

File created: 8-Jun-90 14:17:52 {PELE:MV:ENVOS}<LISPCORE>SOURCES>CMLREAD.;3

changes to: (FNS CL:READ-FROM-STRING)

previous date: 16-May-90 14:23:07 {PELE:MV:ENVOS}<LISPCORE>SOURCES>CMLREAD.;2

Read Table: INTERLISP

Package: INTERLISP

Format: XCCS

;;
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(RPAQQ CMLREADCOMS

```
[ (COMS ;; Misc Common Lisp reader functions
  (FNS CL:COPY-READTABLE)
  (FNS CL:READ-LINE CL:READ-CHAR CL:UNREAD-CHAR CL:PEEK-CHAR CL:LISTEN CL:READ-CHAR-NO-HANG
    CL:CLEAR-INPUT CL:READ-FROM-STRING CL:READ-BYTE CL:WRITE-BYTE)
    ; must turn off packed version of CLISP infix
  (VARS [CLISPCHARS (LDIFFERENCE CLISPCHARS '(- *)
    (CLISPCHARRAY (MAKEBITTABLE CLISPCHARS))
    (DWIMINMACROSFLG))
  (VARIABLES *READ-DEFAULT-FLOAT-FORMAT*)
  (GLOBALVARS CMLRDTBL READ-LINE-RDTBL))
[COMS ;; Crude means to aid reading and printing things in same reader environment. There are some fns and an INITRECORDS for this on
  ;; ATBL to get it early in the loadup
  (RECORDS READER-ENVIRONMENT)
  (FUNCTIONS WITH-READER-ENVIRONMENT)
  (ADDVARS (SYSSPECVARS *PACKAGE* *READTABLE* *READ-BASE* *PRINT-BASE*))
  (PROP INFO WITH-READER-ENVIRONMENT)
  (GLOBALVARS *COMMON-LISP-READ-ENVIRONMENT*)
  (INITVARS (*COMMON-LISP-READ-ENVIRONMENT* (create READER-ENVIRONMENT REPACKAGE _ (CL:FIND-PACKAGE
    "USER")
    REREADTABLE _ CMLRDTBL REBASE _ 10]
  (PROP FILETYPE CMLREAD)
  (DECLARE%: DONTEVAL@LOAD DOEVAL@COMPILE DONTCOPY COMPILEVARS
  (ADDVARS (NLAMA
    (NLAML)
    (LAMA CL:READ-BYTE CL:READ-FROM-STRING CL:CLEAR-INPUT CL:READ-CHAR-NO-HANG CL:PEEK-CHAR
    CL:UNREAD-CHAR CL:READ-CHAR CL:READ-LINE CL:COPY-READTABLE]))
```

;; Misc Common Lisp reader functions

(DEFINEQ

(CL:COPY-READTABLE

```
[CL:LAMBDA (&OPTIONAL (FROM-READTABLE *READTABLE*)
  TO-READTABLE)
  (* bvm%: "13-Oct-86 15:21")
  ; If FROM-READTABLE is NIL, then a copy of a standard
  ; Common Lisp readtable is made.
  (if (AND (NULL FROM-READTABLE)
    (NULL TO-READTABLE))
    then ; just make a brand new one
      (CMLRDTBL)
    else (SETQ FROM-READTABLE (\DTEST (OR FROM-READTABLE (CMLRDTBL))
      'READTABLEP))
      (if TO-READTABLE
        then (RESETREADTABLE (\DTEST TO-READTABLE 'READTABLEP)
          FROM-READTABLE)
          TO-READTABLE
        else (COPYREADTABLE FROM-READTABLE]))
)
```

(DEFINEQ

(CL:READ-LINE

```
[CL:LAMBDA (&OPTIONAL STREAM (EOF-ERRORP T)
  EOF-VALUE RECURSIVE-P)
  ; Edited 31-Mar-87 18:36 by bvm:
  ;; Returns a line of text read from the STREAM as a string, discarding the newline character.
  (CL:SETQ STREAM (\GETSTREAM STREAM 'INPUT))
  (if (AND (NULL EOF-ERRORP)
    (NULL RECURSIVE-P)
    (\EOFP STREAM))
    then EOF-VALUE
    else (LET ((RESULT (RSTRING STREAM READ-LINE-RDTBL)))
      (if (\EOFP STREAM)
        then (CL:VALUES RESULT T)
        else (READCCODE STREAM)
          ; consume the eol
          (CL:VALUES RESULT NIL]))
```

(CL:READ-CHAR

```
[CL:LAMBDA (&OPTIONAL (STREAM *STANDARD-INPUT*)
              (EOF-ERRORP T)
              EOF-VALUE RECURSIVE-P)
```

; Edited 14-Dec-86 20:41 by bvm:

;; Inputs a character from STREAM and returns it.

```
(LET [(STREAM (\GETSTREAM STREAM 'INPUT)
            (COND
              ((AND (NOT EOF-ERRORP)
                    (NOT RECURSIVE-P)
                    (\EOFP STREAM))
               EOF-VALUE)
              (T (CL:CODE-CHAR (READCCODE STREAM)))]
```

(CL:UNREAD-CHAR

```
(CL:LAMBDA (CHARACTER &OPTIONAL (INPUT-STREAM *STANDARD-INPUT*))
```

(* bvm%: "13-Oct-86 15:44")

;; Puts the CHARACTER back on the front of the input STREAM. According to the manual, 'One may apply UNREAD-CHAR only to the character most recently read from INPUT-STREAM.'

```
(\BACKCHAR (\GETSTREAM INPUT-STREAM 'INPUT))
NIL))
```

(CL:PEEK-CHAR

```
[CL:LAMBDA (&OPTIONAL (PEEK-TYPE NIL)
              (STREAM *STANDARD-INPUT*)
              (EOF-ERRORP T)
              EOF-VALUE RECURSIVE-P)
```

; Edited 14-Apr-87 14:39 by bvm:

;; Peeks at the next character in the input Stream. See manual for details.

```
(DECLARE (IGNORE RECURSIVE-P))
(LET ((STREAM (\GETSTREAM STREAM 'INPUT))
      (\RefillBufferFn '\PEEKREFILL)
      CL:CHAR)
  (DECLARE (CL:SPECIAL \RefillBufferFn))
  (SELECTQ PEEK-TYPE
    (NIL
```

; standard case--return next char. \peekccode to terminal
; requires the binding of \RefillBufferFn above

```
      (if (SETQ CL:CHAR (\PEEKCCODE STREAM (NULL EOF-ERRORP)))
          then (CL:CODE-CHAR CL:CHAR)
          else EOF-VALUE))
```

(T ; skip whitespace before peeking

```
      (if (SETQ CL:CHAR (SKIPSEPCODES STREAM))
          then (CL:CODE-CHAR CL:CHAR)
          elseif EOF-ERRORP
            then (\EOF.ACTION STREAM)
            else EOF-VALUE))
```

```
      (if (CL:CHARACTERP PEEK-TYPE)
          then (LET ((DESIREDCHAR (CL:CHAR-CODE PEEK-TYPE))
                    (NOERROR (NULL EOF-ERRORP)))
                (until (EQ (SETQ CL:CHAR (\PEEKCCODE STREAM NOERROR))
                           DESIREDCHAR)
                      do (if (NULL CL:CHAR)
                              then (RETURN EOF-VALUE))
                          (READCCODE STREAM)
                      finally (RETURN PEEK-TYPE)))
          else (\ILLEGAL.ARG PEEK-TYPE))
```

(CL:LISTEN

```
(CL:LAMBDA (&OPTIONAL STREAM)
```

; Edited 14-Apr-87 16:49 by bvm:

;; Returns T if a character is available on the given STREAM

```
(READP (\GETSTREAM STREAM 'INPUT)
  T)))
```

(CL:READ-CHAR-NO-HANG

```
(CL:LAMBDA (&OPTIONAL STREAM (EOF-ERRORP T)
              EOF-VALUE RECURSIVE-P)
```

; Edited 14-Apr-87 16:40 by bvm:

;; Returns the next character from the STREAM if one is available, or NIL. However, if STREAM is at eof, do eof handling.

```
(COND
  ((READP STREAM T) ; there is input, get it
   (CL:READ-CHAR STREAM EOF-ERRORP EOF-VALUE RECURSIVE-P))
  ((NOT (EOFP STREAM)) ; there could be more input, so don't wait, return NIL
   NIL)
  (EOF-ERRORP (\EOF.ACTION STREAM))
  (T EOF-VALUE)))
```

(CL:CLEAR-INPUT

```
[CL:LAMBDA (&OPTIONAL (STREAM *STANDARD-INPUT*))
```

(* bvm%: "13-Oct-86 15:46")

;; Clears any buffered input associated with the Stream.
(CLEARBUF (\GETSTREAM STREAM 'INPUT))

(CL:READ-FROM-STRING

[CL:LAMBDA (STRING &OPTIONAL EOF-ERROR-P EOF-VALUE &KEY START END PRESERVE-WHITESPACE)
; Edited 8-Jun-90 14:15 by ymasuda
(LET [(STREAM (OPENSTRINGSTREAM (COND
[END (SUBSTRING STRING 1 (IMIN END (NCHARS STRING)
(T (MKSTRING STRING)
(COND
(START (SETFILEPTR STREAM START)))
(CL:VALUES (CL:IF PRESERVE-WHITESPACE
(CL:READ-PRESERVING-WHITESPACE STREAM EOF-ERROR-P EOF-VALUE)
(CL:READ STREAM EOF-ERROR-P EOF-VALUE))
(\GETFILEPTR STREAM])

(CL:READ-BYTE

[CL:LAMBDA (BINARY-INPUT-STREAM &OPTIONAL (EOF-ERRORP T) EOF-VALUE) (* bvm%: "13-Oct-86 15:49")
;; Returns the next byte of the BINARY-INPUT-STREAM
(LET [(STREAM (\GETSTREAM BINARY-INPUT-STREAM 'INPUT)
(CL:IF (AND (NOT EOF-ERRORP)
(\EOFP STREAM))
EOF-VALUE
(\BIN STREAM))])

(CL:WRITE-BYTE

(CL:LAMBDA (INTEGER BINARY-OUTPUT-STREAM) (* bvm%: "13-Oct-86 15:49")
;; Outputs the INTEGER to the binary BINARY-OUTPUT-STREAM
(BOUT BINARY-OUTPUT-STREAM INTEGER)
INTEGER))

)

;; must turn off packed version of CLISP infix

(RPAQ CLISPCHARS (LDIFFERENCE CLISPCHARS '(- *)))

(RPAQ CLISPCHARRAY (MAKEBITTABLE CLISPCHARS))

(RPAQQ DWIMINMACROFLG NIL)

(CL:DEFVAR *READ-DEFAULT-FLOAT-FORMAT* 'CL:SINGLE-FLOAT)

(DECLARE%: DOEVAL@COMPILE DONTCOPY

(GLOBALVARS CMLRDTBL READ-LINE-RDTBL)

)

;; Crude means to aid reading and printing things in same reader environment. There are some fns and an INITRECORDS for this on ATBL to get it
;; early in the loadup

(DECLARE%: EVAL@COMPILE

(DATATYPE READER-ENVIRONMENT (REPACKAGE REREADTABLE REBASE RESPEC))

)

(/DECLAREDATATYPE 'READER-ENVIRONMENT '(POINTER POINTER POINTER POINTER)

;; ---field descriptor list elided by lister---

' 8)

(DEFMACRO WITH-READER-ENVIRONMENT (ENV . BODY)

'((CL:LAMBDA (E)
(LET ((*PACKAGE* (ffetch (READER-ENVIRONMENT REPACKAGE) of E))
(*READTABLE* (ffetch (READER-ENVIRONMENT REREADTABLE) of E))
(*READ-BASE* (ffetch (READER-ENVIRONMENT REBASE) of E))
(*PRINT-BASE* (ffetch (READER-ENVIRONMENT REBASE) of E)))
,@BODY)
(\DTEST ,ENV 'READER-ENVIRONMENT)))

(ADDTOVAR SYSSPECVARS *PACKAGE* *READTABLE* *READ-BASE* *PRINT-BASE*)

(PUTPROPS WITH-READER-ENVIRONMENT INFO EVAL)

(DECLARE%: DOEVAL@COMPILE DONTCOPY

(GLOBALVARS *COMMON-LISP-READ-ENVIRONMENT*)

```

)

(RPAQ? *COMMON-LISP-READ-ENVIRONMENT* (create READER-ENVIRONMENT REPACKAGE _ (CL:FIND-PACKAGE "USER")
                                           REREADTABLE _ CMLRDTBL REBASE _ 10))

(PUTPROPS CMLREAD FILETYPE CL:COMPILE-FILE)

(DECLARE%: DONTEVAL@LOAD DOEVAL@COMPILE DONTCOPY COMPILERVARS

(ADDTOVAR NLAMA )

(ADDTOVAR NLAML )

(ADDTOVAR LAMA CL:READ-BYTE CL:READ-FROM-STRING CL:CLEAR-INPUT CL:READ-CHAR-NO-HANG CL:PEEK-CHAR CL:UNREAD-CHAR
              CL:READ-CHAR CL:READ-LINE CL:COPY-READTABLE)

)

(RPAQQ CMLREADCOMS
  [(COMS ;; Misc Common Lisp reader functions
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    (FNS CL:READ-LINE CL:READ-CHAR CL:UNREAD-CHAR CL:PEEK-CHAR CL:LISTEN CL:READ-CHAR-NO-HANG
        CL:CLEAR-INPUT CL:READ-FROM-STRING CL:READ-BYTE CL:WRITE-BYTE)
        ; must turn off packed version of CLISP infix
    (VARS [CLISPCHARS (LDIFFERENCE CLISPCHARS '(- *)
        (CLISPCHARRAY (MAKEBITTABLE CLISPCHARS))
        (DWIMINMACROFLG))
    (VARIABLES *READ-DEFAULT-FLOAT-FORMAT*)
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    (FUNCTIONS WITH-READER-ENVIRONMENT)
    (ADDVARS (SYSSPECVARS *PACKAGE* *READTABLE* *READ-BASE* *PRINT-BASE*))
    (PROP INFO WITH-READER-ENVIRONMENT)
    (GLOBALVARS *COMMON-LISP-READ-ENVIRONMENT*)
    (INITVARS (*COMMON-LISP-READ-ENVIRONMENT* (create READER-ENVIRONMENT REPACKAGE _ (CL:FIND-PACKAGE
        "USER")
        REREADTABLE _ CMLRDTBL REBASE _ 10]
    (PROP FILETYPE CMLREAD)
    (DECLARE%: DONTEVAL@LOAD DOEVAL@COMPILE DONTCOPY COMPILERVARS
      (ADDVARS (NLAMA)
        (NLAML)
        (LAMA CL:WRITE-BYTE CL:READ-BYTE CL:READ-FROM-STRING CL:CLEAR-INPUT CL:READ-CHAR-NO-HANG
          CL:LISTEN CL:PEEK-CHAR CL:UNREAD-CHAR CL:READ-CHAR CL:READ-LINE CL:COPY-READTABLE]))
    (DECLARE%: DONTEVAL@LOAD DOEVAL@COMPILE DONTCOPY COMPILERVARS

(ADDTOVAR NLAMA )

(ADDTOVAR NLAML )

(ADDTOVAR LAMA CL:WRITE-BYTE CL:READ-BYTE CL:READ-FROM-STRING CL:CLEAR-INPUT CL:READ-CHAR-NO-HANG CL:LISTEN
              CL:PEEK-CHAR CL:UNREAD-CHAR CL:READ-CHAR CL:READ-LINE CL:COPY-READTABLE)

)

(PUTPROPS CMLREAD COPYRIGHT ("Venue & Xerox Corporation" 1985 1986 1987 1988 1990))

```

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