

# Intro to Comparisons



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lesson, you  
should be  
able to...



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## 1. Use the boolean data type



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2. Use logical *operators* in *expressions*



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2. Use logical *operators* in *expressions*
3. Create functions that use logical *operators*



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1. Use the `boolean` data type
2. Use logical *operators* in *expressions*
3. Create functions that use logical *operators*
4. Describe "truthy" vs "falsy" values



# Let's Review!





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# Let's Review!

Type



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Type

Different categories of data (ex: a number or a boolean)



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Operator



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## Operator

Does something to data, resolves an *expression* (example: `+` )



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## Expression



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## Type

Different categories of data (ex: a number or a boolean)

## Operator

Does something to data, resolves an *expression* (example: `+`)

## Expression

Code that resolves to a value (example: `3 + 1`, `"Yan " + "Fan"`)



## (A few) Types in JavaScript

name	examples
number	1, -5, 1.0001
string	"Hello world!", 'I love coding!'
boolean	true, false
null	null
undefined	undefined
object	[1, 234.05, 'asdf', '#hello', [1, 2, 3 ] ] { a: 1, b: "two" }
function	function() { /* function body */ }





# Expressions!

An *expression* is any valid unit of code that *resolves* to a *value*.

Today, we will learn about the most familiar and basic:

- Arithmetic *expressions*: expressions that *evaluate* to a number
  - $3 + 4$  evaluates to 7
- Logical *expressions*: expressions that evaluate to true or false
  - $7 === 7$  evaluates to true



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# Operators!

*Operators* do something. What they do depends on what kind they are. *Operators* help evaluate *expressions*.

- Arithmetic operators:  $1 + 1$
- Comparison operators:  $1 < 2$



# Comparison Operators

<b>==</b>	Returns true IF operands ARE equal
<b>===</b>	Returns true IF operands ARE equal AND same type
<b>!=</b>	Returns true IF operands are NOT equal
<b>!==</b>	Returns true IF operands are NOT equal OR not same type



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What is the difference between == and ===?









# Try the following in your console!



# Try the following in your console!

5 === "5"



Try the following in your console!

5 === "5"

5 == "5"



# Table of Comparison Operators

<b>==</b>	Returns true IF operands are equal
<b>===</b>	RT IF operands ARE equal AND same type
<b>!=</b>	RT IF operands are NOT equal
<b>!==</b>	RT IF operands are NOT equal OR NOT same type
<b>&gt;</b>	RT IF operand on the left is greater than right
<b>&gt;=</b>	RT IF operand on the left is greater than or equal to right
<b>&lt;</b>	RT IF operand on the left is less than right
<b>&lt;=</b>	RT IF operand on the left is less than or equal to right



That was a lot of  
information!  
Where can we go  
to find it?



# Mozilla Developer Network! (MDN)

<https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Operators>



# REVIEW TIME





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- What is a boolean?



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- What is an *expression*?



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Give an example.



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Give an example.
- What do the following operators mean?



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Give an example.
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  - >
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Give an example.
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  - >
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  - ==
  - !==
  - <=







# Let's get started with exercises!



# Activity

Follow exercises online for *Intro to Comparisons*

