JavaScript Function Invocation

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The code inside a JavaScript `function` will execute when "something" invokes it.

Invoking a JavaScript Function

The code inside a function is not executed when the function is **defined**.

The code inside a function is executed when the function is **invoked**.

It is common to use the term "**call a function**" instead of "**invoke a function**".

It is also common to say "call upon a function", "start a function", or "execute a function".

In this tutorial, we will use **invoke**, because a JavaScript function can be invoked without being called.

Invoking a Function as a Function

Example

```
function myFunction(a, b) {
  return a * b;
}
myFunction(10, 2);           // Will return 20
```

Try it Yourself »

The function above does not belong to any object. But in JavaScript there is always a default global object.

In HTML the default global object is the HTML page itself, so the function above "belongs" to the HTML page.

In a browser the page object is the browser window. The function above automatically becomes a window function.

myFunction() and window.myFunction() is the same function:

Example

```
function myFunction(a, b) {
  return a * b;
}
window.myFunction(10, 2);    // Will also return 20
```

Try it Yourself »

This is a common way to invoke a JavaScript function, but not a very good practice.
Global variables, methods, or functions can easily create name conflicts and bugs in the global object.

The *this* Keyword

In JavaScript, the thing called `this`, is the object that "owns" the current code.

The value of `this`, when used in a function, is the object that "owns" the function.

Note that `this` is not a variable. It is a keyword. You cannot change the value of `this`.

Tip: Read more about the `this` keyword at JS this Keyword.

The Global Object

When a function is called without an owner object, the value of `this` becomes the global object.

In a web browser the global object is the browser window.

This example returns the window object as the value of `this` :

Example

```
var x = myFunction();             // x will be the window object

function myFunction() {
  return this;
}
```

Try it Yourself »

Invoking a function as a global function, causes the value of **this** to be the global object.
Using the window object as a variable can easily crash your program.

Invoking a Function as a Method

In JavaScript you can define functions as object methods.

The following example creates an object (**myObject**), with two properties (**firstName** and **lastName**), and a method (**fullName**):

Example

```
var myObject = {
  firstName:"John",
  lastName: "Doe",
  fullName: function () {
    return this.firstName + " " + this.lastName;
  }
}
myObject.fullName();         // Will return "John Doe"
```

Try it Yourself »

The **fullName** method is a function. The function belongs to the object. **myObject** is the owner of the function.

The thing called `this`, is the object that "owns" the JavaScript code. In this case the value of `this` is **myObject**.

Test it! Change the **fullName** method to return the value of `this`:

Example

```
var myObject = {
  firstName:"John",
  lastName: "Doe",
  fullName: function () {
```

```
    return this;
  }
}
myObject.fullName();          // Will return [object Object] (the owner object)
```

Try it Yourself »

Invoking a function as an object method, causes the value of `this` to be the object itself.

Invoking a Function with a Function Constructor

If a function invocation is preceded with the `new` keyword, it is a constructor invocation.

It looks like you create a new function, but since JavaScript functions are objects you actually create a new object:

Example

```
// This is a function constructor:
function myFunction(arg1, arg2) {
  this.firstName = arg1;
  this.lastName  = arg2;
}

// This creates a new object
```

```
var x = new myFunction("John", "Doe");
x.firstName;                             // Will return "John"
```

Try it Yourself »

A constructor invocation creates a new object. The new object inherits the properties and methods from its constructor.

The `this` keyword in the constructor does not have a value.
The value of `this` will be the new object created when the function is invoked.

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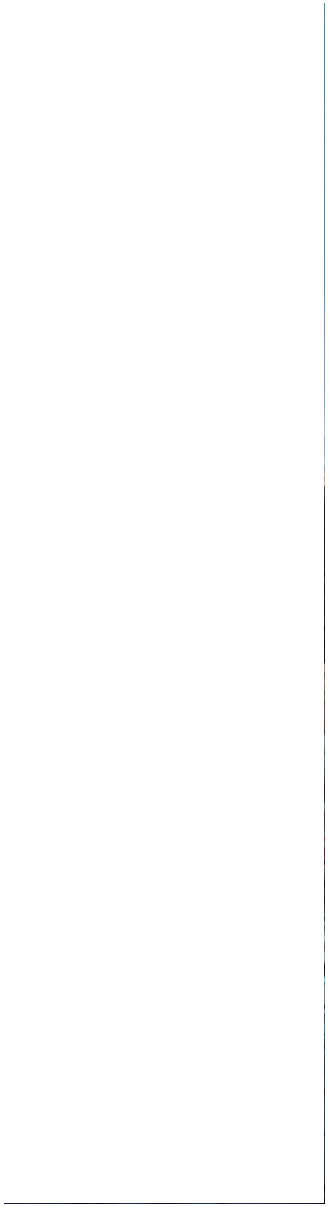

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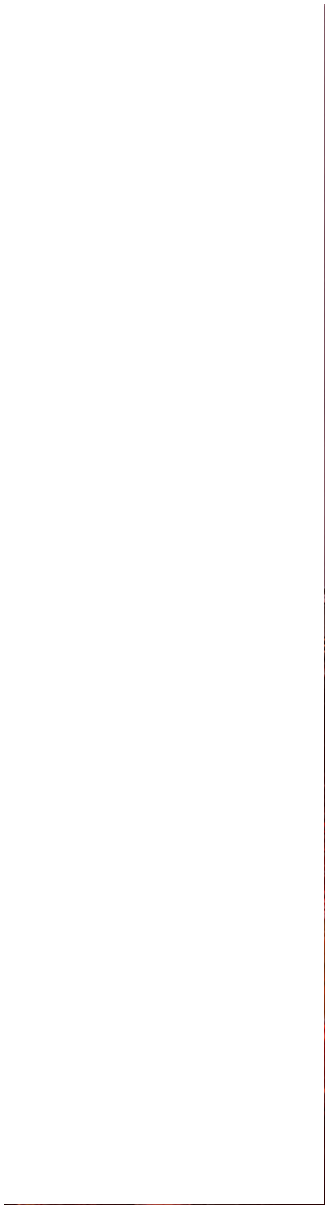

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