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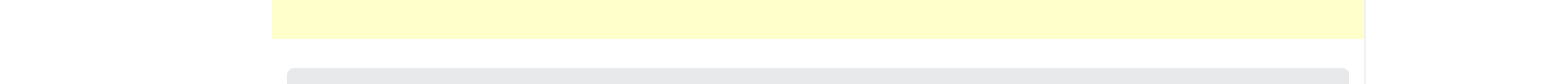
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JavaScript Random Integers

Next

Math.random()

Math.random() returns a random number between 0 (inclusive), and 1 (exclusive):

Math.random() always returns a number lower than 1.

JavaScript Random Integers

Next

Math.random()

Math.random() used with Math.floor() can be used to return random integers.

Note

There is no such thing as JavaScript integers.

We are talking about numbers with no decimals here.

Example

// Return a random integer from 0 to 9 (both included):  
Math.floor(Math.random() \* 10);

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Explained:

Math.random() returns a floating-point number between 0 (inclusive) and 1 (exclusive).

Example outputs: 0.0, 0.237, 0.9999, but never 1.

Math.random() \* 10 gives a range from 0 up to but not including 10.

Example possible results: 0.0, 3.5, 9.99, etc.

Math.floor() rounds a number down to the nearest whole integer:

- 3.5 becomes 3
- 9.99 becomes 9
- 0.1 becomes 0

The possible integer results are then **0 through 9** (both inclusive).

In other words, the range is **[0, 9]**.

Example

// Return a random integer from 0 to 10 (both included):  
Math.floor(Math.random() \* 11);

Try it Yourself »

Example

// Return a random integer from 0 to 99 (both included):  
Math.floor(Math.random() \* 100);

Try it Yourself »

Example

// Return a random integer from 0 to 100 (both included):  
Math.floor(Math.random() \* 101);

Try it Yourself »

Example

// Return a random integer between 1 and 10 (both included):  
Math.floor(Math.random() \* 10) + 1;

Try it Yourself »

Explained:

Math.random() returns a **number** from 0 (inclusive) up to but not including 1.

Multiplying by 10 gives a number from 0 up to but not including 10.

Adding 1 shifts that range to 1 up to but not including 11.

Math.floor() then rounds down, so you get an **integer** between 1 and 10.

Example

// Returns a random integer from 1 to 100 (both included):  
Math.floor(Math.random() \* 100) + 1;

Try it Yourself »

Summary

Expression	Range from	Range to
Math.random()	0	<1
Math.random() * 10	0	<10
Math.random() * 100	0	<100
Math.floor(Math.random() * 10)	0	9

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A Proper Random Function

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As you can see from the examples above, it might be a good idea to create a proper random function to use for all random integer purposes.

This JavaScript function always returns a **random integer** between min (included) and max (excluded):

Example

function getRndInteger(min, max) {  
 return Math.floor(Math.random() \* (max - min) ) + min;  
}

Try it Yourself »

This JavaScript function always returns a **random integer** between min and max (both included):

Example

function getRndInteger(min, max) {  
 return Math.floor(Math.random() \* (max - min + 1) ) + min;  
}

Try it Yourself »

Exercise ?

How many parameters can the Math.random() method take?

☐ 0

☐ 1

☐ 2

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