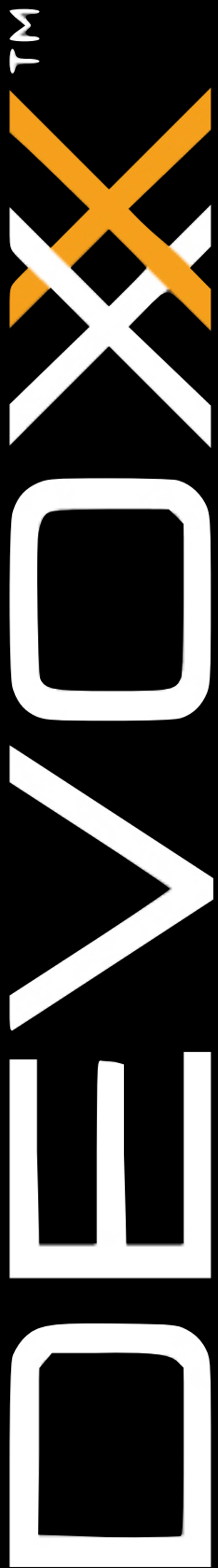


BeClojure School

A gentle introduction to Clojure

Thomas Goossens
@tgoossens
TBD :)

Stijn Opheide
@stijnopheide
WebComrades





BeClojure introduction

Belgian Clojure User Group

Started in 2013

74 members



Our Mission

BeClojure tries to bring together companies, universities, students and hobbyists to share their experiences and expand their knowledge.

TM



What is Clojure?

TM



What is Clojure?

LISP



What is Clojure?

LISP

Functional



What is Clojure?

LISP

Functional

Dynamic




What is Clojure?

LISP

Functional

Dynamic

Hosted



LISP

LISt Processing

Code as data

REPL

TM
XX
LISP

(f a b c)

OX
>
E
O

TM
XX
LISP

(+ 1 2)

OV
E
O

TM
XX
LISP

(+ 1 2 3)

OX
>
E
O



(+ 1 2 (/ 5 2))



REPL

Read Eval Print Loop

TM



Functional

First-class functions



Functional

First-class functions

Immutable data



Functional

First-class functions

Immutable data

In computer science, functional programming is a programming paradigm—a style of building the structure and elements of computer programs—that treats computation as the evaluation of mathematical functions and avoids changing-state and mutable data.

— Wikipedia



Dynamic

Flexible

Interactive

Easier to explore problem

Less verbose

TM



Hosted

JVM

Javascript
(CLR)



Clojure Data

Integer

12345

Double

2.34

Ratio

3/4

String

“beclojure”

Character

\t \h \o \m \a \s



Clojure Data

Boolean

true, false

Symbol

devovx

Keyword

:stijn

Null

nil

Regex

#"[abc].*\d"



Clojure Data: Collections

Vector

[1 2 3 4 5]

List

(1 2 3 4 5)

Set

#{1 2 3 “a”}

Map

{:a 1 :b 2}

TM



Syntax

see previous 3 slides :)



Focus on Data

It is better to have 100 functions operate on one data structure than to have 10 functions operate on 10 data structures.

— Alan J. Perlis



DEMO



Why Clojure?

Simple (not easy)

Functional

Data oriented

Made for concurrency

JVM



How do I start?

Plenty of books

Rick Hickey's Greatest Hits

Youtube ClojureTV

4Clojure, Clojure Koans

Parens of the Dead

Clojure Gazette

Grimoire

Attend BeClojure meetups ;)



Editors / IDEs

Cursive (IntelliJ)

Counterclockwise (Eclipse)

Vim (Fireplace)

Emacs (CIDER, Spacemacs)

Lighttable



More?

core.logic: Logic programming

core.typed: Static typing

core.match: Pattern matching

core.async: Async through CSP



Thank you!

<http://www.meetup.com/BeClojure/>



State

Problem: swap values of 2 variables

```
a=42; b=3;
```

```
c=a;
```

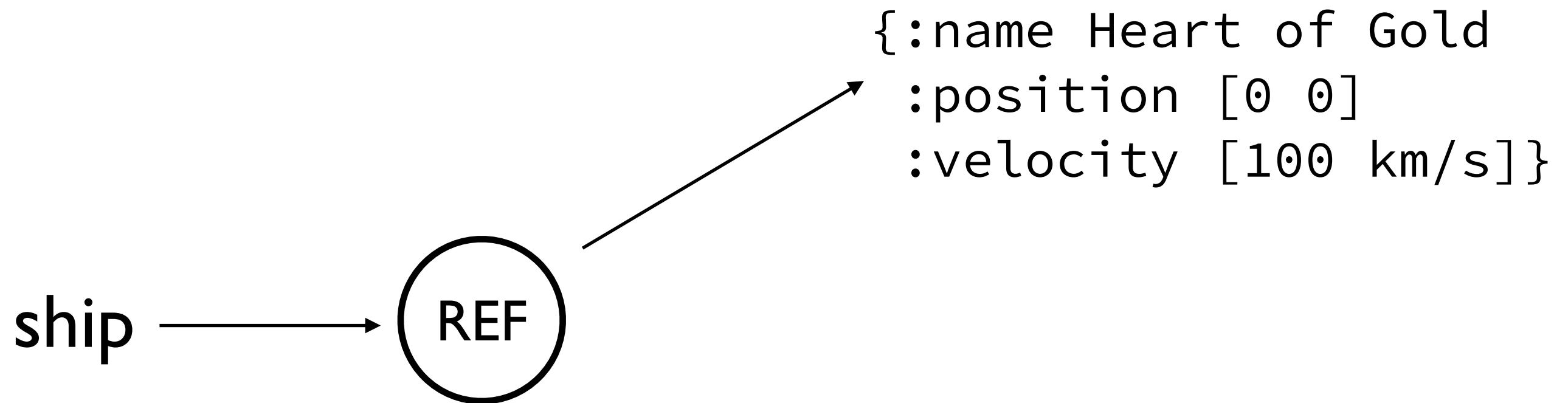
```
a=b;
```

```
b=c;
```



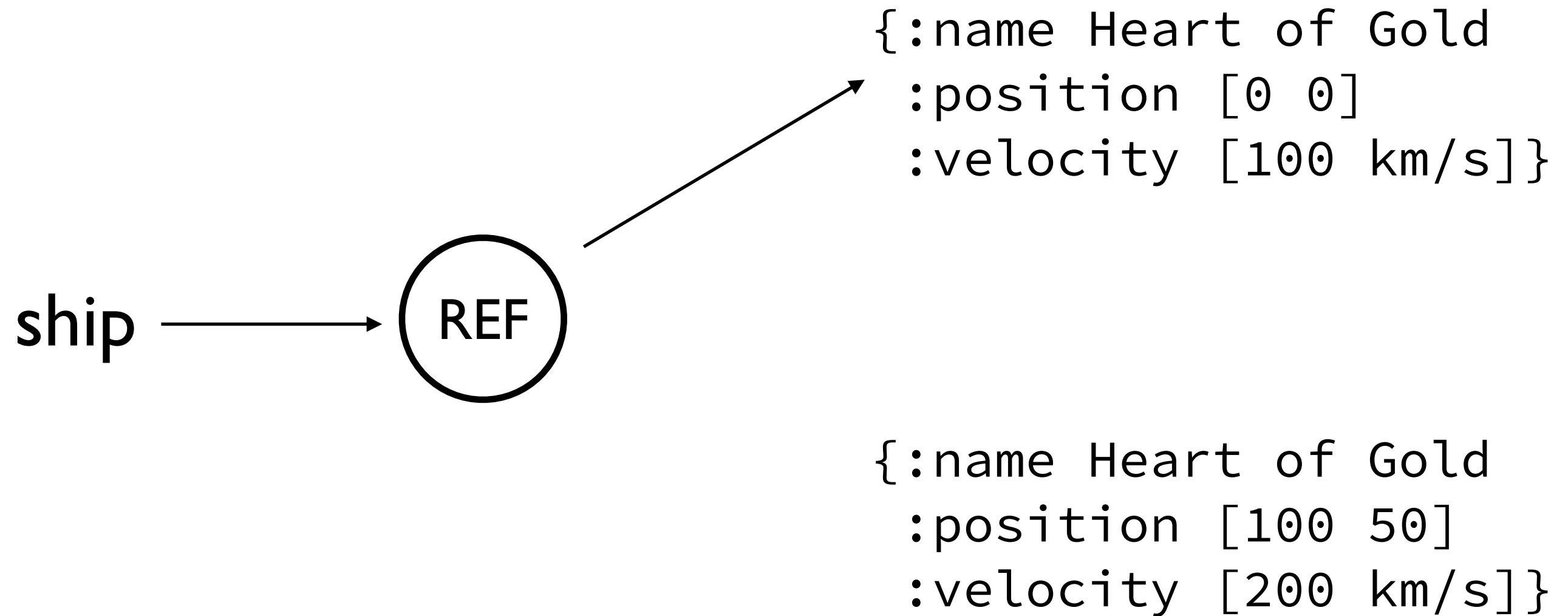


State



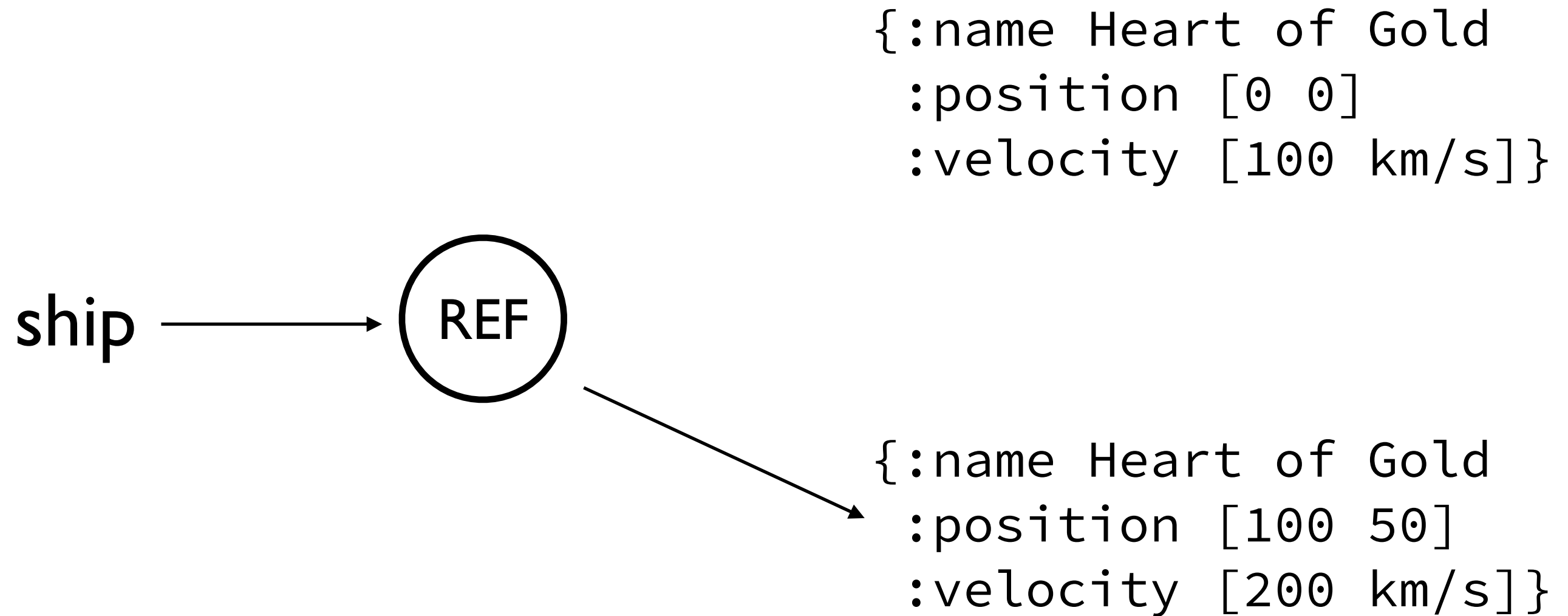


State



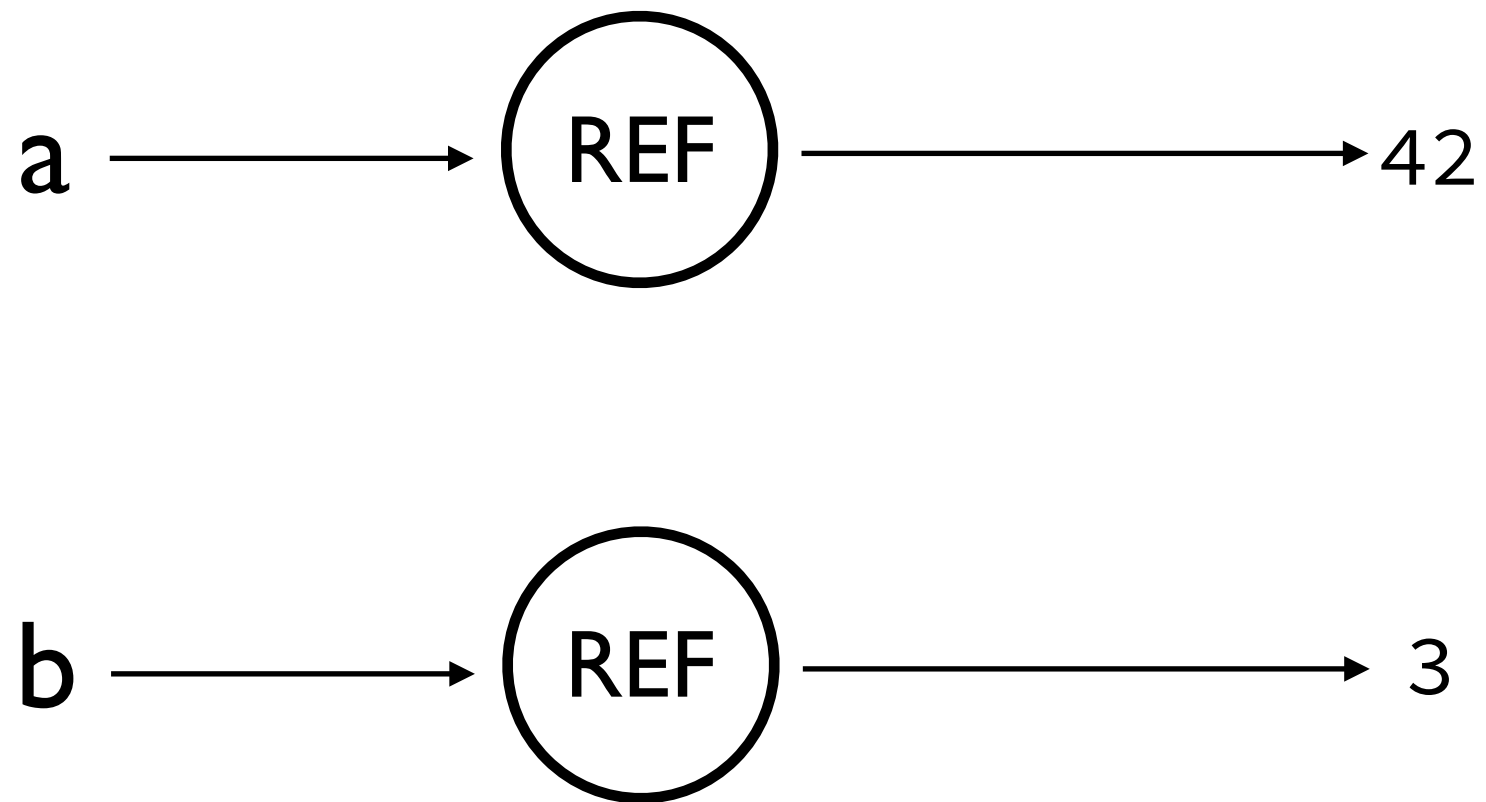


State





State





State

