

# **PROG103: Branches and Loops**

**Conditions in R**

**MARINCS 100B | Intro to Marine Data Science | Winter 2025**

## **Key concepts**

New type of vector!      Logical Vector

Comparisons are "building blocks" of conditions

We can combine comparisons to make more complex comparisons

## What you already know

```
ocean <- (Atlantic, Pacific, Indian)
```

```
perc_area <- (0.17, 0.32, 0.14)
```

```
var <- ocean[perc_area > 0.25]
```

comparison

**Logical vectors**

Long list of TRUE/FALSE

## Comparisons

`==` means equal

`>=<` greater, less

`!` means not equal

`%in%` checks if a value is in a vector

## Combining comparisons

& | and + or

!= not

## Recap

New type of vector: logical vector

Comparisons are how we build conditions

## New vocabulary and lingering questions

New vocabulary

%in%

Lingering questions



## Exercises

See section “Conditions in R” in `prog103exercises.R`

# **PROG103: Branches and Loops**

**Making choices with `if`, `else`, and `else if`**

## **Key concepts**

**Syntax: how it's written**

**Demo in R**

## Recap

## **New vocabulary and lingering questions**

New vocabulary

Lingering questions

## Exercises

See section “Making choices with if, else, and else if” in `prog103exercises.R`



# **PROG103: Branches and Loops**

**Repeating yourself with vectorized functions**

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## **Key concepts**

**What you already know**

**Demo in R**

## Recap

## **New vocabulary and lingering questions**

New vocabulary

Lingering questions

## Exercises

See section “Repeating yourself with vectorized functions” in `prog103exercises.R`

# **PROG103: Branches and Loops**

**Repeating yourself with for loops**



## **Key concepts**

**What they look like**

**What's an iterator?**

**Demo in R**

## Recap

## **New vocabulary and lingering questions**

New vocabulary

Lingering questions

## Exercises

See section “Repeating yourself with vectorized functions” in `prog103exercises.R`