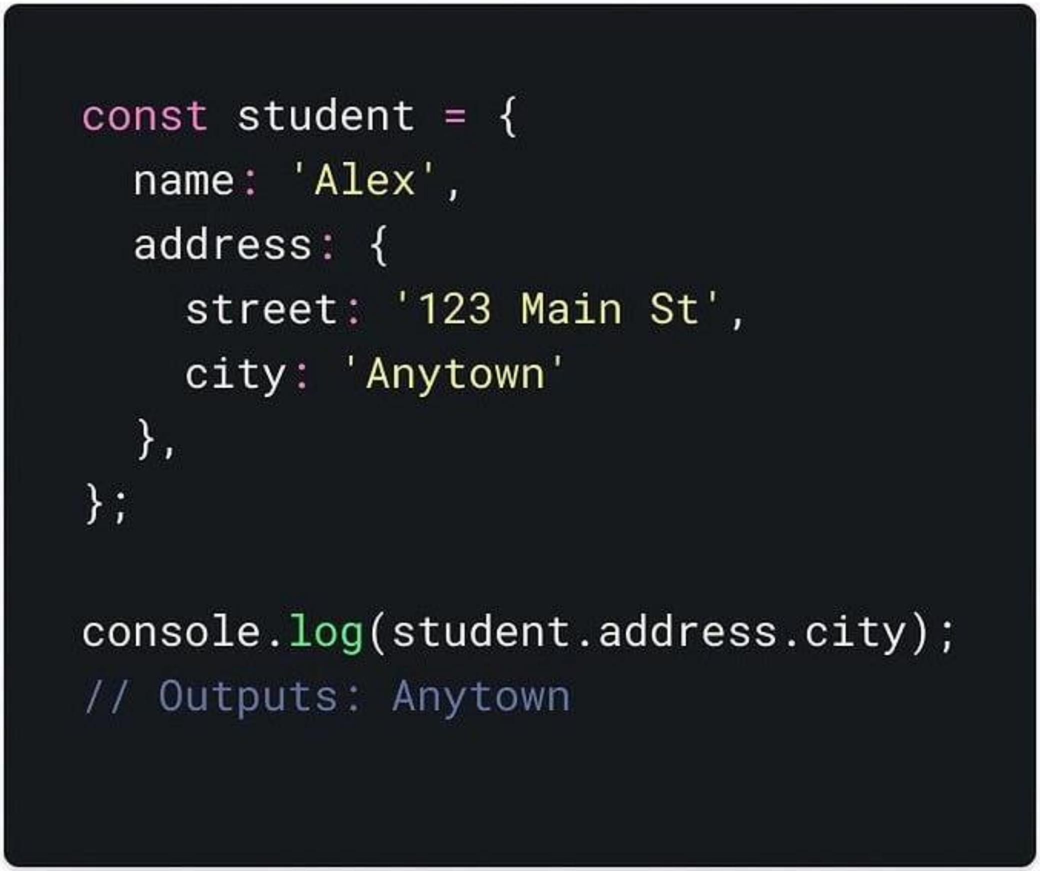
```javascript
const carCopy = Object.assign({}, car);

// OR

const carCopy2 = { ...car };
```

Nested Objects

Objects can contain other objects, leading to a hierarchical structure. Accessing nested objects requires chaining property access.



```
const student = {
  name: 'Alex',
  address: {
    street: '123 Main St',
    city: 'Anytown'
  },
};

console.log(student.address.city);
// Outputs: Anytown
```