



NTNU

Norwegian University of Science and Technology

Introduction to Julia

Presentation and Workshop

Ronny Bergmann

Julia Users Group Trondheim
and
Department of Mathematical Sciences, NTNU.

Trondheim,

March 20, 2025.

Overview

What is Julia?

Installation & REPL

Mean features

Packages

Pluto Notebooks

Workshop: Let's get you started with Julia!

What is Julia?

Goal: Scientific Computing & Fast Prototyping

Goal: Scientific Computing & Fast Prototyping

Resources

Main homepage <https://julialang.org>

Documentation <https://docs.julialang.org/en/v1/>

Modern Julia Workflows <https://modernjuliaworkflows.org/>

Discourse <https://discourse.julialang.org>

These slides

[https://github.com/Julia-Users-Trondheim/Intro-to-Julia/
blob/main/presentation/introduction-to-julia.pdf](https://github.com/Julia-Users-Trondheim/Intro-to-Julia/blob/main/presentation/introduction-to-julia.pdf)

Installation & REPL

Installation

Read-Eval-Print Loop (REPL)

The Julia command line is called **REPL**.

Quick commands

^ D Quit

^ L Clear console screen

Up Arrow last command

REPL modes

Starting with special characters on REPL enters specific modes

? help mode

quick access to the documentation of a function

Example:

? sqrt displays the help for the sqrt function on REPL,
see also the (HTML) documentation

<https://docs.julialang.org/en/v1/base/math/#Base.sqrt-Tuple{Number}>

] package mode

quick access to manage packages

; shell mode

quick access to shell without exiting Julia,
e.g. to change folders

Mean features

General Code format

General Philosophy

For-loops, while and such

Functions

structs – Data structures

Multiple Dispatch

Packages

Pluto Notebooks

Workshop: Let's get you started with Julia!