

Clojure Cheat Sheet (Clojure 1.3.0, sheet v1.0)

Documentation

clojure.repl	doc	find-doc	apropos	source	pst	javadoc
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Primitives

Numbers

Arithmetic	+ - * / quot rem mod inc dec max min
Compare	= == not= < > <= >= compare
Bitwise	bit-and, or, xor, not, flip, set, shift-right, shift-left, and-not, clear, test}
Cast	byte short int long float double bigdec bigint num rationalize
Test	nil? identical? zero? pos? neg? even? odd?
Random	rand rand-int
BigInt	with-precision
Unchecked	unchecked-{add, dec, divide, inc, multiply, negate, remainder, subtract}-int

Strings

Create	str print-str println-str pr-str prn-str with-out-str
Use	count get subs format compare
Cast/Test	char char? string?

Strings (clojure.string)

Test	blank?
Letters	capitalize lower-case upper-case
Use	join escape split split-lines replace replace-first reverse
Trim	trim trim-newline triml trimr

Other

Characters	char char-name-string char-escape-string
Keywords	keyword keyword? find-keyword
Symbols	symbol symbol? gensym

Collections

Collections

Generic ops	count empty not-empty into conj
Content tests	distinct? empty? every? not-every? some not-any?
Capabilities	sequential? associative? sorted? counted? reversible?
Type tests	coll? seq? vector? list? map? set?

Lists

Create	'() list list*
Stack	peek pop
Examine	first rest peek list?
'Change'	cons conj

Vectors

Create	[] vector vec vector-of
Examine	get nth peek rseq vector?
'Change'	assoc pop subvec replace conj

Sets

Create	#{} hash-set sorted-set sorted-set-by set conj disj
Examine	get

Sets (clojure.set)

Rel. algebra	join select project union difference intersection
Get map	index rename-keys rename map-invert
Test	subset? superset?

Maps

Create	{ } hash-map array-map zipmap sorted-map sorted-map-by bean frequencies
'Change'	assoc assoc-in dissoc zipmap merge merge-with select-keys update-in
Examine	get get-in contains? find keys vals map?
Entry	key val
Sorted maps	rseq subseq rsubseq

StructMaps

Create	defstruct create-struct accessor
Individual	struct-map struct
Use	get assoc

Transients

Create	transient persistent!
Change	conj! pop! assoc! dissoc! disj! Remember to bind result to a symbol!

Misc

Compare	= == identical? not= not compare clojure.data/diff
Test	true? false? nil? instance?

Sequences

Creating a Lazy Seq

From collection	seq vals keys rseq subseq rsubseq
From producer fn	lazy-seq repeatedly iterate
From constant	repeat range
From other	file-seq line-seq resultset-seq re-seq tree-seq xml-seq iterator-seq enumeration-seq
From seq	keep keep-indexed

Seq in, Seq out

Get shorter	distinct filter remove for
Get longer	cons conj concat lazy-cat mapcat cycle interleave interpose
Tail-items	rest nthrest fnext nnext drop drop-while for
Head-items	take take-nth take-while take-last butlast drop-last for
'Change'	conj concat distinct flatten group-by partition partition-all partition-by split-at split-with filter remove replace shuffle
Rearrange	reverse sort sort-by compare
Process each item	map pmap map-indexed mapcat for replace seque
Un-lazy Seq	sequence

Using a Seq

Extract item	first second last rest next ffirst nfirst fnext nnext nth nthnext rand-nth when-first max-key min-key
Construct coll	zipmap into reduce reductions set vec into-array to-array-2d
Pass to fn	apply
Search	some filter
Force evaluation	doseq dorun doall
Check for forced evaluation	realized?

Zippers (clojure.zip)

Create	zipper
Get zipper	seq-zip vector-zip xml-zip
Get location	up down left right leftmost rightmost
Get seq	lefts rights path children
'Change'	make-node replace edit insert-child insert-left insert-right append-child remove
Move	next prev
Misc	root node branch? end?

Printing

Print to *out*	pr prn print printf println newline clojure.pprint/pprint clojure.pprint/print-table
Print to string	pr-str prn-str print-str println-str with-out-str

Functions

Create	<code>fn defn defn- definline identity constantly memfn comp complement partial juxt memoize fn! every-pred some-fn</code>
Call	<code>-> -> apply</code>
Test	<code>fn? ifn?</code>

Multimethods

Create	<code>defmulti defmethod</code>
Dispatch	<code>get-method methods</code>
Remove	<code>remove-method remove-all-methods</code>
Prefer	<code>prefer-method prefers</code>
Relation	<code>derive isa? parents ancestors descendants make-hierarchy</code>

Macros

Create	<code>defmacro definline macroexpand-1 macroexpand</code>
Branch	<code>and or when when-not when-let when-first if-not if-let cond condp case</code>
Loop	<code>for doseq dotimes while</code>
Arrange	<code>.. doto -></code>
Scope	<code>binding locking time with-in-str with-local-vars with-open with-out-str with-precision with-redefs with-redefs-fn</code>
Lazy	<code>lazy-cat lazy-seq delay</code>
Document	<code>assert comment doc</code>

Reader Macros

<code>'</code>	Quote 'form → (quote form)
<code>\</code>	Character literal
<code>;</code>	Single line comment
<code>~</code>	Meta ^form → (meta form)
<code>@</code>	Deref @form → (deref form)
<code>`</code>	Syntax-quote
<code>~</code>	Unquote
<code>~@</code>	Unquote-splicing
<code>#"p"</code>	Regex Pattern <i>p</i>
<code>#^</code>	Metadata
<code>#'</code>	Var quote #'x → (var x)
<code>#()</code>	#(...) → (fn [args] (...))
<code>#_</code>	Ignore next form

Vars and global environment

Def variants	<code>defn defn- definline defmacro defmethod defmulti defonce defstruct</code>
Interned vars	<code>declare intern binding find-var var</code>
Var objects	<code>with-local-vars var-get var-set alter-var-root var?</code>
Var validators	<code>set-validator! get-validator</code>
Var metadata	<code>doc find-doc test</code>

Namespace

Current	<code>*ns*</code>
Create/Switch	<code>in-ns ns create-ns</code>
Add	<code>alias def import intern refer</code>
Find	<code>all-ns find-ns</code>
Examine	<code>ns-name ns-aliases ns-map ns-interns ns-publics ns-refers ns-imports</code>
From symbol	<code>resolve ns-resolve namespace</code>
Remove	<code>ns-unalias ns-unmap remove-ns</code>

Loading

Loading libs	<code>require use import refer</code>
Listing loaded libs	<code>loaded-libs</code>
Loading misc	<code>load load-file load-reader load-string</code>

Special Forms

<code>def</code>	<code>if do let quote var fn loop recur throw try monitor-enter monitor-exit</code>
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Concurrency

Atoms	<code>atom swap! reset! compare-and-set!</code>
Futures	<code>future future-call future-done? future-cancel future-cancelled? future?</code>
Threads	<code>bound-fn bound-fn* get-thread-bindings push-thread-bindings pop-thread-bindings thread-bound?</code>
Misc	<code>locking pcalls pvalues pmap seque promise deliver</code>

Refs and Transactions

Create	<code>ref</code>
Examine	<code>deref @ (@form → (deref form))</code>
Transaction macros	<code>sync dosync io!</code>
In transaction	<code>ensure ref-set alter commute</code>
Validators	<code>set-validator! get-validator</code>
History	<code>ref-history-count ref-max-history ref-min-history</code>

Agents and Asynchronous Actions

Create	<code>agent</code>
Examine	<code>agent-error</code>
Change state	<code>send send-off restart-agent</code>
Block waiting	<code>await await-for</code>
Ref validators	<code>set-validator! get-validator</code>
Watchers	<code>add-watch remove-watch</code>
Thread handling	<code>shutdown-agents</code>
Error	<code>error-handler set-error-handler! error-mode set-error-mode!</code>
Misc	<code>*agent* release-pending-sends</code>

Java Interoperation

General	<code>.. doto Classname/ Classname. new bean comparator enumeration-seq import iterator-seq memfn set!</code>
Cast	<code>boolean byte short char int long float double bigdec bigint num cast</code>
Exceptions	<code>catch finally pst throw try</code>

Arrays

Create	<code>make-array {object, boolean, byte, short, char, int, long, float, double}-array aclone to-array to-array-2d into-array</code>
Use	<code>aget aset aset-{boolean, byte, short, char, int, long, float, double} alength amap areduce</code>
Cast	<code>booleans bytes shorts chars ints longs floats doubles</code>

Proxy

Create	<code>proxy get-proxy-class construct-proxy init-proxy</code>
Misc	<code>proxy-mappings proxy-super update-proxy</code>

Other

Regex	<code>#"pattern" re-pattern re-matcher re-find re-matches re-groups re-seq</code>
XML	<code>clojure.xml/parse xml-seq</code>
REPL	<code>*1 *2 *3 *e *print-dup* *print-length* *print-level* *print-meta* *print-readably*</code>
IO	<code>*in* *out* *err* flush read-line read read-string slurp spit with-in-str with-out-str with-open</code>
Code	<code>*compile-files* *compile-path* *file* *warn-on-reflection* compile gen-class gen-interface loaded-libs test</code>
Misc	<code>eval force hash name *clojure-version* clojure-version *command-line-args*</code>