Arithmetic Expressions and Variables in R: Takeaways

Syntax

- Exponentiation: `3^5`
- Integer Division: `17 %/% 5`
- Modulo: `17 %% 5`

VARIABLE USES

- Assigning a value to a variable:

```
value_1 <- 50
value_2 <- 5L
```

- Assigning the result of a calculation to a variable:

```
total <- 5 + 5
average <- (5 + 5 + 5) / 3
```

- Performing calculations using variable names:

```
value_1 + value_2
```

BUILT-IN FUNCTIONS

- Data type of a variable:

```
class(vector_1)
```

Concepts

- R uses the Operator Priority rules from mathematics when evaluating expressions: parentheses are calculated first, then exponentiation, division, multiplication, addition, and finally subtraction.
- R uses the Data type transformation rules to determine the data type of an expression.
    - Operations between values of the **same data type** yield **that same data type**.
    - Operations between values of **different data types** yield **the highest data type**. From highest to lowest, the data types rank as follows:

      `Numeric`

      ,

      `Integer`

      , and

      `Logical`

      .
- There are some rules you need to follow when naming variables in R:

Variable Name	Valid?
`variable_name1`	✓
`variable_name`	✗ *contains a special character*
`variable_name`	✗ *starts with a number*
`variable_name1`	✓
`variable_name`	✗ *starts with a number*
`variable_name`	✗ *starts with an underscore*

Resources

- Notes on naming variables in R