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
++	x = 5; x++;	6
--	x = 12; x--	11
+=	x = 2; x+=5	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
==	x ==5	false
==	x ==12	true
!=	x !=5	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…
==	x == “12”	true
===	x === “12”	false
!===	x !== 12	false

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

Logical Operators

- Assume x = 12;

Operator	Example	returns…
&&	(15 > x) && (x > 5) both sides must be true	true
||	(15 > x) || (x > 5) at least one side must be true	true
!	!(x == 12)	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

Initial Development: Colleen van Lent , University of Michigan School of Information