

DSL in Clojure

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Introduction

Main Part

Questions

Notes

Used to be by day

Coder for financial industry.

Used to be at night

Lisp enthusiast and computational philosopher.

Now in twilight

VP of engineering for Pico Quantitative Trading, which includes all of the above.

R-LISP
REDUCE

$$\int_0^y \cos(2x) dx. \quad (1)$$

to solve this integral type at the REPL

```
int(cos(2x),x,y,2y);
```

get this output

```
SIN(4*Y) - SIN(2*Y)
-----
2
```



Figure: R-LISP Book

parasitic language

targeted towards specific problem

Quick dip into Clojure features useful for DSLs

`unquote` and `unquote-splicing`

code as data

macrology

TODO search article about clojure DSLs

TODO search for blog about DSLs

configuration language

Every application needs a DSL

Questions?

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Structure and Interpretation of Computer Programs

When in need of deep wisdom use the book².

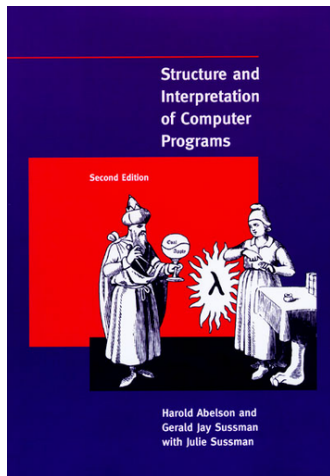


Figure: SICP

Metalinguistic Abstraction, A.K.A. "DSL"

Establishing new languages

- a powerful strategy for controlling complexity
- particularly important to computer programming, because we can implement these languages

The book² *tells us*

“The evaluator [or compiler], which determines the meaning of expressions in a programming language, is just another program.”

"Maxwell's Equations of Software!" – Alan Kay

Figure: LISP 1.5 Programmer Manual Page 13

Why Rich should have all the fn?

“We come to see ourselves as designers of languages, rather than only users of languages designed by others.”

“... computer science itself becomes no more (and no less) than the discipline of constructing appropriate descriptive languages.”


```
(defn slice [^ByteBuffer b n]
  (vec (for [p (range 0 (.capacity b) (length MarketDataMmap))]
    (let [^ByteBuffer b (.position b p)
          ^ByteBuffer s (.slice b)]
      (.limit s (length MarketDataMmap))))))
```

(+ 1 4)

ls