



CHAPTER 3

FUNCTIONS, METHODS & OBJECTS



WHAT IS A FUNCTION?



Functions let you group a series of statements together to perform a specific task.



Functions are reusable and save you from writing out the same code over and over.



DECLARING A FUNCTION



```
function
```



```
function sayHello()
```



```
function sayHello() {  
    document.write('Hello');  
}
```



KEYWORD

```
function sayHello() {  
    document.write('Hello');  
}
```



FUNCTION NAME

```
function sayHello() {  
    document.write('Hello');  
}
```



```
function sayHello() {  
    document.write('Hello');  
}
```

CODE BLOCK (IN CURLY BRACES)



CALLING A FUNCTION



```
sayHello();
```



```
sayHello();
```

FUNCTION NAME



DECLARING A FUNCTION THAT NEEDS INFORMATION



```
function
```



```
function getArea()
```



```
function getArea(width, height)
```



```
function getArea(width, height) {  
    return width * height;  
}
```



PARAMETER PARAMETER

```
function getArea(width, height) {  
  return width * height;  
}
```



```
function getArea(width, height) {  
  return width * height;  
}
```

THE PARAMETERS ARE USED LIKE
VARIABLES WITHIN THE FUNCTION



CALLING A FUNCTION
THAT NEEDS
INFORMATION



```
getArea(3, 5);
```



```
getArea(3, 5);
```



ARGUMENTS



OBJECTS



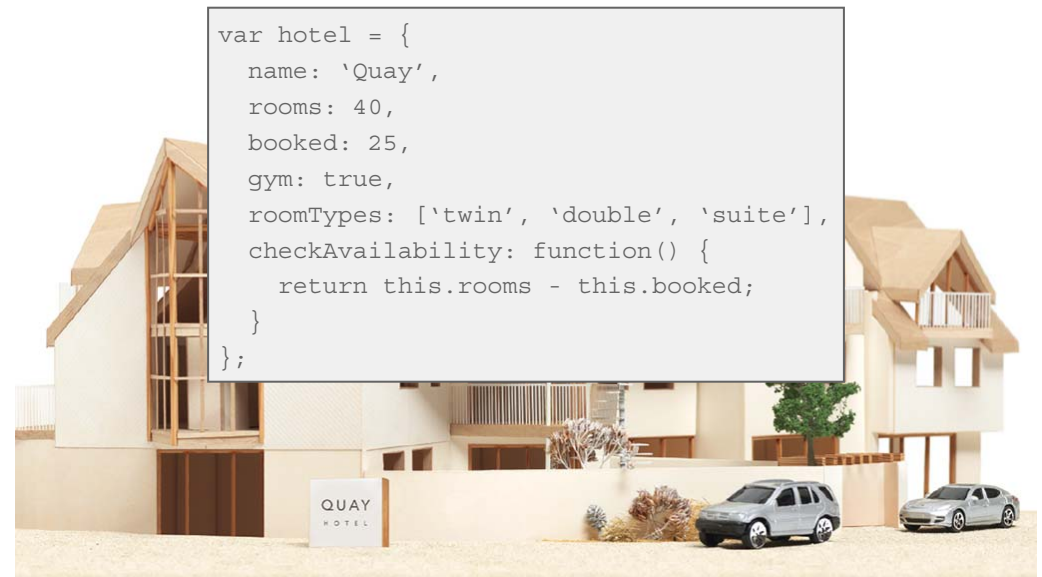
Objects **group together** variables and functions to create a model.



In an object, variables and functions take on new names. They become **properties** and **methods**.



Each property or method consists of a **name** (also known as a **key**) and its corresponding **value**.



```
var hotel = {  
  name: 'Quay',  
  rooms: 40,  
  booked: 25,  
  gym: true,  
  roomTypes: ['twin', 'double', 'suite'],  
  checkAvailability: function() {  
    return this.rooms - this.booked;  
  }  
};
```

NAMES (KEYS)

```
var hotel = {  
  name: 'Quay',  
  rooms: 40,  
  booked: 25,  
  gym: true,  
  roomTypes: ['twin', 'double', 'suite'],  
  checkAvailability: function() {  
    return this.rooms - this.booked;  
  }  
};
```


VALUES

```
var hotel = {  
  name: 'Quay',  
  rooms: 40,  
  booked: 25,  
  gym: true,  
  roomTypes: ['twin', 'double', 'suite'],  
  checkAvailability: function() {  
    return this.rooms - this.booked;  
  }  
};
```

PROPERTIES

```
var hotel = {  
  name: 'Quay',  
  rooms: 40,  
  booked: 25,  
  gym: true,  
  roomTypes: ['twin', 'double', 'suite'],  
  checkAvailability: function() {  
    return this.rooms - this.booked;  
  }  
};
```

METHOD

```
var hotel = {  
  name: 'Quay',  
  rooms: 40,  
  booked: 25,  
  gym: true,  
  roomTypes: ['twin', 'double', 'suite'],  
  checkAvailability: function() {  
    return this.rooms - this.booked;  
  }  
};
```

ACCESSING OBJECTS



```
var hotelName = hotel.name;
```



```
var hotelName = hotel.name;  
                OBJECT
```



```
var hotelName = hotel.name;  
                PROPERTY
```



```
var hotelName = hotel['name'];
```



```
var hotelName = hotel['name'];
```

OBJECT



```
var hotelName = hotel['name'];
```

PROPERTY



UPDATING OBJECTS



```
hotel.name = 'Park';
```



```
hotel.name = 'Park';
```

OBJECT



```
hotel.name = 'Park';
```

PROPERTY



```
hotel.name = 'Park';
```

NEW VALUE



```
hotel['name'] = 'Park';
```



```
hotel['name'] = 'Park';
```

OBJECT



```
hotel['name'] = 'Park';
```

PROPERTY



```
hotel['name'] = 'Park';
```

NEW VALUE



BUILT-IN OBJECTS



1

1

Browser Object Model

THE WEB BROWSER



BROWSER OBJECT MODEL

PROPERTIES INCLUDE:

`window.innerHeight`

`window.innerWidth`

`window.screenX`

`window.screenY`

METHODS INCLUDE:

`window.print()`



1

Browser Object Model

THE WEB BROWSER

2

1

Browser
Object Model

THE WEB BROWSER

2

Document
Object Model

THE PAGE LOADED IN
THE WEB BROWSER
(OR TAB)



DOCUMENT OBJECT MODEL

PROPERTIES INCLUDE:

`document.title`

`document.lastModified`

METHODS INCLUDE:

`document.write()`

`document.getElementById()`



1

Browser
Object Model

THE WEB BROWSER

2

Document
Object Model

THE PAGE LOADED IN
THE WEB BROWSER
(OR TAB)

3

1

Browser
Object Model

THE WEB BROWSER

2

Document
Object Model

THE PAGE LOADED IN
THE WEB BROWSER
(OR TAB)

3

Global
JavaScript
Objects

GENERAL PURPOSE
OBJECTS JAVASCRIPT
NEEDS TO WORK



GLOBAL JAVASCRIPT OBJECTS

PROPERTIES INCLUDE:

`saying.length`

METHODS INCLUDE:

`saying.toUpperCase()`

`saying.toLowerCase()`

`saying.charAt(3)`

