



Operators and Expressions

Statements

- We have been using statements to execute our JavaScript code
- Statements often have *expressions*
- Expressions produce values

Expression

- So if you think back to $LHS = RHS$, the LHS is a variable and the RHS is what generates the value
- What are our tools for generating values on the RHS?

Assignment Operators

Operator	Example	Value stored in x
=	x = 5	5
=	y = 12 x = y	12

Arithmetic Operators

Operator	Example	Value stored in x
+	$x = 2 + 5$	7
-	$x = 5 - 2$	3
*	$x = 2 * 5$	10
/	$x = 5/2$	2.5
%	$x = 5\%2$	1

More Operators

Operator	Example	Value stored in x
++	<pre>x = 5; x++;</pre>	6
--	<pre>x = 12; x--</pre>	11
+=	<pre>x = 2; x+=5</pre>	7

String Operators

Operator	Example	Value stored in x
+	x = "Hi" + "There"	"HiThere"
+	x = "Hi" + 5	"Hi5"
+=	x = "Hi" x += "There"	"HiThere"

Boolean Operators

- We can also use operators to compare values
- Assume `x = 12`;

Operator	Example	Returns
<code>==</code>	<code>x == 5</code>	false
<code>==</code>	<code>x == 12</code>	true
<code>!=</code>	<code>x != 5</code>	true

Boolean Operators

- Assume $x = 12$;

Operator	Example	Returns
$>$	$x > 12$	false
$>=$	$x >= 12$	true
$<$	$x < 12$	false
$<=$	$x <= 12$	true

Boolean Operators

- Assume `x = 12`;

Operator	Example	Returns...
<code>==</code>	<code>x == "12"</code>	true
<code>===</code>	<code>x === "12"</code>	false
<code>!==</code>	<code>x !== 12</code>	false

- You need to really stop and think about these operators...

Logical Operators

- Assume $x = 12$;

Operator	Example	returns...
<code>&&</code>	<code>(15 > x) && (x > 5)</code> both sides must be true	true
<code> </code>	<code>(15 > x) (x > 5)</code> at least one side must be true	true
<code>!</code>	<code>!(x == 12)</code>	false

Review

- Programming is not just about knowing the syntax of a language
- You need to think about the logic behind what you want to do, before you start to code

Acknowledgements/Contributions

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