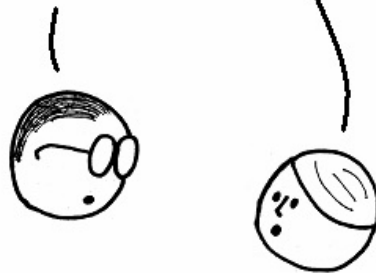


Learn Javascript

This book will teach you the basics of programming and Javascript. Whether you are an experienced programmer or not, this book is intended for everyone who wishes to learn the JavaScript programming language.

HOW DOES COMPUTER
PROGRAMMING WORK?

MAGIC.



JavaScript (*JS for short*) is the programming language that enables web pages to respond to user interaction beyond the basic level. It was created in 1995, and is today one of the most famous and used programming languages.

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Comments

Comments are statements that will not be executed by the interpreter, comments are used to mark annotations for other programmers or small descriptions of what your code does, thus making it easier for others to understand what your code does.

In Javascript, comments can be written in 2 different ways:

- Line starting with `//`:

```
// This is a comment, it will be ignored by the interpreter  
var a = "this is a variable defined in a statement";
```

- Section of code starting with `/*` and ending with `*/`, this method is used for multi-line comments:

```
/*  
This is a multi-line comment,  
it will be ignored by the interpreter  
*/  
var a = "this is a variable defined in a statement";
```

Exercise

Mark the editor's contents as a comment

```
Mark me as a comment  
or I'll throw an error
```

Indices

So you have your array of data elements, but what if you want to access a specific element? That is where indices come in. An **index** refers to a spot in the array. indices logically progress one by one, but it should be noted that the first index in an array is 0, as it is in most languages. Brackets [] are used to signify you are referring to an index of an array.

```
// This is an array of strings
var fruits = ["apple", "banana", "pineapple", "strawberry"];

// We set the variable banana to the value of the second element of
// the fruits array. Remember that indices start at 0, so 1 is the
// second element. Result: banana = "banana"
var banana = fruits[1];
```

Exercise

Define the variables using the indices of the array

```
var cars = ["Mazda", "Honda", "Chevy", "Ford"]
var honda =
var ford =
var chevy =
var mazda =
```

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Length

Arrays have a property called length, and it's pretty much exactly as it sounds, it's the length of the array.

```
var array = [1, 2, 3];  
  
// Result: 1 = 3  
var l = array.length;
```

Exercise

Define the variable a to be the number value of the length of the array

```
var array = [1, 1, 2, 3, 5, 8];  
var l = array.length;  
var a =
```

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Declaring Functions

Functions, like variables, must be declared. Let's declare a function `double` that accepts an **argument** called `x` and **returns** the double of `x` :

```
function double(x) {  
    return 2 * x;  
}
```

Note: the function above **may** be referenced before it has been defined.

Functions are also values in JavaScript; they can be stored in variables (just like numbers, strings, etc ...) and given to other functions as arguments :

```
var double = function(x) {  
    return 2 * x;  
};
```

Note: the function above **may not** be referenced before it is defined, just like any other variable.

Exercise

Declare a function named ``triple`` that takes an argument and returns its triple

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Reference

Objects are **never copied**. They are passed around by reference.

```
// Imagine I had a pizza
var myPizza = {slices: 5};
// And I shared it with You
var yourPizza = myPizza;
// I eat another slice
myPizza.slices = myPizza.slices - 1;
var numberOfSlicesLeft = yourPizza.slices;
// Now We have 4 slices because myPizza and yourPizza
// reference to the same pizza object.
var a = {}, b = {}, c = {};
// a, b, and c each refer to a
// different empty object
a = b = c = {};
// a, b, and c all refer to
// the same empty object
```

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