

Clojure programming language & it's ecosystem

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What is Clojure?

► LISP



Figure 1: Lisp Cycles, <https://xkcd.com/297/>

► Rich Hickey



Figure 2: Rich Hickey at the first Clojure Conj in 2010, <https://creativecommons.org/licenses/by-sa/2.0/>

What is LISP?

Defun \mathcal{V} (f) ((λ (g) (funcall g g)) (λ (x) (funcall f
(λ (rest a) (apply (funcall x x) a)))))

Defun fib (n) (funcall (\mathcal{V} (λ (f) (λ (n a b) (if (< n 1)
a (funcall f (1- n) b (+ a b)))))) n 0 1)

Defun fac (n) (funcall (\mathcal{V} (λ (f) (λ (n) (if (zerop n) 1
(\times n (funcall f (1- n))))))) n)

$\hat{=}$ (mapcar #'fib '(i ij iij iv v vi vij viij iε))
(i i ij iij v viij ϵ ij $\epsilon\epsilon$ i $\epsilon\epsilon\epsilon$ iv)

$\hat{=}$ (mapcar #'fac '(i ij iij iv v vi vij viij iε))
(i ij vi $\epsilon\epsilon$ iv $\epsilon\epsilon\epsilon$ $\text{DCC}\epsilon\epsilon$ $\overline{\text{v}\epsilon\text{l}}$ $\overline{\epsilon\text{DCC}\epsilon\epsilon}$ $\overline{\epsilon\epsilon\epsilon\text{viimmdcccl}\epsilon\epsilon\epsilon}$)

Figure 3: Y Combinator Codex by emacsomancer.