# What is so great about Clojure?

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# Personal journey

# Clojure is a Lisp

# What is so great about Lisp?

*”The most powerful programming language is Lisp. If you don’t know Lisp (or its variant, Scheme), you don’t know what it means for a programming language to be powerful and elegant. Once you learn Lisp, you will see what is lacking in most other languages.” — Richard Stallman*

# Almost no special syntax, only data structures

| | |
|---|---|
| Lists | ‘(1 2 3), ‘(fred kees piet) |
| Vectors | [1 2 3 4 5], [fred kees piet] |
| Maps | {:a 1 :b 2 :b 3}, {1 kees 2 piet} |
| Code | (+ 1 2 3) ;; => 6 |
| Naming | (def n 10) |
| Lambda | (def plus-two (fn [a] (+ a *))) |
| | (plus-two 2) ;; => 4 |
| Quote | ‘(+ 1 2 3) ;; => (+ 1 2 3) |

- Parentheses!
- Code is data and data is code (homoiconicity)

# Extensible

- Macro expansion

# The Reader parses the Clojure data structures

# Phase in compilation that transforms source code: ”programs that write programs”

```clojure
(defmacro unless [pred a b]
  `(if (not ~pred) ~a ~b))

;; usage:
(unless false
 (println "Will print")
 (println "Will not print"))
```

Not possible to implement as function. First form is not evaluated!

# Use the command line 1

- Get the command line with: Start > Search for 'cmd'
- Basic commands (replace "<...>" by what you want):

# Blocks

## A normal block

- Use `@@beamer: arbitrary-command@@` to include an arbitrary LaTeX/Beamer command.
- Use `*test*` for alert
- Use `/italics/` for *italics*
- Use `C-c C-b` to change the type of block.

## An alert block

An altert block.

## Example ("An example")

# Learn more:

- Rich Hickey - Clojure made Simple:
  `https://youtu.be/VSdnJDO-xdg`
- Derek Slager - ClojureScript for Skeptics:
  `https://youtu.be/gsffg5xxFQI`