Core Reference

core* name space, version *0.0.14

type identifiers

`%lambda`	closure lambda
`%exception`	exception
`%vector`	vector
`%closure`	lexical closure

bool	false if *()*, otherwise true
char	
cons	
env	
fixnum	*fix*
float	
function	*fn*
keyword	*key*
namespace	*ns*
null	
stream	
string	*str*
struct	
symbol	*sym*
vector	*vec*

core

load *string*	*bool*	load file through core reader
eval *T*	*T*	eval form
apply *fn list*	*T*	apply *fn* to *list*
compile *T*	*T*	compile *T* in null environment
identity *T*	*T*	identity function
type-of *T*	*symbol*	object type
eql *T T*	*bool*	eql predicate

special forms

%defmacro *sym list . body*	*sym*	define macro
%lambda *list* . body	*fn*	define closure
%if *T 'T*	*T*	conditional
%if *T 'T ''T*	*T*	conditional

lists

assq *T list*	*list*	assoc
rassq *T list*	*list*	reverse assoc
find-if *fn list*	*T*	element if applied *fn* returns an *atom*, else *()*
position-if *fn list*	*T*	index of element if *fn* returns an *atom*, else *()*
dropl *list fixnum*	*list*	drop left
dropr *list fixnum*	*list*	drop right
foldl *fn T list*	*list*	left fold
foldr *fn T list*	*list*	right fold
mapc *fn list*	*list*	apply *fn* to *list* cars, return *list*
mapcar *fn list*	*list*	new list from applying *fn* to *list* cars
mapl *fn list*	*list*	apply *fn* to *list* cdrs, return *list*
maplist *fn list*	*list*	new list from applying *fn* to *list* cdrs
append *list*	*list*	append lists
reverse *list*	*list*	reverse *list*

vectors

make-vector *list*	*list*	reverse *list*
bit-vector-p *vec*	*bool*	a bit vector?
vector-displaced-p *vec*	*bool*	a displaced vector?
vector-ref *vec fixnum*	*T*	index *vec*
vector-slice *vec fix 'fix*	*vec*	displaced vector - start, length
vector-type *vec*	*symbol*	specialized vector type

macros

define-symbol-macro *symbol T*	*symbol*	define symbol macro
get-macro-character *char*	*T*	expand character macro
set-macro-character *char fn bool*	*symbol*	create character macro
macro-function *symbol env*	*fn*	macro expander function or *()*
macroexpand *T env*	*T*	expand macro completely
macroexpand-1 *T env*	*T*	expand macro once

symbols

gensym	*sym*	create unique uninterned symbol
gentemp	*sym*	create unique temp symbol

streams

read *stream bool T*	*T*	read from stream with EOF handling
write *T bool stream*	*T*	write escaped object to stream

predicates s

minusp *fix*	*bool*	negative value
numberp *T*	*bool*	float or fixnum
charp *T*	*bool*	char
consp *T*	*bool*	cons
fixnump *T*	*bool*	fixnum
floatp *T*	*bool*	float
functionp *T*	*bool*	function
keywordp *T*	*bool*	keyword
listp *T*	*bool*	cons or ()
namespacep *T*	*bool*	namespace
null *T*	*bool*	:nil or ()
streamp *T*	*bool*	stream
stringp *T*	*bool*	char vector
structp *T*	*bool*	struct
symbolp *T*	*bool*	symbol
vectorp *T*	*bool*	vector

streams xu

read *stream bool T*	*T*	read from stream with EOF handling
write *T bool stream*	*T*	write escaped object to stream

exceptions n

error *T symbol list*	*string*	error format
exceptionp *struct*	*bool*	predicate
raise *T sym str*		raise exception
raise-env *T sym str*		raise exception
warn *T string*	*T*	warning
with-exception *fn fn*	*T*	catch exception

macro definitions s

and ...	*T*	logical *and* of ...
cond ...	*T*	cond switch
let *list* ...	*T*	lexical bindings
let* *list* ...	*T*	dependent list of bindings
or ...	*T*	logical *or* of ...
progn ...	*T*	evaluate rest list, return final evaluation
unless *T* ...	*T*	if *T* is *()*, *(***progn** *...)* else *()*
when *T* ...	*T*	if *T* is an *atom*, *(***progn** *...)* else ()

rest functions s

append ...	*list*	append lists
apply *fn* ...	*T*	apply *fn to* ...
format *T string* ...	*T*	formatted output
funcall *fn* ...	*T*	apply *fn to* ...
list ...	*list*	*list of* ...
list* ...	*list*	*list dot* ...
mapc *fn* ...	*list*	mapc of ...
mapcar *fn* ...	*list*	mapcar of ...
mapl *fn* ...	*list*	mapl of ...
maplist *fn* ...	*list*	maplist of ...
vector ...	*vec*	make general vector of ...

Reader Syntax x

`;`	comment to end of line
`#|...|#`	block comment
‘*form*	quoted form
\`*form*	backquoted form
\` *(...)*	backquoted list (proper lists)
,*form*	eval backquoted form
,@*form*	eval-splice backquoted form
(...)	constant *list*
()	empty *list*, prints as `:nil`
(... . .)	dotted *list*
“...”	*string, char vector*
`\`	single escape in strings
#*...	bit vector
`#x...`	hexadecimal *fixnum*
`#.`	read-time eval
`#\.`	*char*
`#(:type ...)`	*vector*
`#s(:type ...)`	*struct*
`#:symbol`	uninterned *symbol*
“\` , ;	terminating macro char
`#`	non-terminating macro char
`!$%&*+-.` `<>=?@[]|` `:^_{}~/` `A..Za..z` `0..9`	symbol constituents
`0x09 #\tab` `0x0a #\linefeed` `0x0c #\page` `0x0d #\return` `0x20 #\space`	whitespace