

JavaScript Comma Operator

Summary: in this tutorial, you'll learn about the JavaScript comma operator and its usage.

Introduction to the JavaScript comma operator

JavaScript uses a comma (,) to represent the comma operator. A comma operator takes two expressions, evaluates them from left to right, and returns the value of the right expression.

Here's the syntax of the comma operator:

```
leftExpression, rightExpression
```

For example:

```
let result = (10, 10 + 20);  
console.log(result);
```

Output:

```
30
```

In this example, the `10` , `10+20` returns the value of the right expression, which is `10+20` . Therefore, the result value is `30` .

See the following example:

```
let x = 10;  
let y = (x++, x + 1);  
  
console.log(x, y);
```

Output:

```
11 12
```

In this example, we increment the value of `x` by one (`x++`), add one to `x` (`x+1`) and assign `x` to `y` . Therefore, `x` is `11` , and `y` is `12` after the statement.

However, to make the code more explicit, you can use two statements rather than one statement with a comma operator like this:

```
let x = 10;
x++;
let y = x + 1;

console.log(x, y);
```

This code is more explicit.

In practice, you might want to use the comma operator inside a `for` loop to update multiple variables each time through the loop.

The following example uses the comma operator in a `for` loop to display an array of nine elements as a matrix of 3 rows and three columns:

```
let board = [1, 2, 3, 4, 5, 6, 7, 8, 9];
let s = '';

for (let i = 0, j = 1; i < board.length; i++, j++) {
  s += board[i] + ' ';
  if (j % 3 == 0) {
    console.log(s);
    s = '';
  }
}
```

Output:

```
1 2 3
4 5 6
7 8 9
```

How it works.

First, define an array called `board` that stores numbers from 1 to 9, representing the board:

```
let board = [1, 2, 3, 4, 5, 6, 7, 8, 9];
```

Second, declare a variable and initialize its value to an empty string:

```
let s = '';
```

Third, declare two variables inside the loop. `i` for iterating over elements of `board` array and `j` is a counter that increments with each iteration:

```
for (let i = 0, j = 1; i < board.length; i++, j++)
```

Fourth, append each element in the `board` array and a space to the string `s`, display the `s` if the counter (`j`) is divisible by 3, and reset the string `s`:

```
s += board[i] + ' ';  
if (j % 3 == 0) {  
  console.log(s);  
  s = '';  
}
```

Finally, execute the loop body until all elements of the `board` array have been processed.

Summary

- A comma operator takes two expressions, evaluates them from left to right, and returns the value of the right expression.
- Use the comma operator (`,`) inside a `for` loop to update multiple variables once.
- Use two statements rather than the comma operator elsewhere to make the code more explicit and easily understood.

Quiz