Racket Cheat Sheet

Version 9.3.0.2

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July 30, 2026

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...)Immutable HashCreatehash hasheqObservehash? hash-ref hash-has-key? hash-count in-hash in-hash-keys in-hash-valuesModifyhash-set hash-update hash-removeVectorCreatebuild-vector vector make-vector list->vectorObservevector? vector-length vector-ref in-vectorModifyvector-set! vector-fill! vector-copy! vector-map!Match Pattern(vector x y z) (vector x y calabi-yau ...)StreamsCreatestream stream* empty-streamObservestream-empty? stream-first stream-rest in-streamMutable HashCreatemake-hash make-hasheqObservehash? hash-ref hash-has-key? hash-count in-hash in-hash-keys in-hash-valuesModifyhash-set! hash-ref! hash-update! hash-remove!SystemsInput/OutputFormatting~a ~v ~s ~e ~r pretty-formatInputread read-bytes peek-byteOutputwrite write-bytes display displayln pretty-printPorts and Fileswith-input-from-file with-output-to-file flush-output file-position make-pipe with-output-to-string with-input-from-string port->bytes port->lines ...FilesPathsbuild-path bytes->path path->bytes path-replace-suffix ...Filesfile-exists? rename-file-or-directory copy-directory/files current-directory make-directory delete-directory/files directory-list filesystem-change-evt file->bytes file->lines make-temporary-fileMiscellaneousTimecurrent-seconds current-inexact-milliseconds date->string date-display-formatCommand-Line Parsingcommand-lineFFIffi-lib _uint32 ... _fun malloc freeNetworkingTCPtcp-listen tcp-connect tcp-accept tcp-closeHTTPhttp-conn http-conn-open! http-conn-send! http-conn-recv! http-conn-sendrecv! http-sendrecvURLsstring->url url->string url-queryEmailsmtp-send-message imap-connect ...JSONwrite-json read-jsonXMLread-xml write-xml write-xexprDatabasespostgresql-connect mysql-connect sqlite3-connect query-exec query-rows pre-pare start-transaction ...SecurityCustodiansmake-custodian custodian-shutdown-all current-custodianSandboxesmake-evaluator make-module-evaluatorConcurrencyThreadsthread kill-thread thread-wait make-thread-groupEventssync choice-evt wrap-evt handle-evt alarm-evt ...Channelsmake-channel channel-get channel-putSemaphoresmake-semaphore semaphore-post semaphore-waitAsync Channelsmake-async-channel async-channel-get async-channel-putParallelismFuturesfuture touch processor-count make-fsemaphore ...Placesdynamic-place place place-wait place-wait place-channel ...Pro-cessessubprocess system*Syntax (Beginner)BasicsModules(module+ main body ...)
(module+ test body ...)
(require mod-path) (provide id)S-expressionsquote '(a b c) quasiquote unquote `(1 2 ,(+ 1 2))Procedure Applications(fn arg1 arg2)
keyword args (fn arg1 #:key arg2)
(apply fn arg1 (list arg2))Procedures(lambda (x) x) (λ (x) x)
(λ (x [opt 1]) (+ x opt))
(λ (x #:req key) (+ x key))
(λ (x #:opt [key 1]) (+ x key))Binding(let ([x 1] [y 2]) (+ x y))
(let* ([x 1] [x (+ x 1)]) x)Conditionals(if (zero? x) 0 (/ 1 x))
(cond [(even? x) 0] [(odd? x) 1]

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      [else "impossible!"])
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and orDefinitions`(define x 1)`
`(define (f y) (+ x y))`Iterationfor for/list for*Blocksbegin when unlessRequire Sub-formsprefix-in only-in except-in rename-in for-syntax for-label ...Provide Sub-formsall-defined-out all-from-out rename-out ... contract-outStructuresDefinition`(struct dillo (weight color))`Create`(define danny (dillo 17.5 'purple))`Observe`(dillo? danny) (dillo-weight danny) (dillo-color danny)`Modify`(struct-copy dillo danny ([weight 18.0]))`Match Pattern`(dillo w c)`Pattern MatchingBasics`(match value [pat body] ...)`Definitions`(match-define pat value)`Patterns`(quote datum) (list lvp ...) (list-no-order pat ...) (vector lvp ...) (struct-id pat ...) (regexp rx-expr pat) (or pat ...) (and pat ...) (? expr pat ...)`Syntax (Intermediate)BasicsMutationset!Exceptionserror with-handlers raise exitPromisespromise? delay forceContinuationslet/cc let/ec dynamic-wind call-with-continuation-prompt abort-current-continuation call-with-composable-continuationParametersmake-parameter parameterizeExternal Files Needed at Runtimedefine-runtime-pathContinuation Markscontinuation-marks with-continuation-mark continuation-mark-set->listMultiple Valuesvalues let-values define-values call-with-valuesContractsBasicsany/c or/c and/c false/c integer-in vector/c listof list/c ...Functions-> ->* ->iApplicationcontract-out recontract-out with-contract define/contractIterationSequencesin-range in-naturals in-list in-vector in-port in-lines in-hash in-hash-keys in-hash-values in-directory in-cycle stop-before stop-after in-streamGeneratorsgenerator yield in-generatorStructuresSub-structures`(struct 2d (x y)) (struct 3d 2d (z)) (2d-x (3d 1 2 3))`Mutation`(struct monster (type [hp #:mutable])) (define healie (monster 'slime 10)) (set-monster-hp! healie 0)`Transparency`(struct cash ($ ¢) #:transparent) (struct->vector (cash 5 95))`Printing`(struct nickname [n v] #:methods gen:custom-write [(define (write-proc nn p mode) (fprintf p (nickname-n nn)))]) (displayln (nickname "evens" (in-range 0 100 2)))`Serialization`(struct txn (who what where) #:prefab) (write (txn "Mustard" "Spatula" "Observatory"))`GenericsDefinitiondefine-genericsInstantiation`(struct even-set () #:methods gen:set [(define (set-member? st i) (even? i))])`ClassesDefinitioninterface class*Instantiationmake-object new instantiateMethodssend send/apply send/keyword-apply send* send+Fieldsget-field set-field!MixinsmixinTraitstrait trait-sum trait-exclude trait-rename ...Contractsclass/c instanceof/c is-a?/c implementation?/c subclass?/cSyntactic AbstractionsDefinitiondefine-syntax define-simple-macro begin-for-syntax for-syntaxTemplatessyntax syntax/loc with-syntaxParsing ()-Syntaxsyntax-parse define-syntax-class patternSyntax Objectssyntax-source syntax-line ... syntax->datum datum->syntax generate-temporaries format-idTransformersmake-set!-transformer make-rename-transformer local-expand syntax-local-value syntax-local-name syntax-local-lift-expression ...Syntax Parametersdefine-syntax-parameter syntax-parameterize syntax-parameter-valueParsing Raw Syntaxlexer

parser cfg-parserToolsPackagesInspectionraco pkg showFindingpkgs.racket-lang.orgInstallingraco pkg installUpdatingraco pkg updateRemovingraco pkg removeMiscellaneousCompilingraco make program.rktTestingraco test program.rkt a-directoryBuilding Executablesraco exe program.rktExtending DrRacketdrracket:language:simple-module-based-language->module-based-language-mixinSlidesslide standard-fish code