

File created: 22-Feb-2025 16:00:43 {WMEDLEY}<library>TEDIT>TEDIT-FILE.;604

edit by: rmk

changes to: (FNS TEDIT.PUT)

previous date: 19-Feb-2025 12:11:42 {WMEDLEY}<library>TEDIT>TEDIT-FILE.;603

Read Table: INTERLISP

Package: INTERLISP

Format: XCCS

(RPAQQ **TEDIT-FILECOMS**

```
[(DECLARE%: EVAL@COMPILE DONTCOPY (CONSTANTS (\PieceDescriptorLOOKS 0)
                                           (\PieceDescriptorOBJECT 1)
                                           (\PieceDescriptorPARA 2)
                                           (\PieceDescriptorPAGEFRAME 3)
                                           (\PieceDescriptorCHARLOOKSLIST 4)
                                           (\PieceDescriptorPARALOOKSLIST 5)
                                           (\PieceDescriptorSAFEOBJECT 6)
                                           (\PieceDescriptorMETAINFO 7)
                                           (\PieceDescriptorPROPERTIES 8))
  (EXPORT (MACROS \SMALLPIN \SMALLPOUT)))
 (COMS
  ;; Public entries
  (FNS TEDIT.GET TEDIT.FORMATTEDFILEP TEDIT.FILEDATE TEDIT.INCLUDE TEDIT.RAW.INCLUDE TEDIT.PUT
    TEDIT.PUT.STREAM)
  (FNS \TEDIT.GET.FOREIGN.FILE \TEDIT.GET.UNFORMATTED.FILE \TEDIT.GET.FORMATTED.FILE
    \TEDIT.FORMATTEDSTREAMP \ARBIN \ATMIN \DWIN \STRINGIN \TEDIT.GET.TRAILER \TEDIT.CACHEFILE)
  [COMS
  ;; Until CL:COMPILE-FILE and any others are updated, They should use the public TEDIT.FORMATTEDFILEP
    (P (MOVD? ' \TEDIT.GET.TRAILER ' \TEDIT.FORMATTEDP1]
  (FNS \TEDIT.GET.PIECES3 \TEDIT.GET.IDATE3 \TEDIT.MAKE.STRINGPIECE)
  (FNS \TEDIT.GET.UNFORMATTED.FILE.XCCS \TEDIT.INTERPRET.XCCS.SHIFTS)
    ;XCCS
  (FNS \TEDIT.GET.UNFORMATTED.FILE.UTF8)
    ; UTF-8
  (FNS \TEDIT.GET.CHARLOOKS.LIST \TEDIT.GET.SINGLE.CHARLOOKS \TEDIT.GET.CHARLOOKS
    \TEDIT.GET.PARALOOKS.INDEX \TEDIT.GET.CHARLOOKS.INDEX)
  (FNS \TEDIT.GET.PARALOOKS.LIST \TEDIT.GET.SINGLE.PARALOOKS)
  (FNS \TEDIT.GET.OBJECT))
 (COMS
  ;; Putting (pageframe functions on TEDIT-PAGE)
  (FNS \TEDIT.PUT.PCTB \TEDIT.PUT.PCTB.PIECEDATA \TEDIT.PUT.TRAILER \TEDIT.PUT.PCTB.MERGEABLE
    \TEDIT.PUT.UTF8.SPLITPIECES \TEDIT.PUT.PCTB.NEXTNEW \TEDIT.INSERT.NEWPIECES \TEDIT.PUTRESET
    \ABOUT \ATMOUT \DWOUT \STRINGOUT)
  (FNS \TEDIT.PUT.CHARLOOKS.LIST \TEDIT.PUT.SINGLE.CHARLOOKS \TEDIT.PUT.CHARLOOKS
    \TEDIT.PUT.CHARLOOKS1 \TEDIT.PUT.OBJECT)
  (FNS \TEDIT.PUT.PARALOOKS.LIST \TEDIT.PUT.SINGLE.PARALOOKS \TEDIT.PUT.PARALOOKS))
 (GLOBALVARS TEDIT.INPUT.FORMATS *TEDIT-FILE-READTABLE*)
 (FNS TEDITFROMLISP SOURCE SHELLSCRIPTP TEDITFROMSHELLSCRIPT)
 (ADDVARS (TEDIT.INPUT.FORMATS (LISP SOURCEFILEP TEDITFROMLISP SOURCE)
    (SHELLSCRIPTP TEDITFROMSHELLSCRIPT)))
 (INITVARS
    ; For consistent reading and writing of info on TEdit files.
    (*TEDIT-FILE-READTABLE* (COPYREADTABLE \ORIGREADTABLE]))
```

(DECLARE%: EVAL@COMPILE DONTCOPY

(DECLARE%: EVAL@COMPILE

(RPAQQ \PieceDescriptorLOOKS 0)

(RPAQQ \PieceDescriptorOBJECT 1)

(RPAQQ \PieceDescriptorPARA 2)

(RPAQQ \PieceDescriptorPAGEFRAME 3)

(RPAQQ \PieceDescriptorCHARLOOKSLIST 4)

(RPAQQ \PieceDescriptorPARALOOKSLIST 5)

(RPAQQ \PieceDescriptorSAFEOBJECT 6)

(RPAQQ \PieceDescriptorMETAINFO 7)

(RPAQQ \PieceDescriptorPROPERTIES 8)

```
(CONSTANTS (\PieceDescriptorLOOKS 0)
           (\PieceDescriptorOBJECT 1)
           (\PieceDescriptorPARA 2)
           (\PieceDescriptorPAGEFRAME 3)
           (\PieceDescriptorCHARLOOKSLIST 4)
           (\PieceDescriptorPARALOOKSLIST 5)
           (\PieceDescriptorSAFEOBJECT 6)
           (\PieceDescriptorMETAINFO 7))
```

```
(\PieceDescriptorPROPERTIES 8))
)
```

:: FOLLOWING DEFINITIONS EXPORTED

(DECLARE%: EVAL@COMPILE

```
(PUTPROPS \SMALLPIN MACRO (OPENLAMBDA (STREAM)
(SIGNED (create WORD
HIBYTE _ (\BIN STREAM)
LOBYTE _ (\BIN STREAM))
BITSPERWORD)))
```

```
(PUTPROPS \SMALLPOUT MACRO (OPENLAMBDA (STREAM W) ; Signed smallp, unlike \WOUT
(\BOUT STREAM (LOGAND 255 (LRSH W 8)))
(\BOUT STREAM (LOGAND W 255)))
)
```

:: END EXPORTED DEFINITIONS

:: Public entries

(DEFINEQ

(TEDIT.GET

```
[LAMBDA (TSTREAM FILE UNFORMATTED? PROPS)
```

; Edited 26-Aug-2024 16:15 by rmk
; Edited 11-Aug-2024 12:13 by rmk
; Edited 29-Jun-2024 16:30 by rmk
; Edited 18-May-2024 16:31 by rmk
; Edited 12-May-2024 21:33 by rmk
; Edited 17-Mar-2024 18:17 by rmk
; Edited 29-Apr-2024 10:15 by rmk
; Edited 15-Mar-2024 13:34 by rmk
; Edited 21-Jan-2024 23:13 by rmk
; Edited 22-Sep-2023 20:16 by rmk
; Edited 18-Sep-2023 16:41 by rmk
; Edited 9-Sep-2023 17:24 by rmk
; Edited 19-May-2001 11:43 by rmk;
; Edited 19-Apr-93 13:12 by jds

:: A new file overwrites the textstream,textobj, and window of the one being edited. We have to make a new TEXTOBJ because we don't want the
:: new file to inherit random properties (like READONLY etc. (Not sure about BEING-EDITED, that may only have been used for window-creation)

```
(SETQ TSTREAM (TEXTSTREAM TSTREAM))
(RESETLST
(PROG ((TEXTOBJ (TEXTOBJ TSTREAM))
FSTREAM GETFN MAINWINDOW BEINGEDITED PROC NTSTREAM NTEXTOBJ TEDITCREATED BEING-EDITED)
[RESETSAVE (\TEDIT.MARKACTIVE TEXTOBJ "Get")
'(PROGN (\TEDIT.MARKINACTIVE OLDVALUE)
(CL:WHEN [AND (GETTOBJ TEXTOBJ \DIRTY)
(PROGN (TEDIT.PROMPTCLEAR TEXTOBJ)
(NOT (MOUSECONFIRM "Not saved yet; LEFT go Get anyway." T (GETTOBJ TEXTOBJ
PROMPTWINDOW
])
```

:: Only do the GET if he knows he'll zorch himself.

```
(RETURN))
[SETQ FILE (\TEDIT.MAKEFILENAME (OR FILE (TEDIT.GETINPUT TEXTOBJ "GET from: "
(OR (GETTEXTPROP TEXTOBJ 'LASTGETFILENAME)
(\TEXTSTREAM.FILENAME TEXTOBJ)
(CL:UNLESS FILE
(TEDIT.PROMPTPRINT TEXTOBJ "No input file--aborted" T T)
(RETURN))
(CL:WHEN [AND (SETQ GETFN (GETTEXTPROP TEXTOBJ 'GETFN))
(EQ 'DON'T (APPLY* GETFN TSTREAM (FULLNAME FILE)
'BEFORE)] ; He doesn't want this document put. Bail out.
(RETURN))
```

::

```
(SETQ FSTREAM (\TEDIT.OPENTEXTFILE FILE))
(CL:UNLESS (AND (STREAMP FSTREAM)
(\GETSTREAM FSTREAM 'INPUT T)) ; Didn't find it but save the name as a hint for the next try
(PUTTEXTPROP TEXTOBJ 'LASTGETFILENAME FILE)
(TEDIT.PROMPTPRINT TEXTOBJ (CONCAT FILE " not found--aborted")
T)
(RETURN NIL))
(RESETLST
(RESETSAVE (TTYDISPLAYSTREAM (OR (AND (NEQ 'DON'T (GETTOBJ TEXTOBJ PROMPTWINDOW))
(GETTOBJ TEXTOBJ PROMPTWINDOW))
PROMPTWINDOW)))
```

:: New file is good, clean out the old stuff

```
(\TEDIT.SHOWSEL (TEXTSEL TEXTOBJ)
NIL TEXTOBJ)
(\TEDIT.TEXTCLOSEF TEXTOBJ) ; Close the old files, still in TXTFILE
```

::

```

;; Open a textstream NTSTREAM on the new file, then reconnect its textobj to the old TSTREAM and window
(SETQ MAINWINDOW (\TEDIT.MAINW TEXTOBJ))
(SETQ BEING-EDITED (GETTEXTPROP TEXTOBJ 'BEING-EDITED))
(CL:WHEN MAINWINDOW
  (SETQ TEDITCREATED (WINDOWPROP MAINWINDOW 'TEDITCREATED)))
(CL:WHEN UNFORMATTED?
  (push PROPS 'CLEARGET T))
(SETQ NTSTREAM (OPENTEXTSTREAM FSTREAM MAINWINDOW NIL NIL PROPS))
(SETQ NTEXTOBJ (fetch (TEXTSTREAM TEXTOBJ) of NTSTREAM))
(replace (TEXTSTREAM TEXTOBJ) of TSTREAM with NTEXTOBJ)
(SETTOBJ NTEXTOBJ STREAMHINT TSTREAM)
(\TEDIT.TEXTSETFILEPTR TSTREAM 0)
(CL:WHEN MAINWINDOW
  (\TEDIT.UPDATE.TITLE NTEXTOBJ)
  (WINDOWPROP MAINWINDOW 'TEDITCREATED TEDITCREATED)
  ; To keep the default region
  (WINDOWPROP MAINWINDOW 'TEXTSTREAM TSTREAM))
(CL:WHEN BEING-EDITED (TEDIT TSTREAM)) ; find and set the title
(CL:WHEN GETFN
  (APPLY* GETFN TSTREAM (FULLNAME (GETTOBJ TEXTOBJ TXTFILE))
    'AFTER))
(RETURN TSTREAM)))

```

(TEDIT.FORMATTEDFILEP

```

[LAMBDA (FILE) ; Edited 26-Mar-2024 22:10 by rmk
; Edited 18-Jan-2024 10:29 by rmk
; Edited 13-Jan-2024 11:57 by rmk
; Edited 12-Jul-2023 23:35 by rmk

```

;; If FILE is a Tedit formatted stream or the name of a Tedit formatted file, returns a pair consisting of its version number and piececount.
;; Piececount is probably useless.

```

(CL:WHEN FILE
  (RESETLST
    (LET ((STREAM (GETSTREAM FILE 'INPUT T)))
      [if STREAM
        then [RESETSAVE (GETFILEPTR FILE)
          \ (PROGN (SETFILEPTR ,FILE OLDVALUE)
        else (RESETSAVE (SETQ STREAM (OPENSTREAM (CL:IF (STREAMP FILE)
          (FULLNAME FILE)
          FILE)
          'INPUT))
          \ (PROGN (CLOSEF? OLDVALUE)
          (\TEDIT.GET.TRAILER STREAM)))]])

```

(TEDIT.FILEDATE

```

[LAMBDA (FILE INTEGER) ; Edited 26-Mar-2024 21:37 by rmk
; Edited 18-Jan-2024 10:26 by rmk
; Edited 13-Jan-2024 10:20 by rmk
; Edited 19-Dec-2023 10:13 by rmk
; Edited 6-Dec-2023 20:11 by rmk
; Edited 28-Sep-2023 22:47 by rmk

```

;; If FILE is a Tedit-format file, returns its save date if it is stamped in the file, otherwise its file-system creation date as an integer or string. NIL if
;; not a Tedit file.

;; FILE must be random access. If not, then presumably we first have to fetch the last 5+4+8 bytes to someplace else.

```

(LET [(IDATE (CAR (LAST (TEDIT.FORMATTEDFILEP FILE)
  (CL:WHEN IDATE
    (CL:IF INTEGER
      IDATE
      (GDATE IDATE)))]])

```

(TEDIT.INCLUDE

```

[LAMBDA (TSTREAM FILE START END SAFE PLAINTEXT) ; Edited 8-Feb-2025 20:56 by rmk
; Edited 25-Nov-2024 20:17 by rmk
; Edited 22-Sep-2024 18:43 by rmk
; Edited 11-Aug-2024 12:30 by rmk
; Edited 7-Jul-2024 22:03 by rmk
; Edited 2-Jul-2024 10:48 by rmk
; Edited 29-Jun-2024 10:29 by rmk
; Edited 22-May-2024 14:03 by rmk
; Edited 29-Apr-2024 10:17 by rmk
; Edited 17-Mar-2024 12:06 by rmk
; Edited 16-Feb-2024 23:54 by rmk
; Edited 13-Jan-2024 09:39 by rmk
; Edited 12-Nov-2023 12:29 by rmk
; Edited 23-Jul-2023 15:30 by rmk
; Edited 16-Jul-2023 10:18 by rmk
; Edited 21-Jun-2023 17:46 by rmk
; Edited 19-May-2001 11:43 by rmk:
; Edited 1-Jun-93 11:31 by sybalsky:mv:envos

```

;; Obtain a file name, and include that file's contents at the place where the caret is.

;; This is a documented entry, but SAFE wasn't described there and I (RMK) added PLAINTEXT to collapse with TEDIT.INCLUDE.RAW.

```
;; Returns the length of the input, if the insertion happened, NIL if there was no place to put it.
;;
;; This assumes that START and END are file positions (defaulting to 0 and length), not character numbers.
;;
;; If SAFE, the caller is taking responsibility for closing FILE when its contents are no longer needed (e.g. DOC-OBJECTS inclusions). Otherwise,
;; the contents are copied to a NODIRCORE that is owned by this TSTREAM, and then FILE is closed here if it wasn't previously open. (This may
;; not be accurate, unless FILE was actually an open stream and not a name?)
```

```
(SETQ TSTREAM (TEXTSTREAM TSTREAM))
(RESETLST
  (PROG ((TOOBJ (fetch (TEXTSTREAM TEXTOBJ) of TSTREAM))
         TSEL FSEL WASOPEN FTSTREAM NDCSTREAM (FROMFILE FILE))
        [RESETSAVE (\TEDIT.MARKACTIVE TOOBJ "Include")
          `(PROGN (\TEDIT.MARKINACTIVE OLDVALUE)
                 (SETQ TSEL (TEXTSEL TOOBJ))
                 (CL:UNLESS (GETSEL TSEL SET)
                            (TEDIT.PROMPTPRINT TOOBJ "Please select a destination for the included text" T)
                            (RETURN NIL))
                 (CL:WHEN (\TEDIT.READONLY TOOBJ NIL (FGETSEL TSEL CH#))
                          (RETURN NIL))
```

```
;; We know where the new text is supposed to go. Where is it coming from?
```

```
(CL:UNLESS FROMFILE
  (SETQ FROMFILE (\TEDIT.MAKEFILENAME (TEDIT.GETINPUT TOOBJ "Include from: ")))
  (CL:UNLESS FROMFILE
    (TEDIT.PROMPTPRINT TOOBJ "No file to include--aborted]" T)
    (RETURN)))
(CL:UNLESS (OR (STREAMP FROMFILE)
              (OR (FINDFILE FROMFILE)
                  (FINDFILE-WITH-EXTENSIONS FROMFILE NIL *TEDIT-EXTENSIONS*)))
  ; File not found
  (TEDIT.PROMPTPRINT TOOBJ (CONCAT FROMFILE " not found--include aborted")
                     T T)
  (RETURN))
```

```
;;
;; Now we have the FROMFILE, which may be a stream.
```

```
(CL:UNLESS START (SETQ START 0))
(CL:UNLESS END
  (SETQ END (GETFILEINFO FILE 'LENGTH)))
(CL:UNLESS (IGEQ END START)
  (TEDIT.PROMPTPRINT TOOBJ "Negative number of characters to include--aborted" T T)
  (RETURN))
```

```
;;
;; If the caller says SAFE, he's guaranteeing that the file will be there at least as long as we need it. Otherwise, we take ownership of the
;; information by copying it to a NODIRCORE.
```

```
(CL:UNLESS SAFE
  [if (\GETSTREAM FROMFILE 'INPUT T)
      then (SETQ WASOPEN T)
      else ; Wasn't open -- need to open it for input...
          (SETQ FROMFILE (OPENSTREAM FROMFILE 'INPUT NIL '(TYPE TEXT))
```

```
;; Create our holding file and copy the file-section into it.
(SETQ NDCSTREAM (OPENSTREAM '{NODIRCORE} 'OUTPUT 'NEW))
;; Have to explicitly fill in 0 and EOFPTR, because if the file was open already, NILs would only copy from current fileptr to EOF.
;; Use COPYBYTES for formatted files, otherwise allow natural EOL conversion to take place
```

```
(if (\TEDIT.GET.TRAILER FROMFILE)
  then (COPYBYTES FROMFILE NDCSTREAM START END)
  else (COPYCHARS FROMFILE NDCSTREAM START END))
(CL:UNLESS WASOPEN (CLOSEF FROMFILE)) ; If the file didn't come to us open, close it.
(CLOSEF NDCSTREAM)
(SETQ START 0) ; But we now want everything we copied
(SETQ END (GETFILEINFO NDCSTREAM 'LENGTH))
(SETQ FROMFILE NDCSTREAM))
```

```
;;
;; FROMFILE is now a safe file or stream, possibly already open. If it wasn't open before, we want to make sure it gets closed if/when this
;; event gets undone.
```

```
(CL:UNLESS (\GETSTREAM FROMFILE 'INPUT T)
  (SETQ FROMFILE (OPENSTREAM FROMFILE 'INPUT))
  (\TEDIT.HISTORYADD TOOBJ (\TEDIT.HISTORY.EVENT TOOBJ :Closefile NIL NIL NIL FROMFILE)))
[SETQ FTSTREAM (OPENTEXTSTREAM FROMFILE NIL START END '(FONT ,(\TEDIT.GET.INSERT.CHARLOOKS TOOBJ
  TSEL)
  PARALOOKS
  ,(GETTOBJ TOOBJ DEFAULTPARALOOKS)
  PLAINTEXT
  ,PLAINTEXT]
```

```
;;
;; FTSTREAM is now a text stream for the source. The COPYSEL is so that this doesn't smash the current FTSTREAM SEL, if the stream
;; previously existed.
```

```
[SETQ FSEL (\TEDIT.COPYSEL (TEXTSEL (TEXTOBJ FTSTREAM)
                                ; Select START to END
                                (\TEDIT.UPDATE.SEL FSEL 1 (TEXTLEN (TEXTOBJ FTSTREAM))
                                'LEFT)
                                (\TEDIT.COPY FSEL TSEL FTSTREAM TSTREAM)
                                (RETURN (FGETSEL FSEL DCH)))))]
```

(TEDIT.RAW.INCLUDE

```
[LAMBDA (TSTREAM INFILE START END SAFE) ; Edited 1-May-2023 08:46 by rmk
                                           ; Edited 27-May-93 16:36 by sybalsky:mv:envos
;; Inserts the INFILE characters between START and END into TSTREAM, treating INFILE as a plain text file. This is a documented entry,
;; motivated by now-silly speed considerations. But it really amounts to just calling TEDIT.INCLUDE with a (new) PLAINTEXT flag and let the
;; OPENTEXTSTREAM plaintext reader do its thing. I (RMK) added the SAFE argument here, consistent with the (undocumented) SAFE argument
;; of TEDIT.INCLUDE.
(TEDIT.INCLUDE TSTREAM INFILE START END SAFE T)]
```

(TEDIT.PUT

```
[LAMBDA (TSTREAM FILE FORCENEW UNFORMATTED? FORMAT QUIET) ; Edited 22-Feb-2025 15:56 by rmk
                                                         ; Edited 23-Dec-2024 23:02 by rmk
                                                         ; Edited 11-Aug-2024 12:30 by rmk
                                                         ; Edited 29-Jun-2024 10:31 by rmk
                                                         ; Edited 26-Jun-2024 15:46 by rmk
                                                         ; Edited 29-Apr-2024 10:12 by rmk
                                                         ; Edited 31-Mar-2024 23:54 by rmk
                                                         ; Edited 7-Feb-2024 13:31 by rmk
                                                         ; Edited 4-Feb-2024 00:10 by rmk
                                                         ; Edited 22-Dec-2023 10:41 by rmk
                                                         ; Edited 19-Dec-2023 10:18 by rmk
                                                         ; Edited 21-Jun-99 19:02 by rmk:
                                                         ; Edited 19-Apr-93 13:04 by jds
;; If the guy was editing a file, make a new updated version; else, ask for a file name
;; If FILE is specd, it's used; else the user must give us one
;; Returns the destination stream open for input.
(SETQ TSTREAM (TEXTSTREAM TSTREAM))
(CL:UNLESS (\TEDIT.READONLY TSTREAM)
  (RESETLST
    (PROG ((TEXTOBJ (fetch (TEXTSTREAM TEXTOBJ) of TSTREAM))
           CHARSTREAM NEWPIECES PUTFN OLDEXTFORMAT NEWEXTFORMAT PUTSTRING)
          (CL:WHEN (AND (SETQ PUTFN (GETTEXTPROP TEXTOBJ 'PUTFN))
                       (EQ (APPLY* PUTFN TSTREAM (FULLNAME FILE)
                                   'BEFORE)
                           'DON'T)))
            ;; PUTFN BEFORE says it can't be saved, even though asked. Let him know
            (TEDIT.PROMPTPRINT TEXTOBJ "This document cannot be saved" T T)
            (RETURN NIL))
          (CL:UNLESS [OR (IGREATERP (TEXTLEN TEXTOBJ)
                                   0)
                       (EQ (CHARCODE Y)
                           (CHCON1 (TEDIT.GETINPUT TEXTOBJ "Document is empty. Save anyway? " "Yes")
                                   (RETURN NIL)))]
            (if (AND (STREAMP FILE)
                    (\GETSTREAM FILE 'OUTPUT T))
                then (SETQ CHARSTREAM FILE)
                else (CL:UNLESS UNFORMATTED?
                          (if (\TEDIT.FORMATTEDSTREAMP TEXTOBJ)
                              then [SETQ UNFORMATTED? (AND (GETTEXTPROP TEXTOBJ 'CLEARGET)
                                                            (EQ 'N (U-CASE (NTHCHAR (TEDIT.GETINPUT TEXTOBJ
                                                                                          "Convert plaintext
                                                                                          to formatted file? "
                                                                                          "No"))
                                                            1]
                              else (SETQ UNFORMATTED? T)))
                    (SELECTQ FILE
                      (NIL (CL:UNLESS FORCENEW ; Forcenez for templates?
                                       (CL:WHEN [AND (TEXTPROP TEXTOBJ 'TEMPLATE)
                                                   (EQ 'N (U-CASE (NTHCHAR (TEDIT.GETINPUT TEXTOBJ
                                                                                          "Overwrite template? " "No"))
                                                           1]
                                       (SETQ FORCENEW 'DETEMPLATE)))
                      [SETQ FILE (\TEDIT.MAKEFILENAME (TEDIT.GETINPUT TEXTOBJ "Put to: "
                                                                                   (CL:UNLESS FORCENEW (
                                                                                       \TEXTSTREAM.FILENAME
                                                                                       TEXTOBJ
                                                                                       UNFORMATTED?))]
                    (T (SETQ FILE (\TEXTSTREAM.FILENAME TEXTOBJ UNFORMATTED?)))
                    NIL)
                    (CL:UNLESS FILE ; No file to put to.
                      (TEDIT.PROMPTPRINT TEXTOBJ "No output file--aborted" T T)
                      (RETURN)))
    ;;
```

:: Ready to save. IF the external format changes, we don't want to update the current textstream. Unless we figure out what the new
:: proper piecetypes should be (FATFILE2, UTF8...).

```
[SETQ OLDEXTFORMAT (AND (STREAMP (FGETTOBJ TEXTOBJ TXTFILE))
                        (STREAMPROP (FGETTOBJ TEXTOBJ TXTFILE)
                                     'FORMAT))
 (SETQ NEWEXTFORMAT (OR FORMAT (GETTEXTPROP TEXTOBJ 'OUTPUT-FORMAT)
                          OLDEXTFORMAT :DEFAULT))
[RESETSAVE (\TEDIT.MARKACTIVE TEXTOBJ "Put")
            '(PROGN (\TEDIT.MARKINACTIVE OLDVALUE)
                    [RESETSAVE [SETQ CHARSTREAM (OPENSTREAM FILE 'OUTPUT 'NEW
                                                    `([TYPE ,(CL:IF UNFORMATTED?
                                                                    'TEXT
                                                                    'BINARY)]
                                                    (LINELENGTH T)
                                                    (FORMAT ,NEWEXTFORMAT)
                                                    '(AND RESETSTATE (DELFILE (CLOSEF? OLDVALUE)
                                                                    'DON'T])
                                                    ' (AND RESETSTATE (DELFILE (CLOSEF? OLDVALUE)
                                                                    'DON'T])
[RESETSAVE (\TEDIT.PUTRESET (CONS (THIS.PROCESS)
                                   'DON'T])
(CL:UNLESS QUIET
 (SETQ PUTSTRING (CONCAT "Put to " (FULLNAME CHARSTREAM)
                        "..."))
 (TEDIT.PROMPTPRINT TEXTOBJ PUTSTRING T))
```

::
:: CHARSTREAM is open, we're ready to go.
:: We don't know how to decide that the user doesn't want to continue editing and therefore doesn't need the pieces to be updated to
:: the new file. The stream itself may be used in the future, even if right now there is no process or window

```
(SETQ CHARSTREAM (TEDIT.PUT.STREAM TSTREAM CHARSTREAM UNFORMATTED? NIL T))
```

:: The file is written, nothing can be lost. CHARSTREAM isn't closed yet

::
:: TEDIT.PUT.FINISHEDFORMS is not documented. Are we supposed to supply some defined specvars?

```
(for FORM in (GETTEXTPROP TEXTOBJ 'TEDIT.PUT.FINISHEDFORMS) do (EVAL FORM))
(CL:WHEN PUTFN
 (APPLY* PUTFN TSTREAM (FULLNAME CHARSTREAM)
         'AFTER))
```

```
::
::
::
(CL:UNLESS QUIET
 (TEDIT.PROMPTPRINT TEXTOBJ (CONCAT PUTSTRING "done")
 T))
```

```
::
::
(CL:WHEN (EQ FORCENEW 'DETEMPLATE)
 (TEXTPROP TEXTOBJ 'TEMPLATE NIL))
(RETURN CHARSTREAM)))]
```

(TEDIT.PUT.STREAM

```
[LAMBDA (TSTREAM DESTSTREAM UNFORMATTED? EXTERNALFORMAT CONTINUE)
```

- ; Edited 20-Nov-2024 16:26 by rmk
; Edited 22-Sep-2024 18:40 by rmk
; Edited 14-May-2024 17:49 by rmk
; Edited 29-Apr-2024 10:09 by rmk
; Edited 19-Mar-2024 21:38 by rmk
; Edited 17-Mar-2024 17:29 by rmk
; Edited 7-Feb-2024 12:41 by rmk
; Edited 4-Feb-2024 00:19 by rmk
;

:: If UNFORMATTED?, the FORMATSTREAM portion of the Tedit stream is discarded, so only the plaintext character portion appears in
:: DESTSTREAM.

:: Saves the contents of TSTREAM on DESTSTREAM, starting at DESTSTREAM's current file position. If DESTSTREAM is not a stream open for
:: output, an attempt will be made to open it. Either way, if EXTERNALFORMAT is provided, the stream will be written with that format. Otherwise,
:: the current format of the stream (or the current default format, if a file) will be used.

:: If not CONTINUE and DESTSTREAM is opened here, it will be closed and its filename will be returned. Otherwise, the DESTSTREAM will be
:: left in its original mode and positioned after the last byte written.

```
(RESETLST
 (LET ((TEXTOBJ (TEXTOBJ TSTREAM))
       NEWPIECES OPENEDHERE)
 (CL:UNLESS (\GETSTREAM DESTSTREAM 'OUTPUT T)
 [RESETSAVE [SETQ DESTSTREAM (OPENSTREAM DESTSTREAM 'OUTPUT NIL '(LINELENGTH T)
                                     '(AND RESETSTATE (DELFILE (CLOSEF? OLDVALUE)
                                     (SETQ OPENEDHERE T))
 (CL:WHEN EXTERNALFORMAT
 (STREAMPROP DESTSTREAM 'FORMAT EXTERNALFORMAT))
 (SETQ NEWPIECES (\TEDIT.PUT.PCTB TEXTOBJ DESTSTREAM UNFORMATTED? CONTINUE))
 (if CONTINUE
 then (CLOSEF? DESTSTREAM)
 (CL:UNLESS UNFORMATTED?
 (SETFILEINFO (FULLNAME DESTSTREAM)
               'ICREATIONDATE
               (TEDIT.FILEDATE DESTSTREAM T))
```

; Make the directory date the same as the internal Tedit date

```

      (SETQ DESTSTREAM (OPENSTREAM DESTSTREAM 'INPUT))
      (\TEDIT.INSERT.NEWPIECES DESTSTREAM TSTREAM NEWPIECES)
      (SETFILEPTR DESTSTREAM 0)
      (\PEEKBIN DESTSTREAM T) ; Opening doesn't set up the buffers, you have to read.
      (CL:WHEN (FGETTOBJ TEXTOBJ TXTFILE)
        (CLOSEF? (FGETTOBJ TEXTOBJ TXTFILE)))
      (FSETTOBJ TEXTOBJ TXTFILE DESTSTREAM)
      (FSETTOBJ TEXTOBJ \XDIRTY NIL)
      (\TEDIT.UPDATE.TITLE TEXTOBJ DESTSTREAM)
      (\TEDIT.HISTORYADD TEXTOBJ (\TEDIT.HISTORY.EVENT TEXTOBJ :Put)
        DESTSTREAM)
    elseif OPENEDHERE
      then (OR (CLOSEF? DESTSTREAM)
        (FULLNAME DESTSTREAM))
    else DESTSTREAM))])

```

)

(DEFINEQ

(\TEDIT.GET.FOREIGN.FILE

```

[LAMBDA (TEXT TSTREAM START END PROPS) ; Edited 8-Feb-2025 20:20 by rmk
; Edited 7-Feb-2025 08:10 by rmk
; Edited 17-Mar-2024 00:21 by rmk
; Edited 22-Oct-2023 20:40 by rmk
; Edited 18-Sep-2023 16:40 by rmk
; Edited 10-Aug-2023 17:26 by rmk
; Edited 6-Sep-2022 12:18 by rmk
; Edited 26-Aug-2022 08:43 by rmk
; Edited 25-Jul-2022 21:21 by rmk

```

;; If TEXT is recognized as a file in a user format, convert it into a new text stream. It could be that the foreign file is coming from a TEDIT.GET on
 ;; an existing stream. There may be a window attached to TSTREAM, and that's where the edit will eventually take place. Its dimensions are
 ;; available, e.g. for width and height, but it may not yet have been initialized for TEDIT (because the source text is being installed here).

;;
 ;; The foreign function returns a textstream FSTREAM. If FSTREAM=TSTREAM then we assume that the foreign function filled in everything
 ;; completely. If it is a different stream, then we assume that its pieces are safe and its looks are good, we copy that information back into
 ;; TSTREAM.

;;
 ;; Either way, the foreign function guarantees that file pieces, if any, are safe wrt buffer boundaries.

```

(LET (USERFILEFORMAT USERTEMP FSTREAM FTEXTOBJ (TTEXTOBJ (fetch (TEXTSTREAM TEXTOBJ) of TSTREAM)))
  ;; Do the predicate and the converter agree that they can handle this?
  (CL:WHEN (AND (SETQ USERFILEFORMAT (for FILETYPE in TEDIT.INPUT.FORMATS
    when (SETQ USERTEMP (APPLY* (CAR FILETYPE)
      TEXT TSTREAM PROPS))
    do (RETURN FILETYPE)))
    (SETQ FSTREAM (APPLY* (CADR USERFILEFORMAT)
      TEXT TSTREAM PROPS USERTEMP START END))
    (TEXTSTREAMP FSTREAM) ; Return NIL if we couldn't convert
  (CL:UNLESS (EQ TSTREAM FSTREAM)
    (SETQ FTEXTOBJ (TEXTOBJ FSTREAM))
    (\TEDIT.INSERTPIECES (\TEDIT.FIRSTPIECE FTEXTOBJ
      NIL TTEXTOBJ)
      (FSETTOBJ TTEXTOBJ SUFFIXPIECE (FGETTOBJ FTEXTOBJ SUFFIXPIECE))
      ; Last piece have different looks
      (FSETTOBJ TTEXTOBJ TXTPAGEFRAMES (FGETTOBJ FTEXTOBJ TXTPAGEFRAMES))
      (FSETTOBJ TTEXTOBJ DEFAULTPARALOOKS (FGETTOBJ FTEXTOBJ DEFAULTPARALOOKS))
      (FSETTOBJ TTEXTOBJ DEFAULTCHARLOOKS (FGETTOBJ FTEXTOBJ DEFAULTCHARLOOKS)))
    TSTREAM]))

```

(\TEDIT.GET.UNFORMATTED.FILE

```

[LAMBDA (STREAM TSTREAM START END PROPS) ; Edited 8-Feb-2025 20:21 by rmk
; Edited 17-Mar-2024 00:21 by rmk
; Edited 5-Feb-2024 09:26 by rmk
; Edited 21-Jan-2024 09:42 by rmk
; Edited 29-Dec-2023 11:52 by rmk
; Edited 27-Dec-2023 13:33 by rmk
; Edited 22-Oct-2023 22:59 by rmk
; Edited 12-Sep-2023 16:45 by rmk
; Edited 3-Aug-2023 22:04 by rmk
; Edited 3-May-2023 17:38 by rmk
; Edited 26-Apr-2023 14:09 by rmk

```

```

(RESETLST
  [RESETSAVE NIL `(STREAMPROP ,STREAM ENDOFSTREAMOP ,(STREAMPROP STREAM 'ENDOFSTREAMOP
    (FUNCTION NIL))]
  (\SETFILEPTR STREAM START)
  (LET ((TEXTOBJ (fetch (TEXTSTREAM TEXTOBJ) of TSTREAM))
    (FORMAT (STREAMPROP STREAM 'FORMAT))
    (DEFAULTCHARLOOKS DEFAULTPARALOOKS PIECES)
    (PUTTEXTPROP TEXTOBJ 'CLEARGET T)
    (SETQ DEFAULTCHARLOOKS (GETTOBJ TEXTOBJ DEFAULTCHARLOOKS))
    (SETQ DEFAULTPARALOOKS (GETTOBJ TEXTOBJ DEFAULTPARALOOKS))
    (CL:WHEN (AND (EQ FORMAT :STRING)

```

```

(\IOMODEP STREAM 'OUTPUT T))
(SETQ STREAM (COPYFILE STREAM '{NODIRCORE})))
[SETQ PIECES
 (SELECTQ FORMAT
 (:XCCS (\TEDIT.GET.UNFORMATTED.FILE.XCCS STREAM START END DEFAULTCHARLOOKS DEFAULTPARALOOKS))
 (:UTF-8 (\TEDIT.GET.UNFORMATTED.FILE.UTF8 STREAM START END DEFAULTCHARLOOKS DEFAULTPARALOOKS))
 (:STRING (CL:WHEN (\IOMODEP STREAM 'OUTPUT T)
 ;; Protect against somebody smashing the string. (Should also protect other files, but...)
 (SETQ STREAM (COPYFILE STREAM '{NODIRCORE})))
 ;; String format is known to be fat. Eventually it should be sufficient to know the bytesperchar of the piece to figure
 ;; out the PFILEPOS byte pointers, and just use the generic \OUTCHAR to get the characters.
 (create PIECE
 PCONTENTS _ STREAM
 PFPOS _ START
 PLEN _ (FOLDLO (IDIFFERENCE END START)
 2)
 PLOOKS _ DEFAULTCHARLOOKS
 PPARALAST _ NIL
 PPARALOOKS _ DEFAULTPARALOOKS
 PTYPE _ FATFILE2.PTYPE
 PBYTESPERCHAR _ 2))
 (create PIECE
 PCONTENTS _ STREAM
 PFPOS _ START
 PLEN _ (IDIFFERENCE END START)
 PLOOKS _ DEFAULTCHARLOOKS
 PPARALAST _ NIL
 PPARALOOKS _ DEFAULTPARALOOKS
 PTYPE _ THINFILE.PTYPE
 PBYTESPERCHAR _ 1
 PBINABLE _ (fetch (STREAM BINABLE) of STREAM]
 (\TEDIT.INSERTPIECES PIECES NIL TEXTOBJ)))]

```

(\TEDIT.GET.FORMATTED.FILE

[LAMBDA (TEXT TSTREAM START END PROPS)

```

; Edited 7-Feb-2025 08:19 by rmk
; Edited 28-Oct-2024 17:48 by rmk
; Edited 21-Oct-2024 00:33 by rmk
; Edited 29-Apr-2024 10:25 by rmk
; Edited 17-Mar-2024 00:21 by rmk
; Edited 5-Feb-2024 09:25 by rmk
; Edited 21-Jan-2024 10:25 by rmk
; Edited 18-Jan-2024 10:25 by rmk
; Edited 27-Oct-2023 13:48 by rmk
; Edited 11-Jun-99 14:37 by rmk:
; Edited 19-Apr-93 13:46 by jds

```

;; TEXT is an open stream that knows its external format, TSTREAM is the textstream to be filled in. If specified, START and END define the byte positions in TEXT to be included

;; Returns NIL if TSTREAM is not a formatted file, otherwise the

```

(LET ((TEXTOBJ (TEXTOBJ! (GETTSTR TSTREAM TEXTOBJ)))
 (TRAILER (\TEDIT.GET.TRAILING TEXT END))
 PCCOUNT (DATE PC)
 (CL:WHEN TRAILER
 (SETOBJ TEXTOBJ TXTPAGEFRAMES NIL)
 (SETQ PCCOUNT (CADDR TRAILER))
 (SELECTQ (CADDR TRAILER)
 (3 (\TEDIT.INSERTPIECES (\TEDIT.GET.PIECES3 TEXT TSTREAM PCCOUNT START END)
 NIL TEXTOBJ)) ; Version 3
 (2 (\TEDIT.GET.PCTB2 TEXT TSTREAM PCCOUNT START END)) ; Version 2; obsoleted 5/22/85
 (1 (\TEDIT.GET.PCTB1 TEXT TSTREAM PCCOUNT START END)) ; Version 1; obsoleted at INTERMEZZO release 2/85
 (0 (\TEDIT.GET.PCTB0 TEXT TSTREAM (CADR PCCOUNT)
 PCCOUNT START END)) ; VERSION 0
 (\TEDIT.THELP "File format version incompatible with this version of Tedit."))
 (CL:WHEN (SETQ PC (\TEDIT.LASTPIECE TEXTOBJ))
 (FSETPC PC PPARALAST T))
 (\TEDIT.TRANSLATE.ASCIICHARS TEXTOBJ NIL)
 TEXTOBJ))

```

(\TEDIT.FORMATTEDSTREAMP

[LAMBDA (TSTREAM)

```

; Edited 8-Feb-2025 20:21 by rmk
; Edited 16-Mar-2024 10:03 by rmk
; Edited 22-Sep-2023 20:17 by rmk
; Edited 15-Sep-2023 00:09 by rmk
; Edited 15-Aug-2023 17:35 by rmk
; Edited 16-Sep-2022 21:00 by rmk
; Edited 1-Sep-2022 08:54 by rmk
; Edited 19-Apr-93 11:57 by jds

```

;; Test to see if this stream's text would need a TEdit-format file (T) or is just plain text (NIL)


```
(LET ((TEXTOBJ (TEXTOBJ TSTREAM)))
  (for PC (FORMATLEVEL _ 0)
    (DEFAULTCLOOKS _ (FGETTOBJ TEXTOBJ DEFAULTCHARLOOKS))
    (DEFAULTPLOOKS _ (FGETTOBJ TEXTOBJ DEFAULTPARALOOKS))
    (TENTATIVE _ (GETTEXTPROP TEXTOBJ 'TEDIT.TENTATIVE))
    inpieces
    (\TEDIT.FIRSTPIECE TEXTOBJ) do [COND
      ((EQ OBJECT.PTYPE (PTYPE PC))
        ; OBJECTS require the special format
        (SETQ FORMATLEVEL 4)
        (GO $$OUT))
      ((OR (AND (PPARALAST PC)
                (NEXTPIECE PC))
          (NOT (\TEDIT.EQFMTSPEC DEFAULTPLOOKS (PPARALOOKS PC)
                ; A paragraph break not at the end, or a new plook
                (SETQ FORMATLEVEL (IMAX FORMATLEVEL 3)))
          (OR (NOT (\TEDIT.EQCLOOKS DEFAULTCLOOKS (PLOOKS PC)))
              (AND TENTATIVE (PNEW PC)))
            ; Change in font, size, etc.
            (SETQ FORMATLEVEL (IMAX FORMATLEVEL 2)))
          (MEMB (PTYPE PC)
                (CONSTANT (LIST FATFILE2.PTYPE FATSTRING.PTYPE)))
            ; 16-bit chars in the piece
            (SETQ FORMATLEVEL (IMAX FORMATLEVEL 1]
        finally ;; 1 originally meant NSCHARS. But that's not a "look", just an external format issue.
        (RETURN (SELECTQ FORMATLEVEL
          (0 NIL)
          (2 'CHARLOOKS)
          (3 'PARALOOKS)
          (4 'IMAGEOBJ)
          (NIL]))
```

(\ARBIN

```
[LAMBDA (STREAM) ; Edited 19-Dec-2023 10:13 by rmk
  ; *jds "13-Nov-86 20:21"
  ; Read an arbitrary object from a file, parse it, and return it.

  (PROG ((LEN (\WIN STREAM))
    USERSTR)
    (COND
      ((NOT (ZEROP LEN))
        (SETQ USERSTR (OPENSTRINGSTREAM (\STRINGIN STREAM LEN)
          'INPUT))
        (RETURN (PROG1 (READ USERSTR *TEDIT-FILE-READTABLE*)
          (CLOSEF? USERSTR]))
```

(\ATMIN

```
[LAMBDA (STREAM) ; Edited 19-Dec-2023 10:13 by rmk
  ; Edited 1-Aug-2022 12:04 by rmk
  ; *jds "3-Apr-84 10:41"

  (PROG ((LEN (\WIN STREAM))
    (RETURN (COND
      ((ZEROP LEN)
        NIL)
      (T (PACK (for I from 1 to LEN collect (CHARACTER (BIN STREAM)]
```

(\DWIN

```
[LAMBDA (FILE) ; Edited 1-Aug-2022 12:04 by rmk
  ; *jds "3-JAN-83 16:08"

  (IPLUS (LLSH (BIN FILE)
    24)
    (LLSH (BIN FILE)
    16)
    (LLSH (BIN FILE)
    8)
    (BIN FILE]))
```

(\STRINGIN

```
[LAMBDA (STREAM SETLEN) ; Edited 19-Dec-2023 10:13 by rmk
  ; Edited 20-Apr-88 19:54 by jds

  (* Read a string in length-contents form%: One word for the length, and one byte per character contained.
  However, the length may be specified by the caller instead of being read from the file.)

  (PROG ((LEN (OR SETLEN (\WIN STREAM)))
    STR)
    (SETQ STR (ALLOCSTRING LEN))
    (OR (ZEROP LEN)
      (for I from 1 to LEN do (RPLCHARCODE STR I (READCCODE STREAM))
      (RETURN STR]))
```

(\TEDIT.GET.TRAILER

```
[LAMBDA (STREAM LEN) ; Edited 26-Mar-2024 21:36 by rmk
; Edited 18-Jan-2024 10:22 by rmk
; Edited 16-Jan-2024 22:39 by rmk
; Edited 15-Jan-2024 17:38 by rmk
; Edited 13-Jan-2024 21:49 by rmk

;; For an open formatted stream, returns a list (VERSION PCCOUNT DESCPTR IDATE) where DESCPTR is the byte position of the first piece.
;; Returns NIL if it is not a formatted stream. Either way, the file is left at position 0 FWIW

;; If STREAM is the format-stream split of a complete Tedit file, then PIECESTART is the position in that larger file that this section was taken from,
;; and 0 in STREAM corresponds to PIECESTART in that file. TRAILERSIZE
```

```
(SETQ LEN (OR LEN (GETEOFPTR STREAM)))
(CL:WHEN (IGREATERP LEN 8)
  (LET (PIECESTART TRAILERSIZE PCCOUNT VERSION IDATE)
    (SETFILEPTR STREAM (IDIFFERENCE LEN 8)) ; Move to start of FILEPTR to descriptions
    (SETQ PIECESTART (\DWIN STREAM)) ; Read the file pos of the descriptions
    (SETQ PCCOUNT (\WIN STREAM))
    (SETQ VERSION (IDIFFERENCE (\SMALLPIN STREAM)
                               31415))
    (PROG1 (SELECTQ VERSION
                   (3 ; Current version
                    [SETQ IDATE (OR (\TEDIT.GET.IDATE3 STREAM LEN)
                                   (GETFILEINFO STREAM 'ICREATIONDATE)]
                    (SETQ TRAILERSIZE (IPLUS 8 (CL:IF IDATE
                                                (IPLUS (CONSTANT (NCHARS "DATE:")
                                                                4)
                                                                0))))
                    (LIST PIECESTART TRAILERSIZE VERSION PCCOUNT IDATE))
                    ((2 1 0)
                     (LIST PIECESTART 8 VERSION PCCOUNT)))
                    NIL)
          (SETFILEPTR STREAM 0))))))
```

(\TEDIT.CACHEFILE

```
[LAMBDA (TEXT TEXTOBJ START END) ; Edited 22-Sep-2023 20:15 by rmk
; Edited 31-Aug-2023 15:35 by rmk
; Edited 14-Jul-2022 08:44 by rmk

;; If TEXT is not a random-access file, we copy it into local storage (NODIRCORE)
(LET (CACHE)
  ;; Sets the external format and its EOL.
  [SETQ CACHE (OPENSTREAM '{NODIRCORE} 'BOTH 'NEW `((TYPE TEXT)
                                                    (:EXTERNAL-FORMAT , (GETSTREAMPROP TEXT
                                                                    :EXTERNAL-FORMAT)]
    (COND
      ((OR START END)
       (COPYBYTES TEXT CACHE (OR START 0)
                   (OR END -1)))
      (T (COPYBYTES TEXT CACHE))) ; Copy the text there
  ;; COPYBYTES can only have start/end args of NIL if the file is not random access. So it's impossible to grab out of the middle of a file on
  ;; an NS server. Sorry.
  (CLOSEF TEXT)
  (CL:WHEN TEXTOBJ
    ;; REMEMBER THAT THIS TEXT WAS CACHED, SO THAT LATER PUTS DON'T INVALIDATE THE CACHE.
    (PUTTEXTPROP TEXTOBJ 'CACHE T))
  CACHE])
)
```

;; Until CL:COMPILE-FILE and any others are updated, They should use the public TEDIT.FORMATTEDFILEP

(MOVDP? '\TEDIT.GET.TRAILER '\TEDIT.FORMATTEDP1)

(DEFINEQ

(\TEDIT.GET.PIECES3

```
[LAMBDA (TEXT TSTREAM PCCOUNT CURFILEBYTE# END) ; Edited 8-Feb-2025 20:21 by rmk
; Edited 30-Aug-2024 15:44 by rmk
; Edited 11-Jul-2024 13:20 by rmk
; Edited 29-Apr-2024 10:37 by rmk
; Edited 7-Apr-2024 17:20 by rmk
; Edited 20-Mar-2024 10:59 by rmk
; Edited 15-Mar-2024 14:37 by rmk
; Edited 14-Jan-2024 00:22 by rmk
; Edited 11-Jan-2024 12:37 by rmk
; Edited 19-Dec-2023 10:13 by rmk
; Edited 8-Dec-2023 22:49 by rmk
; Edited 7-Nov-2023 13:10 by rmk
; Edited 24-Sep-2023 22:00 by rmk
; Edited 2-Sep-2023 11:12 by rmk
; Edited 29-Aug-2023 00:18 by rmk

(SETFILEPTR TEXT (IDIFFERENCE (OR END (GETEOFPTR TEXT))
                              8))
```



```

      (CL:WHEN (SMALLP (PPARALOOKS P))
        (change (PPARALOOKS P)
          (CL:UNLESS (EQ DATUM 0)
            ; For the last piece?
            (ELT PARALOOKSMAP DATUM))))]
    (CL:WHEN (EQ :XCCS (STREAMPROP TEXT 'FORMAT))
      (\TEDIT.INTERPRET.XCCS.SHIFTS PC TEXT))
    (RETURN PC])

```

(\TEDIT.GET.IDATE3

[LAMBDA (STREAM END) ; Edited 6-Dec-2023 16:55 by rmk

:: Returns the integer IDATE for slightly updated version 3 files, otherwise NIL. 4 for the bytes of the IDATE, 8 for the header. Leaves resets to
:: starting position (assumes an error wouldn't matter).

```

    (CL:WHEN (IGREATERP END (IPLUS (CONSTANT (NCHARS "DATE:")
      4 8))
      (LET ((FILEPTR (GETFILEPTR STREAM))
        (SETFILEPTR STREAM (IDIFFERENCE END (IPLUS (CONSTANT (NCHARS "DATE:")
          4 8))))
          ;: DATE: is the marker for this extension to version 3 (could be removed if version is update).
          (PROG1 (CL:WHEN (AND (EQ (CHARCODE D)
            (BIN STREAM))
              (EQ (CHARCODE A)
                (BIN STREAM))
              (EQ (CHARCODE T)
                (BIN STREAM))
              (EQ (CHARCODE E)
                (BIN STREAM))
              (EQ (CHARCODE %:)
                (BIN STREAM)))
            (\DWIN STREAM)
            (SETFILEPTR STREAM FILEPTR))))))

```

(\TEDIT.MAKE.STRINGPIECE

[LAMBDA (PC STRING) ; Edited 23-Jan-2024 14:32 by rmk
; Edited 16-Jan-2024 11:15 by rmk
; Edited 12-Jan-2024 16:34 by rmk

:: Makes a string piece modeled on PC containing STRING, and links it in the piece-chain after PC. STRING can be a single charcode.

```

    (SETQ STRING (CL:IF (CHARCODEP STRING)
      (ALLOCSTRING 1 STRING)
      (CONCAT STRING)))
    (LET (SPIECE)
      (SETQ SPIECE (if (fetch (STRINGP FATSTRINGP) of STRING)
        PC PTYPE _ FATSTRING.PTYPE PCONTENTS _ STRING PLEN _
        (NCHARS STRING)
        PBYTESPERCHAR _ 2 PBINABLE _ NIL PBYTELEN _ (UNFOLD
          (NCHARS STRING)
          2)
        PREVPPIECE _ PC PUTF8BYTESPERCHAR _ 2 PFPOS _ 0)
        else (create PIECE using PC PTYPE _ THINSTRING.PTYPE PCONTENTS _ STRING PLEN _
        (NCHARS STRING)
        PBYTESPERCHAR _ 1 PBINABLE _ T PBYTELEN _ (NCHARS STRING)
        PREVPPIECE _ PC PUTF8BYTESPERCHAR _ 1 PFPOS _ 0)))
      (CL:WHEN (NEXTPIECE PC)
        (FSETPC (NEXTPIECE PC)
          PREVPPIECE SPIECE))
      (FSETPC PC NEXTPIECE SPIECE)
      SPIECE])

```

)

(DEFINEQ

(\TEDIT.GET.UNFORMATTED.FILE.XCCS

[LAMBDA (STRM START END DEFAULTCHARLOOKS DEFAULTPPARALOOKS) ; Edited 21-Jan-2024 09:40 by rmk
; Edited 12-Jan-2024 13:13 by rmk
; Edited 10-Jan-2024 11:19 by rmk
; Edited 8-Jan-2024 13:15 by rmk

:: We build a chain of pieces for the NS stringlets, some of which are divided at CR/LF.

:: We assume that caller has positioned the stream at the intended start byte and has set the ENDOFSTREAMOP to return NIL on EOF.

:: CRBEFORE and the LF test are used to ensure that potential EOL's are normalized to EOL and appear at the end of their pieces, whether or not
:: they we decide to make them PPARALAST on input. LF's after CR are discarded, LF's by themselves are converted to singleton EOLstring
:: pieces.

```

    (bind (NEXTFILEPOS _ START)
      (CHARSET _ 0)
      (FIRSTPC _ (create PIECE
        PLOOKS _ DEFAULTCHARLOOKS
        PPARALOOKS _ DEFAULTPPARALOOKS))
      (CODESIZE _ 1)
      (SBINABLE _ (fetch (STREAM BINABLE) of STRM))
      EOLC PC BYTE CHAR PREVPVC PTYPE RUNLEN FILEPOS CRBEFORE SHIFTNEXT first (SETQ PREVPVC FIRSTPC)

```

```

do (SETQ FILEPOS NEXTFILEPOS) ; FIRSTPC is a throwaway
; Start of next file piece
;; In thin or fat mode, we have to look at the first byte of the next character, to see if it is a shift. If not a shift, we have to decode the byte
;; configuration to make sure we can detect CR or LF.
(do (CL:WHEN (IGEQ NEXTFILEPOS END)
    (RETURN))
    (SETQ BYTE (\PEEKBIN STRM T))
    (CL:WHEN (SETQ SHIFTNEXT (EQ NSCHARSETSHIFT BYTE))
        (SETQ CHAR NIL) ; Suppress CR/LF checking on real shift
        (RETURN))
    (BIN STRM) ; Not a shift, read the peeked byte
    (SETQ CHAR (if (EQ CODESIZE 2)
        then ; Return T if this takes us over the end
            (LOGOR (LLSH BYTE 8)
                (CL:IF (AND (ILEQ NEXTFILEPOS END)
                    (SETQ BYTE (BIN STRM)))
                    BYTE
                    (RETURN)))
            else (LOGOR (LLSH CHARSET 8)
                BYTE)))
        (add NEXTFILEPOS CODESIZE)
        (CL:WHEN (MEMB CHAR (CHARCODE (CR LF)))
            (RETURN)))
;; NEXTFILEPOS and file are positioned at beginning of the next piece, possibly after CR and LF have been read.
(SETQ RUNLEN (IDIFFERENCE NEXTFILEPOS FILEPOS))
(CL:WHEN (EQ CHAR (CHARCODE LF)) ; We never produce raw LF's
    (add RUNLEN (IMINUS CODESIZE)))
(CL:WHEN (IGREATERP RUNLEN 0)
    (SETQ PTYPE (if (EQ CODESIZE 2)
        then FATFILE2.PTYPE
        elseif (EQ CHARSET 0)
        then THINFILE.PTYPE
        else FATFILE1.PTYPE))
    (SETQ PC
        (create PIECE
            PTYPE _ PTYPE
            PCONTENTS _ STRM
            PFPOS _ FILEPOS
            PLEN _ (IQUOTIENT RUNLEN CODESIZE)
            PLOOKS _ DEFAULTCHARLOOKS
            PPARALOOKS _ DEFAULTPARALOOKS
            PCHARSET _ CHARSET
            PBYTESPERCHAR _ CODESIZE
            PBYTELEN _ RUNLEN
            PREVPIECE _ PREVPC
            PBINABLE _ (AND (EQ PTYPE THINFILE.PTYPE)
                SBINABLE)))
    (SETQ PREVPC (FSETPC PREVPC NEXTPIECE PC)))
(CL:WHEN (EQ CHAR (CHARCODE LF))
    [if CRBEFORE
        then (SETQ EOLC CRLF.EOLC)
        else ;; Linefeed not preceded by CR, replace by string piece
            (SETQ EOLC LF.EOLC)
            (SETQ PREVPC (\TEDIT.MAKE.STRINGPIECE PREVPC (CHARCODE EOL)])
            (CL:WHEN SHIFTNEXT ; Interpret and bump NEXTFILEPOS for the shifting bytes.
                (BIN STRM) ; Read the original peeked byte
                (SETQ CHARSET (BIN STRM))
                (if (EQ CHARSET \NORUNCODE)
                    then (CL:UNLESS (MEMB (BIN STRM)
                        ' (0 NIL))
                        (ERROR "EXPECTED PLANE 0 XCCS CHARACTER IS ILL-FORMED"))
                    (SETQ CHARSET 0)
                    (SETQ CODESIZE 2)
                    else (SETQ CODESIZE 1))
                (add NEXTFILEPOS (ADD1 CODESIZE))
                (SETQ SHIFTNEXT NIL))
            (CL:WHEN (IGEQ NEXTFILEPOS END)
                (CL:WHEN EOLC ; Record the last one we encountered
                    (replace (STREAM EOLCONVENTION) of STRM with EOLC))
                    (RETURN (NEXTPIECE FIRSTPC)))
            (CL:WHEN (SETQ CRBEFORE (EQ CHAR (CHARCODE CR)))
                (SETQ EOLC CR.EOLC])

```

(\TEDIT.INTERPRET.XCCS.SHIFTS

```
[LAMBDA (PIECES PFILE)
```

```

; Edited 21-Oct-2024 00:33 by rmk
; Edited 14-May-2024 18:39 by rmk
; Edited 21-Jan-2024 00:02 by rmk
; Edited 19-Jan-2024 10:34 by rmk
; Edited 12-Jan-2024 23:53 by rmk
; Edited 6-Jan-2024 15:02 by rmk
; Edited 19-Dec-2023 13:13 by rmk

```

```

;; This is called after a GET or PUT, when the file pieces are known all to reside in PFILE.PIECES is a chain of pieces read from a formatted XCCS
;; file but not yet inserted into the BTREE. Each file piece has PFILE, PFPOS, and PBYTELEN. This function interprets any XCCS shift characters

```

;; that prefix the actual characters, coercing the piece properties and bumping the PFPOS/PLEN to hide the shifts.
;; We run this before the pieces are installed in a stream, since this may change the character lengths.

```

(for PC BYTE EOLC inpieces PIECES when (EQ PFILE (PCONTENTS PC))
  do (\SETFILEPTR PFILE (PFPOS PC))
    (SETQ BYTE (BIN PFILE))
    [if (EQ NSCHARSETSHIFT BYTE)
      then (SELECTC (SETQ BYTE (BIN PFILE))
              (0
                (add (PBYTELEN PC) ; Runlength of charset 0
                      -2) ; The shift characters really disappear
                (FSETPC PC PLEN (PBYTELEN PC))
                (FSETPC PC PTYPE THINFILE.PTYPE)
                (FSETPC PC PBINABLE T)
                (FSETPC PC PCHARSET 0)
                (add (PFPOS PC)
                    2))
              (\NORUNCODE ; Going for 3 byte characters
                (CL:UNLESS (EQ 0 (BIN PFILE))
                  (\TEDIT.HELP "XCCS CHARACTER NOT IN PLANE 0"))
                (FSETPC PC PTYPE FATFILE2.PTYPE)
                (FSETPC PC PBYTESPERCHAR 2)
                (add (PFPOS PC)
                    3)
                (add (PBYTELEN PC)
                    -3)
                (FSETPC PC PLEN (FOLDLO (PBYTELEN PC)
                                         2)))
              (PROGN ; A run in a non-zero charset. Convert it to FATFILE1. Could also read into a FATSTRING instead, get rid of
                ;; on-file FATFILE1. A string piece could hold adjacent substrings in different charsets
                (add (PBYTELEN PC)
                    -2)
                (add (PFPOS PC)
                    2)
                (FSETPC PC PLEN (PBYTELEN PC))
                (FSETPC PC PBINABLE NIL)
                (FSETPC PC PTYPE FATFILE1.PTYPE)
                (FSETPC PC PBYTESPERCHAR 1)
                (FSETPC PC PCHARSET BYTE)))
            elseif (EQ 2 (PBYTESPERCHAR PC))
              then (FSETPC PC PTYPE FATFILE2.PTYPE) ; This is the continuation of an XCCS 2-byte run that was broken
                ; up presumably for looks or paragraphs
                (FSETPC PC PCHARSET \NORUNCODE)
                (FSETPC PC PLEN (FOLDLO (PBYTELEN PC)
                                         2))
            else (FSETPC PC PCHARSET 0) ; A charset 0 1-byte run
                (FSETPC PC PBINABLE T)
                (FSETPC PC PBYTESPERCHAR 1)
                [\SETFILEPTR PFILE (IPLUS (PFPOS PC)
                                          (SUB1 (PLEN PC)))
              (if (EQ (CHARCODE LF)
                    (SETQ BYTE (BIN PFILE)))
                then ; First EOL approximation: Convert trailing LF's to string-piece EOL's. This doesn't get LF's at the end of FATFILE2 or
                  ;; anywhere other than the end.
                  [if (EQ (PLEN PC)
                        1)
                    then (FSETPC PC PTYPE THINSTRING.PTYPE) ; Convert to EOL string
                        (FSETPC PC PCONTENTS (ALLOCSTRING 1 (CHARCODE EOL)))
                    else (add (PLEN PC)
                            -1) ; Shorten PC, add EOL string piece unless preceded by CR
                        (add (PBYTELEN PC)
                            -1)
                        (if (EQ (CHARCODE CR)
                              (\BACKBIN PFILE))
                          then (SETQ EOLC CRLF.EOLC)
                          else (SETQ EOLC LF.EOLC)
                          (SETQ PC (PROG1 (\TEDIT.MAKE.STRINGPIECE PC (CHARCODE EOL))
                                           (FSETPC PC PPARALAST NIL)
                          else (CL:WHEN (EQ BYTE (CHARCODE CR))
                            (SETQ EOLC CR.EOLC)
                            (FSETPC PC PTYPE THINFILE.PTYPE)
                            (FSETPC PC PLEN (PBYTELEN PC)
                          finally (CL:WHEN EOLC
                            (replace (STREAM EOLCONVENTION) of PFILE with EOLC)))
                (replace (STREAM EOLCONVENTION) of PFILE with EOLC)))
    ]
  ]
)

```

;; XCCS

(DEFINEQ

(\TEDIT.GET.UNFORMATTED.FILE.UTF8

[LAMBDA (STRM START END DEFAULTCHARLOOKS DEFAULTPARALOOKS) ; Edited 11-Mar-2024 23:55 by rmk

; Edited 4-Feb-2024 10:12 by rmk
; Edited 2-Feb-2024 11:24 by rmk
; Edited 21-Jan-2024 09:41 by rmk
; Edited 12-Jan-2024 13:17 by rmk
; Edited 10-Jan-2024 10:32 by rmk
; Edited 8-Jan-2024 12:08 by rmk

:: Break a UTF-8 file into pieces all of whose characters are of the same length. This is roughly the same logic of
:: \TEDIT.GET.UNFORMATTED.FILE.XCCS.
:: We assume that caller has positioned the stream at the intended start byte and has set the ENDOFSTREAMOP to return NIL on EOF.
:: CRBEFORE and the LF test are used to ensure that potential CR/LF's are normalized to EOL and appear at the end of their pieces, whether or
:: not we decide to make them PPARALAST on input. LF's after CR are discarded, LF's by themselves are converted to singleton EOLstring
:: pieces.

```
(bind (NEXTFILEPOS _ START)
      (FIRSTPC _ (create PIECE
                  PLOOKS _ DEFAULTCHARLOOKS
                  PPARALOOKS _ DEFAULTPPARALOOKS))
      (NEXTCODESIZE _ 1)
      (SBINABLE _ (fetch (STREAM BINABLE) of STRM))
      EOLC CHAR PREVPC PTYPE RUNLEN FILEPOS CRBEFORE CODESIZE PREVCRLF
first (SELECTQ (READBOM STRM)
          (:UTF-8 (add NEXTFILEPOS 3))
          ((:UTF-16BE :UTF-16LE)
           (ERROR "BOM :UTF-16 not yet implemented")
           (add NEXTFILEPOS 2))
          NIL)
      (SETQ CODESIZE NEXTCODESIZE)
      (SETQ PREVPC FIRSTPC)
do (SETQ FILEPOS NEXTFILEPOS)
  (do ;; We stop extending if the next character would be out of range, go below to wrap up the final piece.
      (CL:WHEN (IGEQ NEXTFILEPOS END)
        (RETURN))
      (SETQ CHAR (\PEEKBIN STRM))
      (SETQ NEXTCODESIZE (UTF8-SIZE-FROM-BYTE1 CHAR))
      (CL:UNLESS (EQ CODESIZE NEXTCODESIZE)
        ;; Don't want LF processing if we split because of size change. If next is a CR/LF still in size 1, we pick it up below
        (SETQ CHAR NIL)
        (RETURN))
      (SETQ NEXTCODESIZE (UTF8.VALIDATE STRM))
      (add NEXTFILEPOS NEXTCODESIZE)
      (CL:WHEN (MEMB CHAR (CHARCODE (CR LF)))
        ;; Force a split now, after reading the CR/LF. But make sure a size change doesn't force an empty split in front of the next
        ;; character.
        (SETQ NEXTCODESIZE (NUTF8-BYTE1-BYTES (OR (\PEEKBIN STRM)
                                                    0)))
        (RETURN)))
  ;;
  ;; NEXTFILEPOS and file are positioned at beginning of next piece, possibly after CR and LF have been read.
  (SETQ RUNLEN (IDIFFERENCE NEXTFILEPOS FILEPOS))
  (CL:WHEN (EQ CHAR (CHARCODE LF))
    (add RUNLEN -1))
  (CL:WHEN (IGREATERP RUNLEN 0)
    (SETQ PTYPE (CL:IF (EQ CODESIZE 1)
                       THINFILE.PTYPE
                       UTF8.PTYPE))
    (SETQ PREVPC
      (FSETPC PREVPC NEXTPIECE
              (create PIECE
                      PTYPE _ PTYPE
                      PCONTENTS _ STRM
                      PFPOS _ FILEPOS
                      PLEN _ (IQUOTIENT RUNLEN CODESIZE)
                      PLOOKS _ DEFAULTCHARLOOKS
                      PPARALOOKS _ DEFAULTPPARALOOKS
                      PBYTESPERCHAR _ CODESIZE
                      PBYTELEN _ RUNLEN
                      PREVPIECE _ PREVPC
                      PBINABLE _ (AND (EQ PTYPE THINFILE.PTYPE)
                                       SBINABLE)
                      PUTF8BYTESPERCHAR _ CODESIZE))))
  (CL:WHEN (EQ CHAR (CHARCODE LF))
    [if CRBEFORE
      then (SETQ EOLC CRLF.EOLC)
      else ;; Linefeed not preceded by CR, replace by string piece
        (SETQ EOLC LF.EOLC)
        (SETQ PREVPC (\TEDIT.MAKE.STRINGPIECE PREVPC (CHARCODE EOL]))
  (CL:WHEN (IGEQ NEXTFILEPOS END)
    (CL:WHEN EOLC
      (replace (STREAM EOLCONVENTION) of STRM with EOLC))
    (RETURN (NEXTPIECE FIRSTPC)))
  ; Record the last EOLC we encountered
```

```
(SETQ CODESIZE NEXTCODESIZE)
(CL:WHEN (SETQ CRBEFORE (EQ CHAR (CHARCODE CR)))
  (SETQ EOLC CR.EOLC))
```

)

:: UTF-8

(DEFINEQ

(\TEDIT.GET.CHARLOOKS.LIST

[LAMBDA (FILE TEXTOBJ)

; Edited 7-Apr-2024 17:22 by rmk
; Edited 16-Jan-2024 22:44 by rmk
; Edited 19-Dec-2023 10:13 by rmk
(* jds "28-Jan-85 17:50")
; Read the list of CHARLOOKSs from the file.

(for I from 1 to (\WIN FILE) collect (\TEDIT.GET.SINGLE.CHARLOOKS FILE TEXTOBJ])

(\TEDIT.GET.SINGLE.CHARLOOKS

[LAMBDA (FILE TEXTOBJ)

; Edited 2-Jan-2025 11:08 by rmk
; Edited 11-Dec-2024 22:59 by rmk
; Edited 9-Dec-2024 20:11 by rmk
; Edited 13-Aug-2024 08:49 by rmk
; Edited 31-Jul-2024 00:04 by rmk
; Edited 7-Apr-2024 17:21 by rmk
; Edited 16-Jan-2024 22:46 by rmk
; Edited 21-Dec-2023 23:54 by rmk
; Edited 19-Dec-2023 10:13 by rmk
; Edited 25-Nov-2023 23:21 by rmk
; Edited 24-Aug-2023 15:05 by rmk
; Edited 20-Feb-2022 12:42 by larry
; Edited 30-May-91 20:25 by jds

:: Read one CHARLOOKS from FILE. This gets and then sets the file pointer, based on the stored length. But that won't work if the file is not
:: random access. Maybe that's not necessary?

:: TEXTOBJ only for printing in the local promptwindow, if necessary.

```
(PROG* ((LOOKS (create CHARLOOKS))
  (FILEPOS (GETFILEPTR FILE))
  (LOOKSLEN (\WIN FILE))
  FONT NAME SIZE SUPER PROPS STYLESTR BOLD ITALIC)
(SETQ NAME (\ARBIN FILE))
(SETQ SIZE (\WIN FILE))
(SETQ SUPER (\SMALLPIN FILE))
(FSETCLOOKS LOOKS CLSTYLE (OR (\ARBIN FILE)
  0))
(FSETCLOOKS LOOKS CLUSERINFO (\ARBIN FILE))
(SETQ PROPS (\WIN FILE))
[SETQ BOLD (NOT (ZEROP (LOGAND 512 PROPS))
[SETQ ITALIC (NOT (ZEROP (LOGAND 256 PROPS))
```

; The font name
; Size of the type, in points
; Superscripting distance, could be negative

```
(with CHARLOOKS LOOKS [SETQ CLSELBEFORE (NOT (ZEROP (LOGAND 8192 PROPS))
[SETQ CLUNBREAKABLE (NOT (ZEROP (LOGAND 4096 PROPS))
[SETQ CLEADER (NOT (ZEROP (LOGAND 2048 PROPS))
[SETQ CLINVERTED (NOT (ZEROP (LOGAND 1024 PROPS))
[SETQ CLULINE (NOT (ZEROP (LOGAND 128 PROPS))
[SETQ CLOLINE (NOT (ZEROP (LOGAND 64 PROPS))
[SETQ CLSTRIKE (NOT (ZEROP (LOGAND 32 PROPS))
[SETQ CLSMALLCAP (NOT (ZEROP (LOGAND 16 PROPS))
[SETQ CLPROTECTED (NOT (ZEROP (LOGAND 8 PROPS))
[SETQ CLINVISIBLE (NOT (ZEROP (LOGAND 4 PROPS))
[SETQ CLSELAFTER (NOT (ZEROP (LOGAND 2 PROPS))
[SETQ CLCANCOPY (NOT (ZEROP (LOGAND 1 PROPS))
(SETQ CLOFFSET SUPER))
```

[if (LISTP NAME)

then

; This was a font class. Restore it.

```
(SETQ FONT (FONTCLASS (pop NAME)
  NAME))
```

; But don't maintain original names, for equality testing

```
(replace (FONTCLASS FONTCLASSNAME) of FONT with 'TEDIT-FONTCLASS)
```

```
(replace (FONTCLASS PRETTYFONT#) of FONT with 0)
```

```
else (SETQ FONT (FONTCREATE NAME SIZE (PACK* (CL:IF BOLD
```

```
'B
'M)
(CL:IF ITALIC
'I
'R)
'R]
```

```
(FSETCLOOKS LOOKS CLFONT FONT)
(FSETCLOOKS LOOKS CLNAME (FONTUNPARSE FONT))
(SETFILEPTR FILE (IPLUS FILEPOS LOOKSLEN))
(RETURN LOOKS])
```

(\TEDIT.GET.CHARLOOKS

[LAMBDA (PC FILE LOOKSARRAY)

; Edited 13-Jan-2024 00:01 by rmk
; Edited 19-Dec-2023 10:13 by rmk
; Edited 3-Sep-2023 23:31 by rmk

; Edited 28-Aug-2023 22:19 by rmk
; Edited 26-Aug-2023 23:22 by rmk
; Edited 30-May-91 21:43 by jds

:: Set the PLOOKS for the current piece, PC, according to what the file says
;; We also

```
(LET ((FLAGS (BIN FILE)))
      (FSETPC PC PLOOKS (ELT LOOKSARRAY (\WIN FILE)))
      (CL:UNLESS (ZEROP (LOGAND FLAGS 1))
                 (FSETPC PC PNEW T))
      (CL:UNLESS (ZEROP (LOGAND FLAGS 2))
                 (FSETPC PC PLEN (IQUOTIENT (FGETPC PC PLEN)
                                             2))
                 (FSETPC PC PTYPE FATFILE2.PTYPE)
                 (FSETPC PC PBYTESPERCHAR 2))))
```

; XCSS FAT. It may be a continuation of a previous fat piece

(\TEDIT.GET.PARALOOKS.INDEX

[LAMBDA (STREAM PARAHASH)

; Edited 13-Jan-2024 13:06 by rmk
; Edited 19-Dec-2023 10:13 by rmk
; Edited 18-Dec-88 17:47 by jds

:: Reads the index of a paragraph format. .
;; Index 0 indicates an end-of-file dummy, used to preserve the paraloops of EOF para break.

```
(\WIN STREAM])
```

(\TEDIT.GET.CHARLOOKS.INDEX

[LAMBDA (PC FORMATSTREAM)

; Edited 14-Jan-2024 00:11 by rmk
; Edited 19-Dec-2023 10:13 by rmk
; Edited 3-Sep-2023 23:31 by rmk
; Edited 28-Aug-2023 22:19 by rmk
; Edited 26-Aug-2023 23:22 by rmk
; Edited 30-May-91 21:43 by jds

:: Set the type, length, and and charlooks-index for the current piece, PC

```
(LET ((FLAGS (BIN FORMATSTREAM))
      (FSETPC PC PLOOKS (\WIN FORMATSTREAM))
      (CL:UNLESS (ZEROP (LOGAND FLAGS 1))
                 (FSETPC PC PNEW T))
      (CL:UNLESS (ZEROP (LOGAND FLAGS 2))
                 (FSETPC PC PLEN (IQUOTIENT (FGETPC PC PLEN)
                                             2))
                 (FSETPC PC PTYPE FATFILE2.PTYPE)
                 (FSETPC PC PBYTESPERCHAR 2))))
```

; XCSS FAT. It may be a continuation of a previous fat piece

(DEFINEQ

(\TEDIT.GET.PARALOOKS.LIST

[LAMBDA (FILE TEXTOBJ)

; Edited 16-Jan-2024 22:47 by rmk
; Edited 19-Dec-2023 10:13 by rmk
(* jds "13-Jun-85 11:14")
; Read the list of CHARLOOKSs from the file.

```
(for I from 1 to (\WIN FILE) collect (\TEDIT.GET.SINGLE.PARALOOKS FILE TEXTOBJ])
```

(\TEDIT.GET.SINGLE.PARALOOKS

[LAMBDA (FILE TEXTOBJ)

; Edited 19-Feb-2025 12:10 by rmk
; Edited 8-Feb-2025 22:04 by rmk
; Edited 22-Nov-2024 23:55 by rmk
; Edited 23-Oct-2024 16:03 by rmk
; Edited 21-Oct-2024 00:33 by rmk
; Edited 5-Aug-2024 09:47 by rmk
; Edited 29-Jul-2024 23:26 by rmk
; Edited 28-Jul-2024 21:38 by rmk
; Edited 16-Jan-2024 22:52 by rmk
; Edited 19-Dec-2023 10:13 by rmk
; Edited 3-Mar-2023 23:16 by rmk
; Edited 11-Oct-2022 15:23 by rmk
; Edited 1-Aug-2022 12:04 by rmk
; Edited 2-Jul-93 21:31 by sybalsky:MV:ENVOS
; Read a paragraph format spec from the FILE, and return it for
; later use.

```
(LET ((PARALOOKS (create PARALOOKS))
      (FILEPOS (GETFILEPTR FILE))
      (LOOKSLEN (\WIN FILE))
      TABFLG DEFTAB TABS)
      (FSETPLOOKS PARALOOKS 1STLEFTMAR (\SMALLPIN FILE))
      (FSETPLOOKS PARALOOKS LEFTMAR (\SMALLPIN FILE))
      (FSETPLOOKS PARALOOKS RIGHTMAR (\SMALLPIN FILE))
      (FSETPLOOKS PARALOOKS LEADBEFORE (\SMALLPIN FILE))
      (FSETPLOOKS PARALOOKS LEADAFTER (\SMALLPIN FILE))
      (FSETPLOOKS PARALOOKS LINELEAD (\SMALLPIN FILE))
      (SETQ TABFLG (BIN FILE)))
```

; Left margin for the first line of the paragraph
; Left margin for the rest of the paragraph
; Right margin for the paragraph
; Leading before the paragraph
; Lead after the paragraph
; inter-line leading

```
(FSETPLOOKS PARALOOKS QUAD (SELECTC (BIN FILE)
      (1 'LEFT)
      (2 'RIGHT)
      (3 'CENTERED)
      (4 'JUSTIFIED)
      (\TEDIT.THELP "UNRECOGNIZED QUAD BYTE")))
(CL:UNLESS (ZEROP (LOGAND TABFLG 1)) ; There are tabs to read
  (SETQ DEFTAB (\SMALLPIN FILE))
  (CL:WHEN (ILEQ DEFTAB 1) ; 0/1 don't make sense, seemed to code default
    (SETQ DEFTAB DEFAULTTAB))
  (FSETPLOOKS PARALOOKS FMTDEFAULTTAB DEFTAB)
  [SETQ TABS (for TAB# from 1 to (BIN FILE) collect (create TAB
    TABX _ (\SMALLPIN FILE)
    TABKIND _ (SELECTQ (BIN FILE)
      (0 'LEFT)
      (1 'RIGHT)
      (2 'CENTERED)
      (3 'DECIMAL)
      (4 'DOTTEDLEFT)
      (5 'DOTTEDRIGHT)
      (6 'DOTTEDCENTERED)
      (7 'DOTTEDDECIMAL)
      (\TEDIT.THELP]
```

```
(FSETPLOOKS PARALOOKS FMTTABS TABS))
(CL:UNLESS (FGETPLOOKS PARALOOKS FMTDEFAULTTAB)
  (FSETPLOOKS PARALOOKS FMTDEFAULTTAB DEFAULTTAB))
(CL:UNLESS (ZEROP (LOGAND TABFLG 2)) ; There are other paragraph parameters to be read.
  (FSETPLOOKS PARALOOKS FMTSPECIALX (\SMALLPIN FILE)) ; Special X location on page for this paragraph
  (FSETPLOOKS PARALOOKS FMTSPECIALY (\SMALLPIN FILE))
  (FSETPLOOKS PARALOOKS FMTUSERINFO (\ARBIN FILE))
  (FSETPLOOKS PARALOOKS FMTPARATYPE (\ATMIN FILE))
  (FSETPLOOKS PARALOOKS FMTPARASUBTYPE (\ATMIN FILE))
  (FSETPLOOKS PARALOOKS FMTSTYLE (\ARBIN FILE))
  (FSETPLOOKS PARALOOKS FMTCHARSTYLES (\ARBIN FILE))
  (FSETPLOOKS PARALOOKS FMTNEWPAGEBEFORE (\ARBIN FILE))
  (FSETPLOOKS PARALOOKS FMTNEWPAGEAFTER (\ARBIN FILE))
  (FSETPLOOKS PARALOOKS FMTHEADINGKEEP (\ARBIN FILE))
  (FSETPLOOKS PARALOOKS FMTKEEP (\ARBIN FILE))
  (CL:WHEN (ILESSP (GETFILEPTR FILE)
    (IPLUS FILEPOS LOOKSLEN))
    (FSETPLOOKS PARALOOKS FMTBASETOBASE (\ARBIN FILE)))
  (CL:WHEN (ILESSP (GETFILEPTR FILE)
    (IPLUS FILEPOS LOOKSLEN))
    (FSETPLOOKS PARALOOKS FMTREVISED (\ARBIN FILE)))
  (CL:WHEN (ILESSP (GETFILEPTR FILE)
    (IPLUS FILEPOS LOOKSLEN))
    (FSETPLOOKS PARALOOKS FMTCOLUMN (\ARBIN FILE)))
  (CL:WHEN (ILESSP (GETFILEPTR FILE)
    (IPLUS FILEPOS LOOKSLEN))
    (FSETPLOOKS PARALOOKS FMTCHARSTYLES (\ARBIN FILE))))
(CL:WHEN (ILESSP (GETFILEPTR FILE)
  (IPLUS FILEPOS LOOKSLEN)) ; There is more PARALOOKS info in this piece -- we probably
  ; lost data.
  (TEDIT.PROMPTPRINT TEXTOBJ "WARNING: Newer file version; you lost PARALOOKS info" T)
  (SETFILEPTR FILE (IPLUS FILEPOS LOOKSLEN)))
PARALOOKS])
```

)

(DEFINEQ

(\TEDIT.GET.OBJECT

```
(LAMBDA (TSTREAM PIECE FILE CURFILEBYTE# BYTELEN) ; Edited 31-Jul-2024 12:09 by rmk
; Edited 5-Dec-2023 12:28 by rmk
; Edited 26-Nov-2023 10:22 by rmk
; Edited 21-Nov-2023 17:53 by rmk
; Edited 25-Aug-2023 23:07 by rmk
; Edited 12-Oct-2022 14:10 by rmk
; Edited 12-Jun-90 17:50 by mitani
```

```
:: Get an object from FILE
;; TSTREAM =TEXTOBJ are used for the error message and (possibly for default charlooks)
;; CURFILEBYTE# = fileptr within the text section of the file where the object's text starts. On entry the file is positioned just before the object's
;; GETFN in the looks section of the file. On exit, the fileptr points just after the GETFN in the looks section, after having been detoured to the text
;; section for the getfn to read the object's data.
```

```
(LET ((TEXTOBJ (TEXTOBJ TSTREAM))
      FILEPTRSAVE GETFN OBJ)
  ;; rrb 10-AUG-87 --- calculate the length of the image object's data. This assumes that the file is currently pointed at the end of the data
  ;; which is where the GETFN is written {I think}.
  ;; RMK: Originally, BYTELEN was calculated here as (DIFFERENCE (GETFILEPTR FILE) CURFILEBYTE#). But this is garbage:
  ;; (GETFILEPTR FILE) is in the looks section, CURFILEBYTE# is in the text section. The caller knows the true value, now passes it in.
  (SETQ GETFN (\ATMIN FILE)) ; The GETFN for this kind of IMAGEOBJ
  (SETQ FILEPTRSAVE (GETFILEPTR FILE)) ; Save our file location thru the building of the object
  (SETFILEPTR FILE CURFILEBYTE#)
  (SETQ OBJ (READIMAGEOBJ FILE GETFN NIL BYTELEN))
```

```

(CL:WHEN (IMAGEOBJPROP OBJ 'UNKNOWNGETFN) ; If the object has an unknown getfn property, then it's an
; encapsulated object. Warn the user
(TEDIT.PROMPTPRINT TSTREAM (CONCAT (CL:IF (GETD (IMAGEOBJPROP OBJ 'UNKNOWNGETFN))
"Cannot read image object with GETFN "
"Image object with unknown GETFN ")
(IMAGEOBJPROP OBJ 'UNKNOWNGETFN))
T))
(SETFILEPTR FILE FILEPTRSAVE)
(SETPC PIECE PCONTENTS OBJ)
[FSETPC PIECE PLOOKS (COND
((PREVPIECE PIECE)
(PLOOKS (PREVPIECE PIECE)))
(T (OR (GETTOBJ TEXTOBJ DEFAULTCHARLOOKS)
(\TEDIT.UNIQIFY.CHARLOOKS (\TEDIT.CHARLOOKS.FROM.FONT DEFAULTFONT)
TEXTOBJ]
(FSETPC PIECE PTYPE (CL:IF (IMAGEOBJPROP OBJ 'SUBSTREAM)
SUBSTREAM.PTYPE
OBJECT.PTYPE))
OBJ])

```

)

:: Putting (pageframe functions on TEDIT-PAGE)

(DEFINEQ

(\TEDIT.PUT.PCTB

```

[LAMBDA (TEXTOBJ CHARSTREAM FORMATSTREAM CONTINUE KEEPSEPARATE)

```

```

; Edited 21-Oct-2024 00:33 by rmk
; Edited 15-May-2024 17:03 by rmk
; Edited 16-Mar-2024 12:40 by rmk
; Edited 11-Mar-2024 00:33 by rmk
; Edited 25-Jan-2024 00:00 by rmk
; Edited 23-Jan-2024 13:43 by rmk
; Edited 13-Jan-2024 19:57 by rmk
; Edited 27-Sep-2023 23:50 by rmk
; Edited 7-Sep-2023 23:43 by rmk
; Edited 30-Apr-2021 14:46 by rmk
; Edited 19-May-99 21:58 by rmk
; Edited 27-May-93 16:00 by sybalsky.mv:envos

```

```

;; Put a representation of a piece table as plaintext on CHARSTREAM, preserving font changes and paragraph looks in a binary
;; FORMATSTREAM. If FORMATSTREAM is not a stream, a stream is created here. FORMATSTREAM=T if an unformatted stream is desired.
;; In that case, the format stream, whether created here or passed in, is not appended to the end of CHARSTREAM

```

::

```

;; The characters and objects in the pieces are put out in the plaintext CHARSTREAM. At the end of each sequence, when the byte positions are
;; known, the hashed look-identifiers are put out to connect the looks back to the character sequences.

```

::

```

;; If a sequence of pieces have equivalent piece properties (same character representation (fat, thin, utf-8 size) and looks) then the the characters
;; of those pieces are concatenated and a single looks record is posted for the whole sequence. For example, a sequence of THINFILE
;; THINSTRING THINFILE pieces may be collapsed if they have the same font, new, etc. (but objects always have individual pieces).
;; Concatenation also stops at paralast sequences.

```

::

::

```

;; If CONTINUE, return NEWPIECES for continued editing. NEWPIECES is the head of a chain of new pieces that characterize the merged pieces
;; on the file, to reestablish the correspondence between memory pieces and file pieces for continued editing. It is initialized to a throwaway
;; dummy, and NEXTNEW slides down to link in subsequent new pieces. If not CONTINUE, there will be no future editing in CHARSTREAM, no
;; need to build new pieces.

```

```

(CL:WHEN (AND KEEPSEPARATE (NOT (STREAMP FORMATSTREAM)))
(\TEDIT.THELP "FORMATSTREAM not provided with KEEPSEPARATE"))
(CL:WHEN (EQ :UTF-8 (STREAMPROP CHARSTREAM 'FORMAT))
(\TEDIT.PUT.UTF8.SPLITPIECES TEXTOBJ))
(for PC PFILE NEXTNEW RUNLEN UNFORMATTED? (NSHIFTBYTES _ 0)
(CURBYTE# _ 0)
(OLDBYTE# _ 0)
[UNFORMATTED? _ (PROG1 (EQ FORMATSTREAM T)
(CL:UNLESS (STREAMP FORMATSTREAM)
[SETQ FORMATSTREAM (OPENSTREAM '{NODIRCORE} 'BOTH 'NEW
'((LINELENGTH ,MAX.SMALLP))])
(NEWPIECES _ (CL:WHEN CONTINUE (create PIECE)))
(PCCOUNT _ 0)
(EDITSTENTATIVE _ (GETTEXTPROP TEXTOBJ 'TEDIT.TENTATIVE))
(LOOKSHASH _ (HASHARRAY 50))
(PARAHASH _ (HASHARRAY 50))
(*READTABLE* _ *TEDIT-FILE-READTABLE*)
(*PRINT-BASE* _ 10)
(EXTFORMAT _ (GETSTREAMPROP CHARSTREAM 'FORMAT))
(EOLC _ (fetch (STREAM EOLCONVENTION) of CHARSTREAM))
inpieces
(\TEDIT.FIRSTPIECE TEXTOBJ) first (SETQ NEXTNEW NEWPIECES)

```

```

;; All the layout and looks information goes into the LOOKSTREAM, CHARSTREAM is essentially
;; plaintext. Unless UNFORMATTED?, APPENDEDSTREAM is appended to the end of
;; CHARSTREAM.

```

```

;; It seems that PCCOUNT isn't incremented for the PARA and CHARLOOKS lists, just for the
;; page frame and the actual document pieces.
(CL:WHEN (FGETTOBJ TEXTOBJ TXTPAGEFRAMES)
 (\TEDIT.PUT.PAGEFRAMES FORMATSTREAM (FGETTOBJ TEXTOBJ TXTPAGEFRAMES)
 )
 (add PCCOUNT 1))
(\TEDIT.FLUSH.UNUSED.LOOKS TEXTOBJ)
(\TEDIT.UNIQUIFY.ALL TEXTOBJ)
; We can now use EQ tests on looks, and the lists may have
; been shortened.
(\TEDIT.PUT.PARALOOKS.LIST FORMATSTREAM PARAHASH (FGETTOBJ TEXTOBJ
 TXTPARALOOKSLIST
 ))
(\TEDIT.PUT.CHARLOOKS.LIST FORMATSTREAM LOOKSHASH (FGETTOBJ TEXTOBJ
 TXTCHARLOOKSLIST
 ))

;; The hash-tables map char and parlooks to unique id numbers
;;
;; We're ready to put the pieces on the output file.
(SETQ CURBYTE# (\GETFILEPTR CHARSTREAM))
(SETQ OLDBYTE# CURBYTE#)
;; ZEROP should never happen, but...
;; PLEN is the number of characters in the piece, but they occupy different numbers of bytes
;; depending on thin, fat, utf-8,XCCS...

unless (ZEROP (PLEN PC)) do
;; PC starts a run of one or more pieces that can be collapsed together into a single file piece. The
;; paragraph looks are produced before the first piece of a new paragraph (first piece or previous piece
;; was PPARALAST), then the piece(s)-characters, followed by the charlooks. I.e., FORMATSTREAM
;; describes the paragraph-start piece with its paragraph looks followed by its char looks.
(CL:WHEN (OR (NULL (PREVPIECE PC))
 (PPARALAST (PREVPIECE PC)))
 (\TEDIT.PUT.PARALOOKS FORMATSTREAM PC PARAHASH)
 (add PCCOUNT 1))
(CL:WHEN (EQ EXTFORMAT :XCCS)
 ;; For XCCS, CHARSET will put out the char-shifting prefix bytes as needed. In format-version 3 all
 ;; the file bytes belong to a piece, no skipping in the file. TEDIT.GET calls
 ;; \TEDIT.INTERPRET.XCCS.SHIFTS to shave those bytes. NSHIFTBYTES is used here if the edit
 ;; will continue.
 (CHARSET CHARSTREAM (CL:IF (MEMB (PTYPE PC)
 FAT.PTYPES)
 T
 0))
 (SETQ NSHIFTBYTES (IDIFFERENCE (\GETFILEPTR CHARSTREAM)
 OLDBYTE#)))
 (do (\TEDIT.PUT.PCTB.PIECEDATA PC CHARSTREAM TEXTOBJ FORMATSTREAM OLDBYTE#)
 (CL:UNLESS (\TEDIT.PUT.PCTB.MERGEABLE PC (NEXTPIECE PC)
 EDITSTENTATIVE EXTFORMAT TEXTOBJ)
 (RETURN))
 (SETQ PC (NEXTPIECE PC)))
 ;; PC is the last piece written for a mergeable sequence. Finish off the corresponding file piece by writing
 ;; PC's character looks into FORMATSTREAM.
 (SETQ CURBYTE# (\GETFILEPTR CHARSTREAM))
 (SETQ RUNLEN (IDIFFERENCE CURBYTE# OLDBYTE#))
 (CL:UNLESS (EQ OBJECT.PTYPE (PTYPE PC))
 ; Objects get their charlooks from the preceding piece.
 (\TEDIT.PUT.CHARLOOKS FORMATSTREAM RUNLEN PC EDITSTENTATIVE LOOKSHASH))
 (add PCCOUNT 1)
 ;; The output for the sequence of mergeable pieces is complete.
 (CL:WHEN NEWPIECES
 ;; Only for continued editing: make a new piece that describes those characters as they now reside
 ;; on CHARSTREAM.
 (SETQ NEXTNEW (\TEDIT.PUT.PCTB.NEXTNEW NEXTNEW PC OLDBYTE# RUNLEN
 EXTFORMAT TEXTOBJ EOLC NSHIFTBYTES)))
 (SETQ OLDBYTE# CURBYTE#)

finally
;; Finalize and append FORMATSTREAM unless unformatted or KEEPSEPARATE (for splitting). If KEEPSEPARATE, the caller must
;; have provided the formatstream
(CL:UNLESS UNFORMATTED?
 (\TEDIT.PUT.TRAILER FORMATSTREAM (\GETFILEPTR CHARSTREAM)
 PCCOUNT 3))
(CL:UNLESS (OR UNFORMATTED? KEEPSEPARATE)
 (COPYBYTES FORMATSTREAM CHARSTREAM 0 (GETEOFPTR FORMATSTREAM)))
(RETURN (CL:WHEN NEWPIECES
 ;; Throw away the dummy head of the new piece chain (NEWPIECES is NIL if not continuing). The caller must make
 ;; install the new pieces.
 (NEXTPIECE NEWPIECES) )))

```

(\TEDIT.PUT.PCTB.PIECEDATA

[LAMBDA (PC CHARSTREAM TEXTOBJ FORMATSTREAM OLDBYTE#)

; Edited 21-Oct-2024 00:33 by rmk
; Edited 15-May-2024 17:04 by rmk

:: Write the data defining PC on CHARSTREAM.
:: TEXTOBJ needed only to reopen any backing files that might currently be closed.
:: FORMATSTREAM is needed for objects.
:: OLDBYTE# needed to deal with XCCS shift before objects.

```
(LET (PFILE)
  (CL:WHEN (MEMB (PTYPE PC)
              FILE.PTYPES)
    (SETQ PFILE (PFORMATSTREAM PC))
    (CL:UNLESS (\GETSTREAM PFILE 'INPUT T)
      (SETQ PFILE (\TEDIT.REOPEN.STREAM TEXTOBJ PFILE)))
    (\SETFILEPTR PFILE (PFPOS PC)))
  (SELECTC (PTYPE PC)
    (THINFILE.PTYPE ; \OUTCHAR deals with external format
      (for I from 1 to (PLEN PC) do (\OUTCHAR CHARSTREAM (BIN PFILE))))
    (STRING.PTYPES ; Could split with infatstring/inthinstring
      (for CH instring (PFORMATSTREAM PC) do (\OUTCHAR CHARSTREAM CH)))
    (FATFILE2.PTYPE
      (for I from 1 to (PLEN PC) do (\OUTCHAR CHARSTREAM (\WIN PFILE))))
    (FATFILE1.PTYPE ; We read but don't write FATFILE1 pieces, they merge with FATFILE2.
      (for I (CSET _ (LLSH (PCHARSET PC)
                          8))
        from 1 to (PLEN PC) do (\OUTCHAR CHARSTREAM (LOGOR CSET (BIN PFILE)
                                                                    (UTF8.PTYPE (for I from 1 to (PLEN PC) do (\OUTCHAR CHARSTREAM (UTF8.INCCODEFN PFILE))))))
        (OBJECT.PTYPE ; It's an object, use its PUTFN.
          (\TEDIT.PUT.OBJECT PC CHARSTREAM FORMATSTREAM OLDBYTE#)
          ; 0 indicates that nothing special needs to be done here to recover the looks of this piece. \TEDIT.GET.PIECES3
          ; says that the object-piece looks are taken from the previous piece (or default for first piece. In earlier versions
          ; the value 1 indicated that the looks were not indexed and therefore had to be written explicitly here. This byte
          ; won't be needed in the next version of the format.
          (BOUT FORMATSTREAM 0))
          (\TEDIT.THELP "OTHER PTYPES"])
```

(\TEDIT.PUT.TRAILER

[LAMBDA (FORMATSTREAM PIECESTART PCCOUNT VERSION)

; Edited 13-Jan-2024 10:13 by rmk

:: Finalize FORMATSTREAM. We sneak in the date here--at the end of the looks, after the last look but before the final pointers, so that it doesn't
interfere with anything. TEDIT.FILEDATE pulls it out if it's there.

```
(PRIN1 "DATE:" FORMATSTREAM)
(\DWOUT FORMATSTREAM (IDATE))
(\DWOUT FORMATSTREAM PIECESTART) ; Position of the first piece
(\WOUT FORMATSTREAM PCCOUNT) ; Number of pieces followed by the password
(\WOUT FORMATSTREAM (IPLUS 31415 VERSION])
```

(\TEDIT.PUT.PCTB.MERGEABLE

[LAMBDA (PREVPC PC EDITSTENTATIVE EXTFORMAT TEXTOBJ)

; Edited 14-May-2024 11:55 by rmk
; Edited 12-May-2024 21:57 by rmk
; Edited 23-Jan-2024 09:12 by rmk
; Edited 12-Jan-2024 09:46 by rmk
; Edited 5-Jan-2024 11:34 by rmk
; Edited 30-Dec-2023 00:44 by rmk
; Edited 22-Sep-2023 10:12 by rmk
; Edited 6-Sep-2023 00:03 by rmk
; Edited 24-Aug-2023 11:03 by rmk

```
(CL:WHEN PC
  [LET ((PREVTYPE (PTYPE PREVPC))
        (PCTYPE (PTYPE PC)))
    (CL:UNLESS [OR (EQ OBJECT.PTYPE PREVTYPE)
                  (EQ OBJECT.PTYPE PCTYPE)
                  (NEQ (PLOOKS PREVPC)
                       (PLOOKS PC))
                  (NEQ (PPARALOOKS PREVPC)
                       (PPARALOOKS PC))
                  (PPARALAST PREVPC)
                  (AND EDITSTENTATIVE (NEQ (PNEW PREVPC)
                                             (PNEW PC)))]
```

:: PC cannot merge with PREVPC if PREVPC ends in EOL (even if not PPARALAST). (We assume here that EOL's of interest
appear only in last-of-piece position.) For some input piece types we can make the decision without bothering to look at their
last character. If the destination EXTFORMAT is :UTF-8, the splitter has presumably arranged it so that EOL's only appear in
thin string and file pieces.

```
[AND (SELECTQ EXTFORMAT
      (:XCCS ; All thin strings and files are mergeable, all fat pieces are mergeable, since they all go to FAT2.
      (EQ (THINPIECEP PREVPC)
          (THINPIECEP PC)))
      (:UTF-8
```

:: UTF8 pieces with the same bytesperchar are mergeable. We rely on \TEDIT.PUT.UTF8.SPLITPIECES
:: to examine string pieces and split thin strings that include mixtures of Ascii and non-Ascii characters,
:: and to split fat pieces that may contain Ascii character in 2-byte form. After splitting, all pieces with the
:: same PUTF8BYTESPERCHAR can be merged.

```
(EQ (FGETPC PREVPC PUTF8BYTESPERCHAR)
(FGETPC PC PUTF8BYTESPERCHAR))
NIL)
(OR (EQ PREVTYPE UTF8.PTYPE)
(AND (EQ PREVTYPE FATFILE1.PTYPE)
(NEQ 0 (PCHARSET PREVPC)))
[AND (EQ EXTFORMAT :UTF-8)
(NOT (MEMB PREVTYPE (CONSTANT (LIST THINFILE.PTYPE THINSTRING.PTYPE)
(NOT (MEMB (\TEDIT.PIECE.NTHCHARCODE TEXTOBJ PREVPC (SUB1 (PLEN PREVPC)))
(CHARCODE (EOL LF]))]))))])
```

(\TEDIT.PUT.UTF8.SPLITPIECES

[LAMBDA (TEXTOBJ)

; Edited 19-Jan-2025 15:02 by rmk
; Edited 17-Mar-2024 00:14 by rmk
; Edited 3-Feb-2024 14:52 by rmk
; Edited 11-Jan-2024 23:29 by rmk
; Edited 5-Jan-2024 11:37 by rmk
; Edited 30-Dec-2023 11:27 by rmk

:: We are putting to a UTF-8 format file. This function splits pieces if necessary to ensure that all the characters in a piece map to Unicode
:: characters with the same-length UTF8 encoding. That length is stored in PUTF8BYTESPERCHAR.

```
(for PC inpieces (\TEDIT.FIRSTPIECE TEXTOBJ)
do (SELECTC (PTYPE PC)
(UTF8.PTYPE (FSETPC PC PUTF8BYTESPERCHAR (PBYPESPERCHAR PC)))
(STRING.PTYPES
(for CH BPC instring (PCONTENTS PC) as I from 1
do ; If BPC changes, split off and mark the prefix piece with the previous value, go back to the main loop to continue on
; the residual suffix piece.
(if (EQ I 1)
then (SETQ BPC (NUTF8-CODE-BYTES (XTOUCODE CH)))
(FSETPC PC PUTF8BYTESPERCHAR BPC)
; The first character defines the piece
elseif (EQ BPC (NUTF8-CODE-BYTES (XTOUCODE CH)))
else (\TEDIT.SPLITPIECE PC (SUB1 I)
TEXTOBJ)
(SETQ PC (PREVPIECE PC)) ; Prefix piece always exists since I>1
(FSETPC PC PUTF8BYTESPERCHAR BPC) ; Mark it, iteration continues on its next.
(RETURN))))
(THINFILE.PTYPE
(CL:UNLESS (EQ :UTF-8 (GETSTREAMPROP (PCONTENTS PC)
'FORMAT)) ; Could be above Ascii
(for I BPC (PFILE _ (PCONTENTS PC)) from 1 to (PLEN PC) first (\SETFILEPTR PFILE
(PFPOS PC))
do (if (EQ I 1)
then [SETQ BPC (NUTF8-CODE-BYTES (XTOUCODE (BIN PFILE)
(FSETPC PC PUTF8BYTESPERCHAR BPC)
elseif [EQ BPC (NUTF8-CODE-BYTES (XTOUCODE (BIN PFILE)
else (\TEDIT.SPLITPIECE PC (SUB1 I)
TEXTOBJ)
(SETQ PC (PREVPIECE PC))
(FSETPC PC PUTF8BYTESPERCHAR BPC)
(RETURN)))]
((LIST FATFILE2.PTYPE FATFILE1.PTYPE) ; XCCS pieces
(for I BPC CH (PFILE _ (PCONTENTS PC)) from 1 to (PLEN PC) first (\SETFILEPTR PFILE (PFPOS PC))
do (SETQ CH (LOGOR (LLSH (CL:IF (EQ FATFILE2.PTYPE (PTYPE PC))
(BIN PFILE)
(PCHARSET PC))
8)
(BIN PFILE))))
(if (EQ I 1)
then (SETQ BPC (NUTF8-CODE-BYTES (XTOUCODE CH)))
(FSETPC PC PUTF8BYTESPERCHAR BPC)
elseif (EQ BPC (NUTF8-CODE-BYTES (XTOUCODE CH)))
else (\TEDIT.SPLITPIECE PC (SUB1 I)
TEXTOBJ)
(SETQ PC (PREVPIECE PC))
(FSETPC PC PUTF8BYTESPERCHAR BPC)
(RETURN))))
NIL))
```

(\TEDIT.PUT.PCTB.NEXTNEW

[LAMBDA (NEXTNEW PC OLDBYTE# RUNLEN EXTFORMAT TEXTOBJ EOLC NSHIFTBYTES)

; Edited 21-Oct-2024 00:26 by rmk
; Edited 14-May-2024 18:54 by rmk
; Edited 13-May-2024 08:27 by rmk
; Edited 24-Jan-2024 23:29 by rmk
; Edited 23-Jan-2024 15:24 by rmk
; Edited 21-Jan-2024 10:34 by rmk
; Edited 12-Jan-2024 16:24 by rmk

; Edited 5-Jan-2024 17:46 by rmk
; Edited 30-Dec-2023 21:56 by rmk

;; This updates the piece chain that is created for continued editing.
;; Note that the PCONTENTS (= PFILE) field for these file pieces isn't filled in, that has to be done after CHARSTREAM is closed and reopened at
;; the TEDIT.PUT level. For the same reason, PBINABLE isn't set here.
;; NSHIFTBYTES strips any XCCS charset shifts at the beginning of the new piece.

```
(SETQ RUNLEN (IDIFFERENCE RUNLEN NSHIFTBYTES))
(FSETPC NEXTNEW NEXTPIECE (SETQ NEXTNEW (create PIECE using PC PFFPOS _ (IPLUS NSHIFTBYTES OLDDBYTE#)
PBYTELEN _ RUNLEN PREVPIECE _ NEXTNEW PREENODE _
NIL)))

(SELECTQ EXTFORMAT
 (:UTF-8 (FSETPC NEXTNEW PTYPE (CL:IF (EQ 1 (FGETPC PC PUTF8BYTESPERCHAR))
THINFILE.PTYPE
UTF8.PTYPE))
(FSETPC NEXTNEW PBYTESPERCHAR (FGETPC PC PUTF8BYTESPERCHAR)))
 (:XCCS ; String pieces can be merged with corresponding file pieces
(FSETPC NEXTNEW PTYPE (SELECTC (PTYPE PC)
(THINSTRING.PTYPE
THINFILE.PTYPE)
((LIST FATSTRING.PTYPE FATFILE1.PTYPE)
(FSETPC NEXTNEW PBYTESPERCHAR 2)
(FSETPC NEXTNEW PCHARSET \NORUNCODE)
FATFILE2.PTYPE)
(PTYPE PC))))
(\TEDIT.THELP "EXTERNAL FORMAT NOT RECOGNIZED" EXTFORMAT))
; Accumulate PLEN across merged pieces. Objects are always
; 1.
[FSETPC NEXTNEW PLEN (CL:IF (EQ OBJECT.PTYPE (PTYPE NEXTNEW))
1
(IQUOTIENT RUNLEN (PBYTESPERCHAR NEXTNEW)))]
(CL:UNLESS (EQ EOLC CR.EOLC) ; The file may have LF, but we want to restore EOL internally
(CL:WHEN [AND (EQ THINFILE.PTYPE (PTYPE NEXTNEW))
(EQ (CHARCODE EOL)
(\TEDIT.PIECE.NTHCHARCODE TEXTOBJ PC (PLEN PC)]
(if (EQ 1 (PLEN NEXTNEW))
then (FSETPC NEXTNEW PTYPE THINSTRING.PTYPE)
(FSETPC NEXTNEW PCONTENTS (ALLOCSTRING 1 (CHARCODE EOL)))
else (add (FGETPC NEXTNEW PLEN)
-1) ; We know it's thin, maybe paralast
(add (FGETPC NEXTNEW PBYTELEN)
-1)
(SETQ NEXTNEW (\TEDIT.MAKE.STRINGPIECE NEXTNEW (CHARCODE EOL)))
(FSETPC (PREVPIECE NEXTNEW)
PPARALAST NIL))))))
NEXTNEW])
```

(\TEDIT.INSERT.NEWPIECES

[LAMBDA (DESTSTREAM OLDSTREAM NEWPIECES)

; Edited 14-May-2024 18:38 by rmk
; Edited 29-Apr-2024 10:13 by rmk
; Edited 20-Mar-2024 10:59 by rmk
; Edited 17-Mar-2024 12:06 by rmk
; Edited 5-Feb-2024 09:24 by rmk
; Edited 3-Feb-2024 23:59 by rmk
; Edited 21-Jan-2024 09:21 by rmk
; Edited 12-Jan-2024 21:06 by rmk
; Edited 18-Dec-2023 17:00 by rmk
; Edited 11-Nov-2023 16:31 by rmk
; Edited 8-Sep-2023 16:32 by rmk

;; This makes the pieces and BTREE of OLDSTREAM's TEXTOBJ consistent with the NEWPIECES chain and the new DESTSTREAM. The
;; character numbers of old and new pieces correspond, so editing can continue without updating panes, lines, or selections (which are all based on
;; character numbers, not particular pieces). This puts DESTSTREAM as the PFILE of each new file piece and then installs NEWPIECES in
;; DESTSTREAM, replacing the BTREE and pieces already there.

;; The \SETFILEPTR translates OLDSTREAM's buffer parameters to the new file.

```
(LET ((TEXTOBJ (TEXTOBJ! (fetch (TEXTSTREAM TEXTOBJ) of OLDSTREAM)))
FILEPTR)
(SETQ FILEPTR (\TEDIT.TEXTGETFILEPTR OLDSTREAM)) ; Restore the editing parameters
(for PC (SBINABLE _ (fetch (STREAM BINABLE) of DESTSTREAM))
inpieces NEWPIECES when (MEMB (PTYPE PC)
FILE.PTYPES)
do (FSETPC PC PCONTENTS DESTSTREAM)
(CL:WHEN (EQ THINFILE.PTYPE (PTYPE PC))
; If the backing stream isn't binable, the thinfile pieces aren't
; either
; Non-object pieces are on OFILE
(FSETPC PC PBINABLE SBINABLE)))
```

;; Here, finally, we toss the out-of-date pieces to install the new ones. For complete safety, the rest should be uninterruptable (although the
;; file has just been saved, so nothing would really be lost)

```
(\TEDIT.MAKEPCTB TEXTOBJ)
(\TEDIT.INSERTPIECES NEWPIECES NIL TEXTOBJ) ; Build the tree, then fix the stream
```

;; This guards against the possibility that a sequence of edits somehow got the positioning parameters cached in the stream out of step with
;; the document. This ensures that they are consistent after all the pieces have been written out.

```
(\TEDIT.TEXTSETFILEPTR OLDSTREAM (IMAX 0 (IMIN FILEPTR (FGETTOBJ TEXTOBJ TEXTLEN]))
```

(\TEDIT.PUTRESET

```
[LAMBDA (PROC&VALUE)
  (CONS (CAR PROC&VALUE)
    (PROCESSPROP (CAR PROC&VALUE)
      'BEFOREEXIT
      (CDR PROC&VALUE]))
```

(* jds "15-May-85 16:38")

(\ARABOUT

```
[LAMBDA (STREAM ITEM)
```

; Edited 19-Dec-2023 10:14 by rmk
; Edited 7-Sep-2023 09:06 by rmk
; Edited 20-Apr-88 19:55 by jds

:: Write an arbitrary MKSTRING-able thing in length-contents form. SIZE is in characters, not bytes, which is OK because \STRINGIN uses
:: READCCODE.

```
(LET [(SIZE (AND ITEM (NCHARS ITEM T *TEDIT-FILE-READTABLE*)
  (\WOUT STREAM (OR SIZE 0))
  (OR (NOT ITEM)
    (ZEROP SIZE)
    (PRIN2 ITEM STREAM *TEDIT-FILE-READTABLE*))
  NIL])
```

(\ATMOUT

```
[LAMBDA (STREAM ATOM)
```

; Edited 19-Dec-2023 10:14 by rmk
(* jds "30-Jan-85 14:46")
(* Write an atom's characters in length-contents form.)

```
(\WOUT STREAM (COND
  (ATOM (NCHARS ATOM))
  (T 0)))
(OR (NOT ATOM)
  (ZEROP (NCHARS ATOM))
  (for CH inatom ATOM do (\BOUT STREAM CH])
```

(\DWOUT

```
[LAMBDA (FILE NUMBER)
  (\BOUT FILE (LOGAND 255 (LRSH NUMBER 24)))
  (\BOUT FILE (LOGAND 255 (LRSH NUMBER 16)))
  (\BOUT FILE (LOGAND 255 (LRSH NUMBER 8)))
  (\BOUT FILE (LOGAND 255 NUMBER])
```

(* jds " 3-JAN-83 15:30")

(\STRINGOUT

```
[LAMBDA (STREAM STRING LEN)
```

; Edited 19-Dec-2023 10:14 by rmk
(* jds " 1-May-84 11:58")

(* Write a string on a file in length-contents form; one word for the length, and one byte per character contained.)

```
(SETQ LEN (OR LEN (NCHARS STRING)))
(\WOUT STREAM LEN)
(OR (ZEROP LEN)
  (for CH instring STRING as I from 1 to LEN do (\BOUT STREAM CH])
```

(DEFINEQ

(\TEDIT.PUT.CHARLOOKS.LIST

```
[LAMBDA (LOOKSFILE LOOKSHASH LOOKSLIST LOOKSHASH)
```

; Edited 19-Dec-2023 10:14 by rmk
; Edited 25-Aug-2023 11:39 by rmk
; Edited 15-Aug-2023 23:08 by rmk
(* jds " 5-Mar-85 15:58")
; Write the list of CHARLOOKSs into the font file.

:: Returns a hasharray that will map from a given CHARLOOKS to its index in the list. Those position numbers are then written in the individual
:: piece descriptions, and are used to reconstruct the piece looks when the file is read back in. These descriptions are written in a 0-character
:: pseudo-piece

```
(\DWOUT LOOKSFILE 0)
(\WOUT LOOKSFILE \PieceDescriptorCHARLOOKSLIST)
(\WOUT LOOKSFILE (FLENGTH LOOKSLIST))
(for I from 1 as LOOKS in LOOKSLIST do
```

; No characters, marked as containing the list of CHARLOOKSs

; Number of charlooks to follow

```
;; Write each charlooks, in the order they appear in the list.
(\TEDIT.PUT.SINGLE.CHARLOOKS LOOKSFILE LOOKS)
(PTHASH LOOKS I LOOKSHASH])
```

(\TEDIT.PUT.SINGLE.CHARLOOKS

```
[LAMBDA (FORMATSTREAM LOOKS)
```

; Edited 2-Jan-2025 10:43 by rmk
; Edited 13-Aug-2024 08:47 by rmk
; Edited 31-Jul-2024 00:05 by rmk
; Edited 16-Jan-2024 23:07 by rmk
; Edited 21-Dec-2023 23:54 by rmk
; Edited 19-Dec-2023 10:14 by rmk
; Edited 26-Aug-2023 11:29 by rmk
; Edited 15-Aug-2023 23:17 by rmk

; Edited 30-May-91 20:26 by jds

:: Put out a single CHARLOOKS description.

```
(LET ((FILEPOS (GETFILEPTR FORMATSTREAM))
      (FONT (fetch (CHARLOOKS CLFONT) of LOOKS)
            LEN)
      (\WOUT FORMATSTREAM 0)
      [COND
        ((type? FONTCLASS FONT)
         (\ABOUT FORMATSTREAM (FONTCLASSUNPARSE FONT)))
        (T
         (\ATMOUT FORMATSTREAM (FONTPROP FONT 'FAMILY)
          (\WOUT FORMATSTREAM (OR (FONTPROP FONT 'SIZE)
                                0))
          (\SMALLPOUT FORMATSTREAM (OR (fetch (CHARLOOKS CLOFFSET) of LOOKS)
                                       0))
          (COND
            ([AND (fetch (CHARLOOKS CLSTYLE) of LOOKS)
                  (NOT (ZEROP (fetch (CHARLOOKS CLSTYLE) of LOOKS))
                   (\ABOUT FORMATSTREAM (fetch (CHARLOOKS CLSTYLE) of LOOKS)))
            (T (\WOUT FORMATSTREAM 0)))
            (COND
              ((fetch (CHARLOOKS CLUSERINFO) of LOOKS)
               (\ABOUT FORMATSTREAM (fetch (CHARLOOKS CLUSERINFO) of LOOKS)))
              (T (\WOUT FORMATSTREAM 0)))
            (\WOUT FORMATSTREAM (LOGOR (CL:IF (fetch (CHARLOOKS CLSELBEFORE) of LOOKS)
                                             8192
                                             0)
                                     (CL:IF (fetch (CHARLOOKS CLUNBREAKABLE) of LOOKS)
                                             4096
                                             0)
                                     (CL:IF (fetch (CHARLOOKS CLLEADER) of LOOKS)
                                             2048
                                             0)
                                     (CL:IF (fetch (CHARLOOKS CLINVERTED) of LOOKS)
                                             1024
                                             0)
                                     (CL:IF (EQ 'BOLD (FONTPROP FONT 'WEIGHT))
                                             512
                                             0)
                                     (CL:IF (EQ 'ITALIC (FONTPROP FONT 'SLOPE))
                                             256
                                             0)
                                     (CL:IF (fetch (CHARLOOKS CLULINE) of LOOKS)
                                             128
                                             0)
                                     (CL:IF (fetch (CHARLOOKS CLOLINE) of LOOKS)
                                             64
                                             0)
                                     (CL:IF (fetch (CHARLOOKS CLSTRIKE) of LOOKS)
                                             32
                                             0)
                                     (CL:IF (fetch (CHARLOOKS CLSMALLCAP) of LOOKS)
                                             16
                                             0)
                                     (CL:IF (fetch (CHARLOOKS CLPROTECTED) of LOOKS)
                                             8
                                             0)
                                     (CL:IF (fetch (CHARLOOKS CLINVISIBLE) of LOOKS)
                                             4
                                             0)
                                     (CL:IF (fetch (CHARLOOKS CLSELAFTER) of LOOKS)
                                             2
                                             0)
                                     (CL:IF (fetch (CHARLOOKS CLCANCOPY) of LOOKS)
                                             1
                                             0))))))
      ]))
```

:: Now go fill in the length field at the front of the LOOKS. (ALL looks info should be written out BEFORE this comment.)

```
(SETQ LEN (IDIFFERENCE (GETFILEPTR FORMATSTREAM)
                       FILEPOS))
(SETFILEPTR FORMATSTREAM FILEPOS)
(\WOUT FORMATSTREAM LEN)
(SETFILEPTR FORMATSTREAM -1])
```

; The length of this set of looks
; Go write the length field
; And back to the end of the file

(\TEDIT.PUT.CHARLOOKS

```
[LAMBDA (FORMATSTREAM BYTELEN PC EDITSTENTATIVE LOOKSHARRAY)
  ; Edited 14-May-2024 10:24 by rmk
  ; Edited 13-Jan-2024 16:35 by rmk
  ; Edited 30-Dec-2023 16:25 by rmk
  ; Edited 23-Aug-2023 22:27 by rmk
  ; Edited 24-Jul-2023 17:21 by rmk
  ; Edited 8-Sep-2022 22:54 by rmk
  ; Edited 30-May-91 21:45 by jds
```

:: Put a description of PC's charlooks into FORMATSTREAM. The looks apply to bytes OLDBYTE# thru CURBYTE#-1

```
(\DTEST PC 'PIECE)
```

```
(\TEDIT.PUT.CHARLOOKS1 FORMATSTREAM BYTELEN (GETHASH (PLOOKS PC)
                                         LOOKSHARRAY)
      (AND EDITSTENTATIVE PC (PNEW PC))
      (EQ FATFILE2.PTYPE (PTYPE PC]))
```

(\TEDIT.PUT.CHARLOOKS1

```
[LAMBDA (FORMATSTREAM BYTELEN CHARLOOKSINDEX NEW FAT) ; Edited 13-Jan-2024 16:36 by rmk
;; Put out the actual bytes to represent a piece with the indicated properties. This is split out as a separate helper function to hide Tedit innards
;; from Lafite when it makes its dummy piece entries (LA.ADJUST.FORMATting).
(\DWOUT FORMATSTREAM BYTELEN) ; The length of this piece run
(\WOUT FORMATSTREAM \PieceDescriptorLOOKS) ; Mark this as setting the piece's looks
;; Flag for newness and fatness
(\BOUT FORMATSTREAM (LOGOR (CL:IF NEW
                            1
                            0)
                          (CL:IF FAT
                            2
                            0))) ; The index into the list of fonts
(\WOUT FORMATSTREAM CHARLOOKSINDEX])
```

(\TEDIT.PUT.OBJECT

```
[LAMBDA (PIECE CHARSTREAM FORMATSTREAM CURFILEBYTE#) ; Edited 14-May-2024 12:09 by rmk
; Edited 24-Jan-2024 23:35 by rmk
; Edited 13-Jan-2024 12:20 by rmk
; Edited 19-Dec-2023 10:14 by rmk
; Edited 26-Aug-2023 15:13 by rmk
; Edited 17-Jul-2023 16:39 by rmk
; Edited 6-Aug-2022 10:02 by rmk
; Edited 12-Jun-90 17:49 by mitani

;; Given a piece which describes an object, put the object out there.
(LET ((OBJECT (PCONTENTS PIECE))
      (ORIGFILEPTR (GETFILEPTR FORMATSTREAM))
      BYTELEN)
      (\DWOUT FORMATSTREAM 0) ; Placeholder for byte-length of the object's description
      (\WOUT FORMATSTREAM \PieceDescriptorOBJECT) ; Mark this as setting the piece's looks
      (\ATMOUT FORMATSTREAM (IMAGEOBJPROP OBJECT 'GETFN)) ; The FN to apply to reconstruct the object
      (APPLY* (IMAGEOBJPROP OBJECT 'PUTFN)
              OBJECT CHARSTREAM)
      (SETQ BYTELEN (IDIFFERENCE (GETEOFPTR CHARSTREAM)
                                CURFILEBYTE#))
      (SETFILEPTR FORMATSTREAM ORIGFILEPTR) ; Now go back and fill in the length of the text description of the
; object.
      (\DWOUT FORMATSTREAM BYTELEN)
      (SETFILEPTR FORMATSTREAM -1) ; Move back to the end of the looks file
      (CL:WHEN (RANDACCESSP CHARSTREAM) ; And the end of CHARSTREAM
                (SETFILEPTR CHARSTREAM -1))
      BYTELEN])
)
```

(DEFINEQ

(\TEDIT.PUT.PARALOOKS.LIST

```
[LAMBDA (LOOKSFILE PARAHASH PARALOOKS) ; Edited 19-Dec-2023 10:14 by rmk
; Edited 25-Aug-2023 11:39 by rmk
; Edited 15-Aug-2023 23:25 by rmk
; Edited 1-Sep-87 20:34 by jds

;; Write out the looks in a no-characters pseudo-piece, producing a hashtable of their arbitrary indexes for future reference.
(\DWOUT LOOKSFILE 0)
(\WOUT LOOKSFILE \PieceDescriptorPARALOOKSLIST)
(\WOUT LOOKSFILE (FLENGTH PARALOOKS))
(for I from 1 as PL in PARALOOKS do (\TEDIT.PUT.SINGLE.PARALOOKS LOOKSFILE PL)
                                   (PTHASH PL I PARAHASH))
```

(\TEDIT.PUT.SINGLE.PARALOOKS

```
[LAMBDA (FONTFILE LOOKS) ; Edited 19-Feb-2025 12:11 by rmk
; Edited 21-Oct-2024 00:33 by rmk
; Edited 28-Jul-2024 21:29 by rmk
; Edited 16-Jan-2024 23:00 by rmk
; Edited 19-Dec-2023 10:14 by rmk
; Edited 16-Aug-2023 22:11 by rmk
; Edited 3-Mar-2023 23:25 by rmk
; Edited 2-Jul-93 21:30 by sybalskY:MV:ENVOS

;; Put a description of LOOKS into FILE.
(LET ((FILEPOS (GETFILEPTR FONTFILE))
      DEFTAB TABS LEN)
      (\SMALLPOUT FONTFILE 0) ; Reserve space to store the look length
      (\SMALLPOUT FONTFILE (FGETPLOOKS LOOKS 1STLEFTMAR)) ; Left margin for the first line of the paragraph
      (\SMALLPOUT FONTFILE (FGETPLOOKS LOOKS LEFTMAR)) ; Left margin for the rest of the paragraph
```

```
(\SMALLPOUT FONTFILE (FGETPLOOKS LOOKS RIGHTMAR)) ; Right margin for the paragraph
(\SMALLPOUT FONTFILE (FGETPLOOKS LOOKS LEADBEFORE)) ; Leading before the paragraph
(\SMALLPOUT FONTFILE (FGETPLOOKS LOOKS LEADAFTER)) ; Lead after the paragraph
(\SMALLPOUT FONTFILE (FGETPLOOKS LOOKS LINELEAD)) ; inter-line leading
(SETQ DEFTAB (FGETPLOOKS LOOKS FMTDEFAULTTAB))
(SETQ TABS (FGETPLOOKS LOOKS FMTTABS))

;; Indicate whether there are tab specs or a default tab setting to save
(\BOUT FONTFILE (CL:IF (OR DEFTAB TABS)
  3
  2))
(\BOUT FONTFILE (SELECTQ (FGETPLOOKS LOOKS QUAD)
  (LEFT 1)
  (RIGHT 2)
  ((CENTER CENTERED)
  3)
  ((JUST JUSTIFIED)
  4)
  (\TEDIT.THELP)))
(CL:WHEN (OR TABS DEFTAB) ; There are tab specs to save.
  (\SMALLPOUT FONTFILE (OR DEFTAB 0))
  (CL:WHEN (IGREATERP (LENGTH TABS)
    255)
    (\TEDIT.THELP "Paragraph has more than 255 TABs set--can't be saved."))
  (\BOUT FONTFILE (LENGTH TABS))
  [for TAB in TABS do (\SMALLPOUT FONTFILE (fetch (TAB TABX) of TAB))
    ; Setting and tab type.
    (\BOUT FONTFILE (SELECTQ (fetch (TAB TABKIND) of TAB)
      (LEFT 0)
      (RIGHT 1)
      (CENTERED 2)
      (DECIMAL 3)
      (DOTTEDLEFT 4)
      (DOTTEDRIGHT 5)
      (DOTTEDCENTERED
      6)
      (DOTTEDDECIMAL
      7)
      (\TEDIT.THELP]))
  (\SMALLPOUT FONTFILE (OR (FGETPLOOKS LOOKS FMTSPECIALX)
    0))
  (\SMALLPOUT FONTFILE (OR (FGETPLOOKS LOOKS FMTSPECIALY)
    0))
  (\ARBOUT FONTFILE (FGETPLOOKS LOOKS FMTUSERINFO))
  (\ATMOUT FONTFILE (FGETPLOOKS LOOKS FMTPARATYPE))
  (\ATMOUT FONTFILE (FGETPLOOKS LOOKS FMTPARASUBTYPE))
  (\ARBOUT FONTFILE (FGETPLOOKS LOOKS FMTSTYLE))
  (\ARBOUT FONTFILE (FGETPLOOKS LOOKS FMTCHARSTYLES))
  (\ARBOUT FONTFILE (FGETPLOOKS LOOKS FMTNEWPAGEBEFORE))
  (\ARBOUT FONTFILE (FGETPLOOKS LOOKS FMTNEWPAGEAFTER))
  (\ARBOUT FONTFILE (FGETPLOOKS LOOKS FMTHEADINGKEEP))
  (\ARBOUT FONTFILE (FGETPLOOKS LOOKS FMTKEEP))
  (\ARBOUT FONTFILE (FGETPLOOKS LOOKS FMTBASETOBASE))
  (\ARBOUT FONTFILE (FGETPLOOKS LOOKS FMTREVISED))
  (\ARBOUT FONTFILE (FGETPLOOKS LOOKS FMTCOLUMN))
  (\ARBOUT FONTFILE (FGETPLOOKS LOOKS FMTCHARSTYLES))
```

;;; Now go fill in the length field at the front of the LOOKS. (ALL looks info should be written out BEFORE this comment.)

```
(SETQ LEN (IDIFFERENCE (GETFILEPTR FONTFILE)
  FILEPOS)) ; The length of this set of looks
(SETFILEPTR FONTFILE FILEPOS) ; Write the length field
(\SMALLPOUT FONTFILE LEN) ; And back to the end of the file
(SETFILEPTR FONTFILE -1])
```

(\TEDIT.PUT.PARALOOKS

```
[LAMBDA (LOOKSFILE PC PARAHASH) ; Edited 14-May-2024 13:32 by rmk
; Edited 19-Dec-2023 10:14 by rmk
; Edited 25-Aug-2023 11:41 by rmk
; Edited 3-Mar-2023 23:28 by rmk
; Edited 30-May-91 21:44 by jds
```

;; Put the identifier of PC's paraloooks into LOOKSFILE. This applies to characters CH1 thru CHLIM-1

```
(\DWOUT LOOKSFILE 0) ; Place holder for number of characters in the piece -- really
; taken from the charlooks.
(\WOUT LOOKSFILE \PieceDescriptorPARA) ; Identify this as a paragraph looks piece
(\WOUT LOOKSFILE (GETHASH (PPARALOOKS PC)
  PARAHASH])
```

)

```
(DECLARE%: DOEVAL@COMPILE DONTCOPY
```

```
(GLOBALVARS TEDIT.INPUT.FORMATS *TEDIT-FILE-READTABLE*)
```

)

(DEFINEQ

(TEDITFROMLISPSOURCE

```

[LAMBDA (SOURCEFILE TSTREAM PROPS USERTEMP START END)
; Edited 18-Feb-2025 23:34 by rmk
; Edited 17-Nov-2024 10:03 by rmk
; Edited 25-Dec-2023 12:28 by rmk
; Edited 5-Dec-2023 23:46 by rmk
; Edited 26-Oct-2023 11:22 by rmk
; Edited 22-Oct-2023 22:55 by rmk
; Edited 22-Sep-2023 09:07 by rmk

;; This is called because OPENTEXTSTREAM recognized that SOURCESTREAM is a LISPSOURCE foreign-format file. TSTREAM may have a
;; partially instantiated attached window with region and prompt, etc., but may not yet have the properties of a text or process.
;; TSTREAM and its window are available to provide default looks and region for the empty stream
;; USERTEMP is the reader environment returned by LISPSOURCEFILEP
(CL:UNLESS TSTREAM
 (SETQ TSTREAM (OPENTEXTSTREAM)))
;; Estimate 110 characters per line in the default font?
[PUTTEXTPROPS TSTREAM `(PARABREAKCHARS NIL OPENWIDTH , (TIMES 110 (CHARWIDTH (CHARCODE SPACE)
                                                                    DEFAULTFONT))
                      BOUNDTABLE
                      , (TEDIT.ATOMBOUND.READTABLE (fetch (READER-ENVIRONMENT REREADTABLE)
                                                            of USERTEMP)]
(TEDIT.PROMPTPRINT TSTREAM (CONCAT "Fetching " (FULLNAME SOURCEFILE)
                                     " ...")
  T)
(COPY.TEXT.TO.IMAGE SOURCEFILE TSTREAM)
TSTREAM])

```

(SHELLSCRIPTP

```

[LAMBDA (FILE)
; Edited 15-Dec-2024 11:12 by rmk
;; True if FILE has extension .sh
(EQ 'sh (L-CASE (FILENAMEFIELD FILE 'EXTENSION)))

```

(TEDITFROMSHELLSCRIPT

```

[LAMBDA (SOURCEFILE TSTREAM PROPS USERTEMP START END)
; Edited 16-Dec-2024 11:25 by rmk
;; Use DEFAULTFONT for shell scripts
(STREAMPROP SOURCEFILE :EXTERNAL-FORMAT :UTF-8)
[if (TEXTSTREAMP TSTREAM)
  then [TEDIT.LOOKS TSTREAM `(FONT , (FONTCREATE DEFAULTFONT)
                                     (COPYCHARS SOURCEFILE TSTREAM START END)
  else (SETQ TSTREAM (OPENTEXTSTREAM SOURCEFILE NIL START END (APPEND 'FONT 'DEFAULTFONT PROPS]
TSTREAM])

```

)

```

(ADDTOVAR TEDIT.INPUT.FORMATS (LISPSOURCEFILEP TEDITFROMLISPSOURCE)
          (SHELLSCRIPTP TEDITFROMSHELLSCRIPT))

```

```

(RPAQ? *TEDIT-FILE-READTABLE* (COPYREADTABLE \ORIGREADTABLE))

```

FUNCTION INDEX

SHELLSCRIPTP	28	\TEDIT.CACHEFILE	10	\TEDIT.INSERT.NEWPIECES	23
TEDIT.FILEDATE	3	\TEDIT.FORMATTEDSTREAMP	8	\TEDIT.INTERPRET.XCCS.SHIFTS	13
TEDIT.FORMATTEDFILEP	3	\TEDIT.GET.CHARLOOKS	16	\TEDIT.MAKE.STRINGPIECE	12
TEDIT.GET	2	\TEDIT.GET.CHARLOOKS.INDEX	17	\TEDIT.PUT.CHARLOOKS	25
TEDIT.INCLUDE	3	\TEDIT.GET.CHARLOOKS.LIST	16	\TEDIT.PUT.CHARLOOKS.LIST	24
TEDIT.PUT	5	\TEDIT.GET.FOREIGN.FILE	7	\TEDIT.PUT.CHARLOOKS1	26
TEDIT.PUT.STREAM	6	\TEDIT.GET.FORMATTED.FILE	8	\TEDIT.PUT.OBJECT	26
TEDIT.RAW.INCLUDE	5	\TEDIT.GET.IDATE3	12	\TEDIT.PUT.PARALOOKS	27
TEDITFROMLISPSOURCE	28	\TEDIT.GET.OBJECT	18	\TEDIT.PUT.PARALOOKS.LIST	26
TEDITFROMSHELLSCRIPT	28	\TEDIT.GET.PARALOOKS.INDEX	17	\TEDIT.PUT.PCTB	19
\ARBIN	9	\TEDIT.GET.PARALOOKS.LIST	17	\TEDIT.PUT.PCTB.MERGEABLE	21
\ARABOUT	24	\TEDIT.GET.PIECES3	10	\TEDIT.PUT.PCTB.NEXTNEW	22
\ATMIN	9	\TEDIT.GET.SINGLE.CHARLOOKS	16	\TEDIT.PUT.PCTB.PIECEDATA	21
\ATMOUT	24	\TEDIT.GET.SINGLE.PARALOOKS	17	\TEDIT.PUT.SINGLE.CHARLOOKS	24
\DWIN	9	\TEDIT.GET.TRAILER	9	\TEDIT.PUT.SINGLE.PARALOOKS	26
\DWOUT	24	\TEDIT.GET.UNFORMATTED.FILE	7	\TEDIT.PUT.TRAILER	21
\STRINGIN	9	\TEDIT.GET.UNFORMATTED.FILE.UTF8	14	\TEDIT.PUT.UTF8.SPLITPIECES	22
\STRINGOUT	24	\TEDIT.GET.UNFORMATTED.FILE.XCCS	12	\TEDIT.PUTRESET	24

CONSTANT INDEX

\PieceDescriptorCHARLOOKSLIST	1	\PieceDescriptorOBJECT	1	\PieceDescriptorPARALOOKSLIST	1
\PieceDescriptorLOOKS	1	\PieceDescriptorPAGEFRAME	1	\PieceDescriptorPROPERTIES	1
\PieceDescriptorMETAINFO	1	\PieceDescriptorPARA	1	\PieceDescriptorSAFEOBJECT	1

VARIABLE INDEX

TEDIT-FILE-READTABLE	28	TEDIT.INPUT.FORMATS	28
------------------------------	----	---------------------------	----

MACRO INDEX

\SMALLPIN	2	\SMALLPOUT	2
-----------------	---	------------------	---
