

Problem Set 1

Introduction to R

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Please complete the following questions in R in a quarto document. Please complete each exercise in a different code chunk.

Assignment, arithmetic, logical expressions

1. Assign `x` and `y` to take values 3 and 4.
2. Create a new variable `z` as the product of variables `x` and `y`.
3. Write code to calculate the square of 3. Assign this to a variable `three_squared`.
4. Write a logical expression on whether `x` is greater than 10. When might you need to filter data based on a condition?
5. Write a logical expression testing whether `x` is *not* greater than 10

Sequences

1. Generate vectors containing the numbers 100, 101, 102, 103, 104, and 105 using 3 different methods (e.g., `c()`, `seq()`, `:`). In what scenarios might each method be most convenient?
2. Generate a sequences of all **even** numbers between 0 and 100
3. Create a descending sequence of numbers from 100 to 1, and assign it to a variable.