r_int_day_1_r_operator

Nicholus Tint Zaw

2022-10-27

Content

Types of the operator in R language

1. Arithmetic Operators
2. Logical Operators
3. Relational Operators
4. Assignment Operators
5. Miscellaneous Operator

referenace: https://www.geeksforgeeks.org/r-operators/

Arithmetic Operators

Addition operator (+):

```
1 + 1
```

```
## [1] 2
```

```
c(1, 3, 5) + c(4, 6, 8)
```

```
## [1]  5  9 13
```

Subtraction Operator (-):

```
569 - 456
```

```
## [1] 113
```

```
c(4, 69, 20) - c(34, 45, 200)
```

```
## [1]  -30   24 -180
```

```r
set.seed(2435)

x <- sample(1:10, 3, replace=TRUE)
y <- sample(1:10, 3, replace=TRUE)

x
```

```
## [1] 6 8 9
```

```r
y
```

```
## [1]  9 10 10
```

```r
x - y
```

```
## [1] -3 -2 -1
```

Multiplication Operator (*):

```r
4 * 5
```

```
## [1] 20
```

```r
x * y
```

```
## [1] 54 80 90
```

Division Operator (/):

```r
30/3
```

```
## [1] 10
```

```r
y/x
```

```
## [1] 1.500000 1.250000 1.111111
```

Power Operator (^):

```r
690 ^ 0
```

```
## [1] 1
```

```
x ^ 1
```

```
## [1] 6 8 9
```

```
x ^ y
```

```
## [1]   10077696 1073741824 3486784401
```

Modulo Operator (%%):

```
22%%7
```

```
## [1] 1
```

```
x %% 3
```

```
## [1] 0 2 0
```

```
x %% y
```

```
## [1] 6 8 9
```

Logical Operators

Logical AND operator (&):

```
random <- sample(1:20, 10, replace = TRUE)

random
```

```
##  [1]  3  2  5 14 17 18  6 14 11  2
```

```
random >= 3 & random < 10
```

```
##  [1]  TRUE FALSE  TRUE FALSE FALSE FALSE  TRUE FALSE FALSE FALSE
```

Logical OR operator (|):

```
random
```

```
##  [1]  3  2  5 14 17 18  6 14 11  2
```

```
random > 3 | random < 10 # why all TRUE?
```

```
##  [1] TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE
```

Relational Operators

```
# greater than
1 > 0
```

```
## [1] TRUE
```

```
c(c, y)
```

```
## [[1]]
## function (...)  .Primitive("c")
##
## [[2]]
## [1] 9
##
## [[3]]
## [1] 10
##
## [[4]]
## [1] 10
```

```
# greater than and equal to
x >= y
```

```
## [1] FALSE FALSE FALSE
```

```
# less than
5 < 2
```

```
## [1] FALSE
```

```
x < y
```

```
## [1] TRUE TRUE TRUE
```

```
# less than and equal to
5 <= 10
```

```
## [1] TRUE
```

```
x
```

```
## [1] 6 8 9
```

```
y
```

```
## [1]  9 10 10
```

```
x <= y
```

```
## [1] TRUE TRUE TRUE
```

```
# equal to
1 == 0 # note: it is double equal
```

```
## [1] FALSE
```

```
1 == 1
```

```
## [1] TRUE
```

```
# not equal to
1 != 0
```

```
## [1] TRUE
```

```
0 != 0
```

```
## [1] FALSE
```

Assignment Operators

```
x <- 1

i <- c(1, 3, 5)

y <- sample(100:200, 5, replace = TRUE)

c(x, i, y)
```

```
## [1]   1   1   3   5 196 121 156 199 198
```

Miscellaneous Operator

%in% Operator:

```
# with numeric vector
x <- c(1, 5, 7, 0, 10)

0 %in% x
```

```
## [1] TRUE
```

```r
15 %in% x
```

```
## [1] FALSE
```

```r
# with string vector
strvector <- c("A", "B", "C", "D")

"A" %in% strvector
```

```
## [1] TRUE
```

```r
"G" %in% strvector
```

```
## [1] FALSE
```