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JavaScript For Loop

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Loops can execute a block of code a number of times.

JavaScript Loops

Loops are handy, if you want to run the same code over and over again, each time with a different value.

Often this is the case when working with arrays:

Instead of writing:







```
Q
```

```
text += cars[2] + "<br>";
text += cars[3] + "<br>";
text += cars[4] + "<br>";
text += cars[5] + "<br>";
```

You can write:

```
var i;
for (i = 0; i < cars.length; i++) {
  text += cars[i] + "<br>;
}
```

Try it Yourself »

Different Kinds of Loops

JavaScript supports different kinds of loops:

- for loops through a block of code a number of times
- for/in loops through the properties of an object
- for/of loops through the values of an iterable object
- while loops through a block of code while a specified condition is true
- do/while also loops through a block of code while a specified condition is true





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The for loop has the following syntax:

```
for (statement 1; statement 2; statement 3) {
   // code block to be executed
}
```

Statement 1 is executed (one time) before the execution of the code block.

Statement 2 defines the condition for executing the code block.

Statement 3 is executed (every time) after the code block has been executed.

Example

```
for (i = 0; i < 5; i++) {
  text += "The number is " + i + "<br>";
}
```

Try it Yourself »

From the example above, you can read:

Statement 1 sets a variable before the loop starts (var i = 0).

Statement 2 defines the condition for the loop to run (i must be less than 5).

Statement 3 increases a value (i++) each time the code block in the loop has been executed.





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Statement 1

Normally you will use statement 1 to initialize the variable used in the loop (i = 0).

This is not always the case, JavaScript doesn't care. Statement 1 is optional.

You can initiate many values in statement 1 (separated by comma):

Example

```
for (i = 0, len = cars.length, text = ""; i < len; i++) {
  text += cars[i] + "<br>";
```

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And you can omit statement 1 (like when your values are set before the loop starts):

Example



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```
var text = "";
for (; i < len; i++) {
  text += cars[i] + "<br>;
}
```

Try it Yourself »

Statement 2

Often statement 2 is used to evaluate the condition of the initial variable.

This is not always the case, JavaScript doesn't care. Statement 2 is also optional.

If statement 2 returns true, the loop will start over again, if it returns false, the loop will end.

If you omit statement 2, you must provide a **break** inside the loop. Otherwise the loop will never end. This will crash your browser. Read about breaks in a later chapter of this tutorial.

Statement 3

Often statement 3 increments the value of the initial variable.

This is not always the case, JavaScript doesn't care, and statement 3 is optional.





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Statement 3 can also be omitted (like when you increment your values inside the loop):

Example

```
var i = 0;
var len = cars.length;
for (; i < len; ) {</pre>
  text += cars[i] + "<br>";
  i++;
```

Try it Yourself »

The For/In Loop

The JavaScript for/in statement loops through the properties of an object:

Example

```
var person = {fname:"John", lname:"Doe", age:25};
var text = "";
var x;
for (x in person) {
```





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Try it Yourself »

The For/Of Loop

The JavaScript for/of statement loops through the values of an iterable objects

for/of lets you loop over data structures that are iterable such as Arrays, Strings, Maps, NodeLists, and more.

The for/of loop has the following syntax:

```
for (variable of iterable) {
 // code block to be executed
```

variable - For every iteration the value of the next property is assigned to the variable. Variable can be declared with const, let, or var.

iterable - An object that has iterable properties.

Looping over an Array

Example

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Looping over a String

Example

```
var txt = 'JavaScript';
var x;

for (x of txt) {
  document.write(x + "<br >");
}
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```

The While Loop





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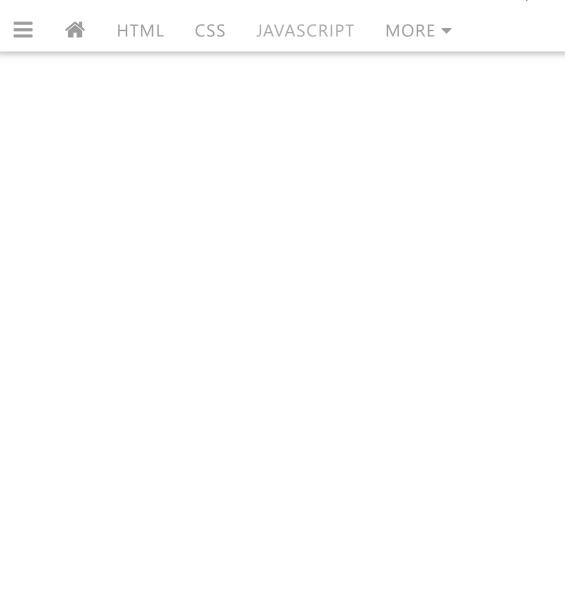
Exercise:

Create a loop that runs from 0 to 9.

```
var i;
  console.log(i);
}
```

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Start the Exercise



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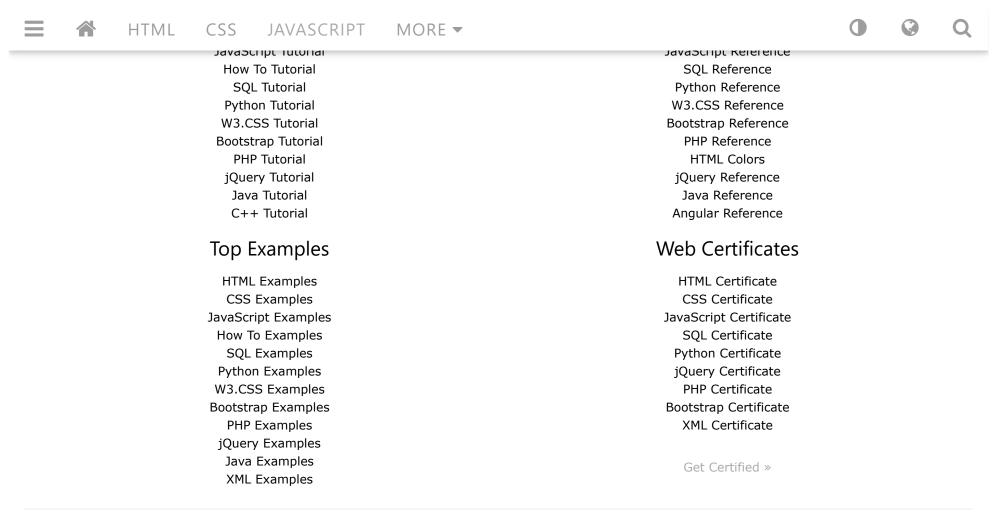
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