JavaScript Loops 15th **July** 2020

Loops are handy, if you want to run the same code over and over again, each time with a different value. Loops can execute a block of code a number of times and offer a quick and easy way to do something repeatedly.

Often this is the case when working with arrays:

Example 1:

```
text += cars[0] + "<br>";
text += cars[1] + "<br>";
text += cars[2] + "<br>";
text += cars[3] + "<br>";
text += cars[4] + "<br>";
text += cars[5] + "<br>";
```

Example 2:

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

The above examples, example 1 and example 2 both do the same task but example 2 loops through the array, making the code shorter and reducing repetition, Ooh, Remember to avoid magic number in your loop I mean i.

You can always define the variable first ea shown below:

```
const SECONDS_IN_A_DAY =86400;
for(i =0; I < SECONDS_IN_A_DAY; i +=1;){
// block of code
}
```

The basic JavaScript loops are for, while, do ... while, break/continue, for ... in, for...of.

1). **for loop**.

A **for** loop repeats until a specified condition evaluates to false. The JavaScript for loop is similar to any strongly typed language like C for loop.

Syntax of a JavaScript for loop:

```
for ([initialExpression]; [condition]; [incrementExpression]){

    //block of code to be executed
}
```

Example:

Express the idea "Go five steps to the east" c as a loop:

Solution:

```
var step;
for (step = 0; step < 5; step++) {
  // Runs 5 times, with values of step 0 through 4.
  console.log('Walking east one step');
}
```

2). **while loop**

A **while** statement executes its statements as long as a specified condition evaluates to true. A while statement looks as follows:

Syntax of a JavaScript while loop:

```
while (condition)
  statement
```

Example:

```
var n = 0;

var x = 0;
while (n < 3) {
  n++;
  x += n;
}
```

Caveat:

Avoid infinite loops. Make sure the condition in a loop eventually becomes false—otherwise, the loop will never terminate! The statements in the following while loop execute forever because the condition never becomes false:

```
// Infinite loops are bad!

While (true){

console.log("Hello, world");

}
```

3). **do...while loop**

The **do...while** loop is similar to the **while** loop except that the do...while loop doesn't evaluate the condition for the first time the loop executes. However, the condition is evaluated for the subsequent iterations.

Syntax of a JavaScript do...while loop:

```
do

statement

while (condition);
```

Example:

```
var i = 0;

do {
  i += 1;
  console.log(i);
} while (i < 5);
```

4), **for...in statement.**

The for...in loop is used to loop through an object's properties. JavaScript executes the specified statements.

Syntax of a JavaScript for...in statement:

```
for (variablename in object) {

   statement or block to execute

}
```

Example

```
var obj = {a:1, b:2, c:3};

for (var prop in obj) {
   console.log(obj[prop]);
}
var arr = [3, 5, 7];
arr.foo = 'hello';

for (var i in arr) {
   console.log(i); // logs "0", "1", "2", "foo"
}
```

5). **for...of loop**

The for...of loop is used to iterate iterables instead of object literals.

Syntax of a JavaScript for...in statement:

```
for (variablename of object) {

   statement or block to execute
}
```

Example

```
var arr = [3, 5, 7];

arr.foo = 'hello';

for (var i of arr) {
   console.log(i); // logs 3, 5, 7
```

Use the break statement to terminate a loop, switch or in conjunction with a labeled statement while the continue statement can be used to restart awhile do–while for or label statement. We have decided to carry forward break and continue statement for the weekend, which will be optional.

Always make sure that you have fun while you're learning how to code with JavaScript!

Let celebrate women in tech today, Remember **"Men of quality respects women's equality"** #100DaysofJavaScriptWithLux

Remember Ellen PAO form reddit CEO said, We need to understand that if we all work on inclusion together, it's going to be faster, broader, better, and more thorough than anything we can do on our own.

Best Wishes Lux Tech Academy.

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