Operators Cheat Sheet
Supplemental information for Week 2: Operators/Objects I

An operator is a symbol that tells R to perform a specific task, and to perform it the same way each time it is used. R has several types of operators, categorized as arithmetic, relational, assignment, logical, and miscellaneous.

Arithmetic Operators

Operator	Description	Example
+	Adds two objects.	4+3 [1] 7
-	Subtracts two objects.	4-3 [1] 1
*	Multiplies two objects.	4*3 [1] 12
/	Divides two objects.	4/2 [1] 2
%%	Gives the remainder when the first object is divided by the second	5 %% 3 [1] 2
%/%	Divides two objects; drops the remainder	5 %/% 3 [1] 1
^	First object is raised to the exponent of the second object	4 ^ 3 [1] 64

Relational Operators compare two objects. If the object has more than one element (e.g. vectors), relational operators compare each element of the first object to the corresponding element of the second object. Output is a Boolean (True/False) object.

Operator	Description	Example
>	Checks if the first object is greater than the second object.	4 > 3 [1] TRUE
<	Checks if the first object is less than the second object.	4 < 3 [1] FALSE
==	Checks if the objects are equal/identical.	4 == 3 [1] FALSE
<=	Checks if the first object is less than or equal to the second object	4 <= 3 [1] FALSE
>=	Checks if the first object is greater than or equal to the second object	4 >= 3 [1] TRUE
!=	Checks if objects are unequal/not identical	4 != 3 [1] TRUE

Assignment Operators assign values to objects. In RStudio, these objects will appear in your Environment pane.

Operator	Description	Example
<- **Or** **=**	Assigns value to object.	a <- c(2, 4, 6) print(a) [1] 2 4 6

Logical Operators

Operator	Description	Example
&	"And" operator. Typically used when calling multiple relational expressions.	a <- c(2, 4, 6) a > 3 & a < 5 [1] FALSE TRUE FALSE
|	"Or" operator. Typically used when calling multiple relational expressions.	a <- c(2, 4, 6) a < 3 | a > 5 [1] TRUE FALSE TRUE

Miscellaneous Operators

Operator	Description	Example
:	Creates a series of numbers in sequence	a <- 2:5 print(a) [1] 2 3 4 5
%in%	Checks if an object can be found in a vector or matrix	a <- 2:5 4 %in% a [1] TRUE
%*%	Matrix multiplication (not to be confused with the * operator, which multiplies individual elements in a matrix)	a %*% b