

File created: 17-Mar-2024 18:27:18 {DSK}<Users>kaplan>Local>medley3.5>working-medley>library>tedit>TEDIT  
-TFBRAVO.;153

edit by: rmk

changes to: (VARS TEDIT-TFBRVOCOMS)  
(FNS \TEDIT.NAMEDTAB.INIT)

previous date: 17-Mar-2024 12:41:56 {DSK}<Users>kaplan>Local>medley3.5>working-medley>library>tedit>TEDIT-TFBRV  
O.;152

Read Table: INTERLISP

Package: INTERLISP

Format: XCCS

(RPAQQ **TEDIT-TFBRVOCOMS**

```
[[DECLARE%: EVAL@COMPILE DONTCOPY ; Compile-time needs
  (FILES TEDIT-EXPORTS.ALL)
  (RECORDS BRAVOFONT PARA RUN)
  (MACROS \TFBRAVO.GETFONT \TOPOINTS)
  (CONSTANTS (BRAVO.TRAILER.CHARS ' (1 d z x e y k j c q % ( %) %, s s u U b B i I g G v V w W t f o
    % \ 0 1 2 3 4 5 6 7 8 9])
```

;; Interface to TEDIT

```
(FNS TEDIT.BRAVOFILE? TEDITFROMBRAVO)
(ADDVARS (TEDIT.INPUT.FORMATS (TEDIT.BRAVOFILE? TEDITFROMBRAVO)))
```

;; Initial looks, USER.CM

```
(FNS \TFBRAVO.GET.USER.CM \TFBRAVO.USER.CM.LOOKS \TFBRAVO.READ.USER.CM \TFBRAVO.INIT.PARALOOKS
\TFBRAVO.INIT.PAGEFORMAT \TFBRAVO.GETPARAMS \TFBRAVO.FIND.LAST.TRAILER)
```

;; Decoding the Bravo file

```
(FNS \TFBRAVO.PARSE.PARA \TFBRAVO.READ.PARALOOKS \TFBRAVO.CREATE.RUNS \TFBRAVO.READ.CHARLOOKS
\TFBRAVO.FONT.FROM.CHARLOOKS \TFBRAVO.READNUM?)
```

;; Profile paragraphs

```
(FNS \TFBRAVO.HANDLE.HEADING \TFBRAVO.PARSE.PROFILE.PARA)
```

;; Creating the text stream

```
(FNS \TFBRAVO.INSERT.PARA \TFBRAVO.INSERT.RUN \TFBRAVO.SPLIT.PARA \TFBRAVO.RUN.TABSPEC
\TFBRAVO.INSTALL.PAGEFORMAT)
(FNS \TFBRAVO.ASSERT \TEST.CHARACTER.LOOKS \TEST.PARAGRAPH.LOOKS)
(INITVARS (TEDIT-DEFAULT-USER.CM "TEDIT-DEFAULT-USER.CM")
  (USER.CM.RDTBL (COPYREADTABLE))
  (PROFILE.PARA.RDTBL (COPYREADTABLE)))
```

```
(P (SETBRK (CHARCODE (% , %: = CR))
  NIL USER.CM.RDTBL)
  (SETSEPR ' (% )
  NIL USER.CM.RDTBL)
  (SETSYNTAX (CHARCODE %:)
  'SEPRCHAR PROFILE.PARA.RDTBL)
  (SETSYNTAX (CHARCODE CR)
  'BREAKCHAR PROFILE.PARA.RDTBL)
  (SETSYNTAX (CHARCODE ^Z)
  'BREAKCHAR PROFILE.PARA.RDTBL))
```

(COMS ; Named tabs. To be removed

```
(FNS \TFBRAVO.ADD.NAMEDTAB \TFBRAVO.COPY.NAMEDTAB \TFBRAVO.PUT.NAMEDTAB \TFBRAVO.GET.NAMEDTAB
\NAMEDTABNYET \NAMEDTABSIZE \NAMEDTABPREPRINT \TEDIT.NAMEDTAB.INIT)
(GLOBALVARS \NAMEDTAB.IMAGEFNS)
(DECLARE%: DONTVAL@LOAD DOCOPY (P (AND NIL (\TEDIT.NAMEDTAB.INIT]))
```

(DECLARE%: EVAL@COMPILE DONTCOPY

(FILESLOAD TEDIT-EXPORTS.ALL)

(DECLARE%: EVAL@COMPILE

(RECORD BRAVOFONT (BFFONTNUM BRFAMILY BRSIZE BRWEIGHT BRSLOPE))

```
[RECORD PARA (PARAFMTSPEC RUNS FORMATPTRS)
  (ACCESSFNS (PARATABDEFS (fetch (FMTSPEC FMTUSERINFO) of (fetch (PARA PARAFMTSPEC) of DATUM))
    (replace (FMTSPEC FMTUSERINFO) of (fetch (PARA PARAFMTSPEC) of DATUM) with NEWVALUE])
```

```
[RECORD RUN (RUNLENGTH RUNLOOKS RUNSTART RUNLAST)
  (ACCESSFNS (RUNTABS (fetch (CHARLOOKS CLUSERINFO) of (fetch (RUN RUNLOOKS) of DATUM))
    (replace (CHARLOOKS CLUSERINFO) of (fetch (RUN RUNLOOKS) of DATUM) with NEWVALUE])
)
```

(DECLARE%: EVAL@COMPILE

```
(PUTPROPS \TFBRAVO.GETFONT MACRO [(FONTNUM FIELD)
  (fetch (BRAVOFONT FIELD) of (FASSOC FONTNUM (FASSOC 'Font USER.CM.ALIST))]
```

(PUTPROPS \TOPOINTS MACRO ((DIMENSION)

;; Assumes that the next token in LINE is a number to be converted to points, according to the conventions

;; specified in the Bravo user manual. Negative distances are relative to an 8.5 x 11 US Letter page.

;; This positions LINE at the token after the unit, if any.

```
(LET ((NUM (pop LINE))
      (UNIT (CAR LINE)))
  [SETQ UNIT (SELECTQ (U-CASE UNIT)
                      ((IN INCH INCHES %)
                       (pop LINE)
                       'INCH)
                      ((CM CMS)
                       (pop LINE)
                       'CM)
                      ((POINT POINTS PT PTS)
                       (pop LINE)
                       'POINT)
                      (CL:IF (FLOATP NUM)
                              'INCH
                              'POINT))]
  (SETQ NUM (SELECTQ UNIT
                     (INCH (FIXR (TIMES NUM 72)))
                     (CM (FIXR (FQUOTIENT (TIMES NUM 2.54 72))))
                     (NUM)))
  (CL:WHEN (ILESSP NUM 0)
    (SETQ NUM (SELECTQ DIMENSION
                       (HEIGHT (IPLUS (CONSTANT (ITIMES 11 72))
                                         NUM))
                       (WIDTH (IPLUS (CONSTANT (FIX (FTIMES 8.5 72)))
                                         NUM))
                       (NIL NUM)
                       (HELP "UNKNOWN DIMENSION" DIMENSION))))
    NUM)))
```

(DECLARE%: EVAL@COMPILE

(RPAQQ **BRAVO.TRAILER.CHARS**

(1 d z x e y k j c q %( %) %, s s u U b B i I g G v V w W t f o % \ 0 1 2 3 4 5 6 7 8 9))

[CONSTANTS (BRAVO.TRAILER.CHARS ' (1 d z x e y k j c q %( %) %, s s u U b B i I g G v V w W t f o % \ 0 1 2 3 4  
5 6 7 8 9)

;; Interface to TEDIT

(DEFINEQ

(**TEDIT.BRAVOFILE?**

[LAMBDA (STREAM TEXTOBJ)

; Edited 28-Nov-2023 10:34 by rmk  
; Edited 17-Aug-2023 08:09 by rmk  
; Edited 11-Aug-2023 22:59 by rmk  
; Edited 5-Aug-2023 23:05 by rmk  
; Edited 1-Aug-2023 08:15 by rmk  
(\* gbn " 3-Jun-85 21:06")

;; T if the open STREAM looks like a Bravo file.

```
(PROG (PLOOKS ENDCONDITION (ORIGINAL.FILE.POSITION (GETFILEPTR STREAM))
      NAME DIRS USER.CM)
  (CL:UNLESS (\TFBRAVO.FIND.LAST.TRAILER STREAM)
    (SETFILEPTR STREAM ORIGINAL.FILE.POSITION)
    (RETURN NIL))
  (BIN STREAM)
  (SETQ PLOOKS (\TEST.PARAGRAPH.LOOKS STREAM))
  [SETQ ENDCONDITION (CL:WHEN (EQ (CAR PLOOKS)
                                  '\)
    (repeatuntil (\TEST.CHARACTER.LOOKS STREAM))) ]
  (SETFILEPTR STREAM ORIGINAL.FILE.POSITION)
  (CL:WHEN (EQ ENDCONDITION 'BADLOOKS)
    (RETURN NIL))
  (RETURN T])
```

(**TEDITFROMBRAVO**

[LAMBDA (BFILE TEXTSTREAM PROPS USER.CM)

; Edited 17-Jan-2024 12:11 by rmk  
; Edited 26-Nov-2023 00:29 by rmk  
; Edited 14-Nov-2023 17:09 by rmk  
; Edited 22-Sep-2023 08:53 by rmk  
; Edited 20-Aug-2023 20:25 by rmk  
; Edited 18-Aug-2023 22:18 by rmk  
; Edited 17-Aug-2023 10:17 by rmk  
; Edited 13-Jun-90 01:00 by mitani

;;; Top level entry for conversion from a Bravo file to a textstream. The textstream is returned, "Writing" here means sticking it in the textstream, not  
;;; saving to a Tedit file. Assumes that a stream BFILE is positioned at the first byte to be included.

(RESETLST

```

(CL:UNLESS TEXTSTREAM
  (SETQ TEXTSTREAM (OPENTEXTSTREAM NIL))) ; Produce the USER.CM's alist of default values
(bind PARA NEXTFMTSPEC USER.CM.CHARLOOKS USER.CM.FMTSPEC USER.CM.ALIST START (BSTREAM _ BFILE)
  (TEXTOBJ _ (TEXTOBJ TEXTSTREAM)) declare (SPECVARS USER.CM.FMTSPEC USER.CM.CHARLOOKS USER.CM.ALIST)
  first (CL:UNLESS (SETQ USER.CM (\TFBRAVO.GET.USER.CM BFILE USER.CM TEXTOBJ)) ; Go for plain text
    (RETURN))
  (SETQ TEXTOBJ TEXTOBJ FORMATTEDP T)
  (\TFBRAVO.USER.CM.LOOKS USER.CM TEXTOBJ) ; Set up the USER.CM look defaults
  (CL:UNLESS (GETSTREAM BSTREAM 'INPUT T) ; We keep it open, since we point to it
    (SETQ BSTREAM (OPENSTREAM BFILE 'INPUT)))
  (STREAMPROP BSTREAM :EXTERNAL-FORMAT :THROUGH)
  (PUTTEXTPROP TEXTOBJ 'OUTPUT-FORMAT :DEFAULT)
  [RESETSAVE (STREAMPROP BSTREAM 'ENDOFSTREAMOP (FUNCTION NIL))
    (PROGN (STREAMPROP BSTREAM 'ENDOFSTREAMOP OLDVALUE)
      (SETQ NEXTFMTSPEC USER.CM.FMTSPEC)
      eachtime (SETQ START (GETFILEPTR BSTREAM)) ; Profiles and headings have to back up
        (SETQ PARA (\TFBRAVO.PARSE.PARA NEXTFMTSPEC BSTREAM TEXTOBJ))
        ;; No runs signals the very end
      while (fetch (PARA RUNS) of PARA) do (SETQ NEXTFMTSPEC (fetch (PARA PARAFMTSPEC) of PARA))
        ;; Valid profile paragraphs have a special interpretation, invalid ones must be mismarked
        ;; ordinary text
        (CL:UNLESS (AND (EQ 'PROFILE (fetch (FMTSPEC FMTPARATYPE)
          of NEXTFMTSPEC))
          (\TFBRAVO.PARSE.PROFILE.PARA BSTREAM PARA TEXTOBJ
            START))
          (\TFBRAVO.INSERT.PARA PARA BSTREAM TEXTOBJ))
      finally (\TFBRAVO.INSTALL.PAGEFORMAT TEXTOBJ)
        (\TEDIT.UNIQUIFY.ALL TEXTOBJ) ; Lists are complete and unique
        (for PARALOOKS in (GETTOBJ TEXTOBJ TXTPARALOOKSLIST) do (replace (FMTSPEC FMTUSERINFO)
          of PARALOOKS with NIL))
        (for CHARLOOKS in (GETTOBJ TEXTOBJ TXTCHARLOOKSLIST) do (replace (CHARLOOKS CLUSERINFO)
          of CHARLOOKS with NIL))
        (\TEDIT.TRANSLATE.ASCIICHARS TEXTOBJ)
        (TEDIT.SETSEL TEXTOBJ 1 0 'LEFT)
        (RETURN TEXTSTREAM))))
)

(ADDTOVAR TEDIT.INPUT.FORMATS (TEDIT.BRAVOFILE? TEDITFROMBRAVO))

;; Initial looks, USER.CM

(DEFINEQ
  (\TFBRAVO.GET.USER.CM
    [LAMBDA (BFILE CANDIDATE TEXTOBJ)
      ; Edited 28-Nov-2023 17:38 by rmk
      ; Edited 11-Sep-2023 13:15 by rmk
      ; Edited 19-Aug-2023 23:24 by rmk
      ; Edited 17-Aug-2023 09:46 by rmk

      ;; BFILE's directory, connected directory, logindirectory, DIRECTORIES
      (DECLARE (USEDFREE TEDIT-DEFAULT-USER.CM))
      (CL:WHEN (STREAMP BFILE)
        (SETQ BFILE (FULLNAME BFILE)))
      (CL:WHEN (EQ CANDIDATE T)
        ; Because the test function's non-NIL value is passed in as
        ; CANDIDATE.

        (SETQ CANDIDATE NIL))

      ;; Returns the name of the user.cm file to be used in the conversion of Bravo BFILE. If CANDIDATE can't be found, the heuristic search is to
      ;; search in the following order:
      (PROG [USER.CM (DIRS `((, (PACKFILENAME 'NAME NIL 'EXTENSION NIL 'VERSION NIL 'BODY BFILE)
        T NIL ,@DIRECTORIES)
        (CL:WHEN [AND CANDIDATE (SETQ USER.CM (CL:IF (STREAMP CANDIDATE)
          (FULLNAME CANDIDATE)
          (FINDFILE CANDIDATE T DIRS))])
          (TEDIT.PROMPTPRINT TEXTOBJ (CONCAT "USER.CM = " USER.CM)
            T)
          (RETURN USER.CM))
        [SETQ USER.CM (OR (FINDFILE 'USER.CM T DIRS)
          (AND TEDIT-DEFAULT-USER.CM (FINDFILE TEDIT-DEFAULT-USER.CM T DIRS)
            (* (SELECTQ (MKATOM (U-CASE
              (TEDIT.GETINPUT TEXTOBJ (CONCAT "USER.CM = "
                USER.CM " ? ")))) (NIL (TEDIT.PROMPTPRINT TEXTOBJ
                  "Yes") T) ((Y YES T) T) NIL))
            (if USER.CM
              then (TEDIT.PROMPTPRINT TEXTOBJ (CONCAT "USER.CM = " USER.CM)
                T)
              else do (SETQ USER.CM (TEDIT.GETINPUT TEXTOBJ "USER.CM file: (CR suppresses BRAVO conversion) "))
                (CL:WHEN (OR (NULL USER.CM)
                  (INFILEP USER.CM))
                  (RETURN))
                (TEDIT.PROMPTPRINT TEXTOBJ (CONCAT USER.CM " not found")
                  T T)
                (DISMISS 3000))]]

```

(RETURN USER.CM)]

## (\TFBRAVO.USER.CM.LOOKS

[LAMBDA (USER.CM TEXTOBJ)

; Edited 18-Aug-2023 18:47 by rmk  
; Edited 16-Aug-2023 21:33 by rmk  
; Edited 5-Aug-2023 17:15 by rmk

```
(DECLARE (USEDFREE USER.CM.CHARLOOKS USER.CM.FMTSPEC USER.CM.ALIST))
(SETQ USER.CM.ALIST (\TFBRAVO.READ.USER.CM USER.CM))
(SETQ USER.CM.CHARLOOKS (create CHARLOOKS
                                CLNAME _ (\TFBRAVO.GETFONT 0 BRFAMILY)
                                CLSIZE _ (\TFBRAVO.GETFONT 0 BRSIZE)
                                CLOFFSET _ 0))
(\TFBRAVO.FONT.FROM.CHARLOOKS USER.CM.CHARLOOKS)
(\TFBRAVO.INIT.PAGEFORMAT TEXTOBJ)
(SETQ USER.CM.FMTSPEC (\TFBRAVO.INIT.PARALOOKS USER.CM.ALIST))
(SETQ USER.CM.CHARLOOKS (\TEDIT.UNIQIFY.CHARLOOKS USER.CM.CHARLOOKS TEXTOBJ))
(SETQ USER.CM.FMTSPEC (\TEDIT.UNIQIFY.PARALOOKS USER.CM.FMTSPEC TEXTOBJ))
(SETTOBJ TEXTOBJ DEFAULTCHARLOOKS USER.CM.CHARLOOKS)
(SETTOBJ TEXTOBJ FMTSPEC USER.CM.FMTSPEC])
```

## (\TFBRAVO.READ.USER.CM

[LAMBDA (USER.CM)

; Edited 18-Aug-2023 22:26 by rmk  
; Edited 10-Aug-2023 13:02 by rmk  
; Edited 7-Aug-2023 12:52 by rmk  
; Edited 1-Aug-2023 22:11 by rmk  
; Edited 30-Jul-2023 18:57 by rmk  
(\* gbn "17-Sep-84 18:53")

```
(CL:UNLESS USER.CM
  (SETQ USER.CM 'USER.CM))
```

;; digests a user.cm file returning an alist of contents. Returns ((Font)) if no bravo section of user.cm file

```
(RESETLST
  (PROG (ALIST LINE)
    (CL:UNLESS (GETSTREAM USER.CM 'INPUT T)
      [RESETSAVE (SETQ USER.CM (OPENSTREAM USER.CM 'INPUT 'OLD))
        `(PROGN (CLOSEF? OLDVALUE))]
      (SETFILEINFO USER.CM 'EOL 'ANY)
      (AND NIL (STREAMPROP USER.CM :EXTERNAL-FORMAT :THROUGH))
      (CL:UNLESS (AND (FILEPOS "[BRAVO]" USER.CM NIL NIL NIL T)
        (EQ (CHARCODE EOL)
          (READCCODE USER.CM)))
        (RETURN NIL))
```

;; Read lines of the user.cm file until getting the empty line caused by eof (and the errortypelst entry) or until a line starts with '['.

```
LLP (CL:UNLESS (NLSETQ (SETQ LINE (RATOMS (CONSTANT (CHARACTER (CHARCODE EOL)))
  (RETURN ALIST))
  USER.CM USER.CM.RDTBL)))
; If the '[BRAVO]' section is the last one
```

```
(COND
  ((NULL LINE)
    (GO LLP))
  ((EQ (CAR LINE)
    'END.OF.FILE)
    (RETURN ALIST))
  ((EQ (NTHCHAR (CAR LINE)
    1)
    '%[]')
    ; ignore blank lines
```

;; if '[' is the first character of the line, return the alist so far, because this is the beginning of the next section of the user.cm

```
(RETURN ALIST))
((NEQ (CADR LINE)
  '%:')
  (GO LLP)))
```

;; CDDR to skip the :

```
(SELECTQ (PROG1 (CAR LINE)
  (SETQ LINE (CDDR LINE)))
  (FONT (CL:WHEN (FIXP (CAR LINE))
    (NCONC1 [OR (FASSOC 'Font ALIST)
      (CAR (PUSH ALIST (CONS 'Font)
        (create BRAVOFONT
          BFFONTNUM _ (POP LINE)
          BRFAMILY _ (POP LINE)
          BRSIZE _ (POP LINE))))
      (TABS (SETQ ALIST (NCONC (\TFBRAVO.GETPARAMS LINE '((DefaultTab standard tab width))
        'MICATOPPOINTS)
        ALIST)))
      (MARGINS (SETQ ALIST (NCONC (\TFBRAVO.GETPARAMS LINE '((FirstLineLeftMargin paragraph margin)
        (LeftMargin left margin)
        (RightMargin right margin))
        'MICATOHALFPICAPPOINTS)
        ALIST)))
      (LEAD (SETQ ALIST (NCONC (\TFBRAVO.GETPARAMS LINE '((ParagraphLeading paragraph leading)
        (LineLeading line leading))
        ALIST)))
```

```

      NIL)
      (GO LLP)))]])

```

## (\TFBRAVO.INIT.PARALOOKS

[LAMBDA (ALIST)

```

; Edited 13-Aug-2023 11:27 by rmk
; Edited 8-Aug-2023 23:51 by rmk
; Edited 7-Aug-2023 14:59 by rmk
; Edited 31-May-91 15:26 by jds

```

```

;; creates the default paragraph looks from the USER.CM. The numeric values are Bravo defaults as specified in the Bravo documentation. This
;; assumes that all mica values in the USER.CM have already been converted to points.

```

```

(LET ((INITFMTSPEC (create FMTSPEC using TEDIT.DEFAULT.FMTSPEC)))
  ;; Bravo User Manual says that default tab is 36, the Bravo file format document says 60. I'm going with 36.
  (with FMTSPEC INITFMTSPEC (SETQ LEFTMAR (OR (CADR (ASSOC 'LeftMargin ALIST))
                                                85))
    (SETQ 1STLEFTMAR (OR (CADR (ASSOC 'FirstLineLeftMargin ALIST))
                        LEFTMAR))
    (SETQ RIGHTMAR (OR (CADR (ASSOC 'RightMargin ALIST))
                      527))
    (SETQ LINELEAD (OR (CADR (ASSOC 'LineLeading ALIST))
                      1))
    (SETQ LEADBEFORE (OR (CADR (ASSOC 'ParagraphLeading ALIST))
                        0))
    (SETQ LEADAFTER 0)
    (SETQ TABSPEC (LIST (OR (CADR (ASSOC 'DefaultTab ALIST))
                          36)))
    (SETQ FMTSPECIALX 0)
    (SETQ FMTSPECIALY 0))
  INITFMTSPEC))

```

## (\TFBRAVO.INIT.PAGEFORMAT

[LAMBDA (TEXTOBJ)

```

; Edited 22-Sep-2023 20:03 by rmk
; Edited 10-Aug-2023 10:02 by rmk
(* gbn "31-May-85 17:13")

```

```

;; Page numbers centered and 1/2 inch from top of US Letter page. One inch top/bottom margins

```

```

(PUTTEXTPROP TEXTOBJ 'PAGENUMBERS T)
(PUTTEXTPROP TEXTOBJ 'PAGENUMBERX (FIXR (FQUOTIENT (TIMES 8.5 72)
                                                    2)))
(PUTTEXTPROP TEXTOBJ 'PAGENUMBERY (IDIFFERENCE (ITIMES 11 72)
                                                36))
(PUTTEXTPROP TEXTOBJ 'TOPMARGIN 72)
(PUTTEXTPROP TEXTOBJ 'BOTTOMMARGIN 72)
(PUTTEXTPROP TEXTOBJ 'PAGENUMBER.NOTONFIRSTPAGE T))

```

## (\TFBRAVO.GETPARAMS

[LAMBDA (LINE NAMES SCALE)

```

; Edited 10-Aug-2023 13:19 by rmk
; Edited 7-Aug-2023 12:34 by rmk
(* jds "27-Aug-84 09:37")

```

```

;; If SCALE is provided, the values after = are numbers that will be scaled by SCALE.

```

```

;; LINE is a list of tokens for a particular line in the USER.CM. It may contain several parameters separated by commas, where each parameter is
;; heading by a list of identifying names (CDR of the corresponding entry in NAMES) ending in =. (CAR N) for each N in NAMES is the tag that
;; identifies that parameter in the resulting alist.

```

```

(LET (SEGMENTS VALUE ALIST)
  ;; To simplify, first chop LINE into its comma-separated segments
  (for LTAIL PREV (START _ LINE) on LINE do (if (NULL (CDR LTAIL))
    then (push SEGMENTS START)
        ; last one
    elseif (EQ '%, (CAR LTAIL))
    then (CL:WHEN PREV
        ; Cut off the comma
        (RPLACD PREV NIL))
        (push SEGMENTS START)
        (SETQ START (CDR LTAIL))
        (SETQ PREV START)
    else (SETQ PREV LTAIL)))
    ; Now aligned with NAMES
  (SETQ SEGMENTS (DREVERSE SEGMENTS))
  [for N SEG in NAMES when [SETQ SEG (find S in SEGMENTS
    suchthat (for NTAIL on (CDR N) as SS in S
      always (OR (AND (EQ '= SS)
                    (NULL (CDR NTAIL)))
                (STRING.EQUAL SS (CAR NTAIL))
    do (CL:WHEN (SETQ VALUE (CADR (MEMB '= SEG)))
      (PUSH ALIST (LIST (CAR N)
        (SELECTQ SCALE
          (MICATOPOINTS (FIXR (FQUOTIENT VALUE MICASPERPT)))
          (MICATOHALFPICAPPOINTS
            [ITIMES 6 (FIXR (FQUOTIENT VALUE (FTIMES MICASPERPT 6])
              VALUE)))]))
      (DREVERSE ALIST))]

```

**(\TFBRAVO.FIND.LAST.TRAILER**

[LAMBDA (BSTREAM)

; Edited 1-Aug-2023 23:35 by rmk  
; Edited 8-Sep-2022 17:15 by rmk  
(\* jds "27-Dec-84 19:13")

;; scans backwards from the end of the file trying to find the beginning of the last Bravo trailer. Returns NIL if not found, otherwise T

```
(LET [(STREAM (GETSTREAM BSTREAM 'INPUT)
  (SETFILEPTR STREAM -1)
  (CL:WHEN (AND (IGREATERP (GETFILEPTR STREAM)
    0)
    (EQ (\BACKBIN STREAM)
      (CHARCODE CR)))
    (bind C while (AND (SETQ C (\BACKBIN STREAM))
      (FMEMB (CHARACTER C)
        BRAVO.TRAILER.CHARS))
    do NIL)
    (EQ (\PEEKBIN STREAM)
      (CHARCODE ^Z)))]])
```

; empty files are not Bravo files. It says here!

)

;; Decoding the Bravo file

(DEFINEQ

**(\TFBRAVO.PARSE.PARA**

[LAMBDA (OLDFMTSPEC BSTREAM TEXTOBJ)

; Edited 14-Nov-2023 13:03 by rmk  
; Edited 7-Nov-2023 21:53 by rmk  
; Edited 21-Aug-2023 23:41 by rmk  
; Edited 20-Aug-2023 22:48 by rmk  
; Edited 16-Aug-2023 21:28 by rmk  
; Edited 13-Jun-2021 09:46 by rmk:

;; OLDFMTSPEC are the paragraph looks of the previous paragraph, and RUNi are the character runs in the form returned by  
 ;; \TFBRAVO.READ.CHARLOOKS, except that here we fill in the character count for the last run. Leaves the input file pointer at the end of the  
 ;; trailer, after the CR.

;; ^Z marks the end of a Bravo-looks paragraph which may have internal CR's that mark the end of Tedit paragraphs. The Bravo runs with different  
 ;; charlooks want to end up in different pieces all within the same paragraph.

;; The carriage return that ends the trailer is its own final run, the trailer itself is skipped.

```
(DECLARE (USEDFREE USER.CM.CHARLOOKS USER.CM.FMTSPEC))
(LET (BYTE PLEN ^ZPTR ENDCHAR FMTSPEC RUNS FORMATPTRS PARAGRAPH TABPTRS (PSTART (GETFILEPTR BSTREAM))
  (FMTSPEC USER.CM.FMTSPEC))
```

;; BYTE=NIL at EOF, no terminating ^Z

```
(until (SELCHARQ (SETQ BYTE (BIN BSTREAM))
  (^Z
```

; End of Bravo paragraph, maybe some looks  
; Exclude the ^Z  
; Length of the Bravo paragraph without the ^Z

```
(SETQ ^ZPTR (SUB1 (GETFILEPTR BSTREAM)))
(SETQ PLEN (IDIFFERENCE ^ZPTR PSTART))
[AND NIL (CL:WHEN FORMATPTRS
  (PUSH FORMATPTRS (CONS (CHARCODE ^Z)
    (SUB1 ^ZPTR))))]
```

```
(SETQ FORMATPTRS (DREVERSE FORMATPTRS))
(SETQ TABPTRS (DREVERSE TABPTRS))
T)
```

```
((CR FORM LF) ;; Remember the position of an internal formatting char, i.e. the byte that perhaps should be the end of an
  ;; internal paragraph.
```

```
[PUSH FORMATPTRS (CONS BYTE (SUB1 (GETFILEPTR BSTREAM))
  NIL)
```

```
(TAB ;; Collect tab byte positions
```

```
(PUSH TABPTRS (SUB1 (GETFILEPTR BSTREAM)))
NIL)
```

```
(NIL T)
NIL))
```

(SELCHARQ BYTE

```
(^Z (SETQ FMTSPEC (\TFBRAVO.READ.PARALOOKS OLDFMTSPEC BSTREAM TEXTOBJ))
(SETQ RUNS (\TFBRAVO.CREATE.RUNS BSTREAM PSTART PLEN)))
```

(NIL)

(SHOULDNT "Bravo paragraph not ending in ^Z, CR, EOF"))

```
(create PARA
  PARAFMTSPEC _ FMTSPEC
  RUNS _ RUNS
  FORMATPTRS _ FORMATPTRS])
```

**(\TFBRAVO.READ.PARALOOKS**

[LAMBDA (OLDFMTSPEC BSTREAM)

; Edited 9-Sep-2023 21:40 by rmk  
; Edited 21-Aug-2023 21:43 by rmk  
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; Edited 18-Aug-2023 23:08 by rmk  
; Edited 15-Aug-2023 00:23 by rmk  
; Edited 13-Aug-2023 19:58 by rmk  
; Edited 3-Aug-2023 00:20 by rmk  
; Edited 31-May-91 15:26 by jds

(DECLARE (USEDFREE USER.CM.FMTSPEC))

;; Decodes bravo paragraph looks into a TEDIT FMTSPEC. OLDFMTSPEC is used just for its tabs.

```
(bind LMFLAG 1LMFLAG COMMAND TABX TABNAME TABDEFAULT NAMEDTABS (NEWFMTSPEC _ (create FMTSPEC using
USER.CM.FMTSPEC

first (CL:UNLESS (EQ 'PROFILE (fetch (FMTSPEC FMTPARATYPE) of OLDFMTSPEC))
;; It appears that heading-tabs don't carry over to other paragraphs. Although maybe the default interval-tab does?
(setq TABDEFAULT (CAR (fetch (FMTSPEC TABSPEC) of OLDFMTSPEC)))
;; We don't put the NAMEDTABS in the TABSPEC since we don't know which ones will be activated by any particular run.
(setq NAMEDTABS (COPY (fetch (FMTSPEC FMTUSERINFO) of OLDFMTSPEC)))
do (selcharq (setq COMMAND (BIN BSTREAM))
  (1 (setq LMFLAG T)
    (replace (FMTSPEC LEFTMAR) of NEWFMTSPEC with (\TFBRavo.READNUM? BSTREAM T
'MICATOHALFPICAPPOINTS)))
  (d (setq 1LMFLAG T)
    (replace (FMTSPEC 1STLEFTMAR) of NEWFMTSPEC with (\TFBRavo.READNUM? BSTREAM T
'MICATOHALFPICAPPOINTS)))
  (z (replace (FMTSPEC RIGHTMAR) of NEWFMTSPEC with (\TFBRavo.READNUM? BSTREAM T
'MICATOHALFPICAPPOINTS)))
  (x (replace (FMTSPEC LINELEAD) of NEWFMTSPEC with (\TFBRavo.READNUM? BSTREAM T)))
  (e (replace (FMTSPEC LEADAFter) of NEWFMTSPEC with 0)
    (replace (FMTSPEC LEADBEFORE) of NEWFMTSPEC with (\TFBRavo.READNUM? BSTREAM T)))
  (y
    (replace (FMTSPEC FMTSPECIALX) of NEWFMTSPEC with 0)
    (replace (FMTSPEC FMTSPECIALY) of NEWFMTSPEC with (\TFBRavo.READNUM? BSTREAM T)))
  (k (replace (FMTSPEC FMTHEADINGKEEP) of NEWFMTSPEC with (\TFBRavo.READNUM? BSTREAM T)))
  (w 'HardcopyMode)
  (j (replace (FMTSPEC QUAD) of NEWFMTSPEC with 'JUSTIFIED))
  (c (replace (FMTSPEC QUAD) of NEWFMTSPEC with 'CENTERED))
  (q
    ;; Profiles are marked here but then interpreted at the top
    (replace (FMTSPEC FMTPARATYPE) of NEWFMTSPEC with 'PROFILE))
  (% (
    (setq TABX (\TFBRavo.READNUM? BSTREAM T)) ; Collect the named tabs
    ; Name or X position
    ;; Tabs apparently round down/truncate, not up.
    (selcharq (setq COMMAND (BIN BSTREAM))
      (%) (setq TABDEFAULT (FIXR (FQUOTIENT TABX MICASPERPT))))
      (% (CL:WHEN (IGREATERP TABX 14)
        (HELP TABX " is not a legal tab-name"))
        (setq TABNAME (ADD1 TABX)) ; Adding 1 to align with t1, t2...
        (setq TABX (\TFBRavo.READNUM? BSTREAM T))
        (CL:UNLESS (EQ (CHARCODE %))
          (BIN BSTREAM))
        (HELP "MISSING CLOSING ) IN TABSPEC"))
      ;; Here we collect the tabs declared in this paragraph or inherited from before. 65535 means delete that the
      ;; named tab (possibly inherited), otherwise the name is given a new TABX for all runs of this paragraph and
      ;; beyond.
      [if (EQ TABX 65535)
        then (setq NAMEDTABS (DREMOVE (ASSOC TABNAME NAMEDTABS)
          NAMEDTABS))
        else (RPLACD [OR (ASSOC TABNAME NAMEDTABS)
          (CAR (push NAMEDTABS (CONS TABNAME)
            (create TAB
              TABX _ (FIXR (FQUOTIENT TABX MICASPERPT))
              TABKIND _ 'LEFT])
            (HELP "ILLFORMED BRAVO TAB SPEC")))]
          (SPACE)
          ((CR \)
            (CL:WHEN (AND LMFLAG (NOT 1LMFLAG)) ; If there was a Left margin but no firstline left then default it
              (replace (FMTSPEC 1STLEFTMAR) of NEWFMTSPEC with (fetch (FMTSPEC LEFTMAR) of NEWFMTSPEC)))
            (replace TABSPEC of NEWFMTSPEC with (CONS TABDEFAULT))
            (replace (FMTSPEC FMTUSERINFO) of NEWFMTSPEC with (DREVERSE NAMEDTABS))
            (CL:WHEN (EQ COMMAND (CHARCODE CR)) ; Read the \ separator, but leave the terminating CR
              (\BACKFILEPTR BSTREAM))
            (RETURN NEWFMTSPEC))
            (HELP (CHARACTER COMMAND)
              "' is not a legal Bravo paragraph-format character"])]
```

## (\TFBRavo.CREATE.RUNS

[LAMBDA (BSTREAM PSTART PLEN)

; Edited 14-Nov-2023 13:01 by rmk  
; Edited 9-Sep-2023 21:41 by rmk  
; Edited 20-Aug-2023 23:03 by rmk

```
(bind RUNS RUN RLEN (RUNSTART _ PSTART)
(OLDCHARLOOKS _ USER.CM.CHARLOOKS) do (setq RUN (\TFBRavo.READ.CHARLOOKS BSTREAM OLDCHARLOOKS
RUNSTART PLEN))
(push RUNS RUN)
(setq OLDCHARLOOKS (fetch (RUN RUNLOOKS) of RUN))
(CL:WHEN (fetch (RUN RUNLAST) of RUN)
  (RETURN (DREVERSE RUNS)))
(setq RLEN (fetch (RUN RUNLENGTH) of RUN))
; Set up for next run
(ADD RUNSTART RLEN)
```

```
(ADD PLEN (IMINUS RLEN))
(SETQ OLDCHARLOOKS (fetch (RUN RUNLOOKS) of RUN])
```

## (\TFBRAVO.READ.CHARLOOKS

[LAMBDA (BSTREAM OLDCHARLOOKS RUNSTART PLEN)

```
; Edited 9-Sep-2023 21:39 by rmk
; Edited 20-Aug-2023 16:15 by rmk
; Edited 18-Aug-2023 20:11 by rmk
; Edited 31-May-91 15:25 by jds
```

```
:: Read the character looks trailer building a TEDIT charlooks record. Most fields are immediately valid, however, the tabcolor is stored in the
;; cluserinfo field of the looks, and the font is still in numeric form
```

```
:: The charlooks trailer (from \ to CR) consists of a sequence of run-looks. Each run-look is a sequence of commands followed by the length of the
;; run. If the first run has no commands (i.e. the \ is followed immediately by a length-number), then the first run gets the USER.CM default looks.
```

```
(bind COMMAND LEN LAST VALUE TABNAMES (NEWCHARLOOKS _ (create CHARLOOKS using OLDCHARLOOKS))
```

```
until (SETQ LEN (\TFBRAVO.READNUM? BSTREAM))
```

```
do :: Some command letters are followed by numeric arguments (f1 vs b). Any spaces around command letters are skipped. BIN is used here
;; for one-byte arguments, but perhaps a version that skips initial spaces would be safer?
```

```
(SELCHARQ (SETQ COMMAND (BIN BSTREAM))
```

```
(s (replace (CHARLOOKS CLSTRIKE) of NEWCHARLOOKS with T))
```

```
(S (replace (CHARLOOKS CLSTRIKE) of NEWCHARLOOKS with NIL))
```

```
(u (replace (CHARLOOKS CLULINE) of NEWCHARLOOKS with T))
```

```
(U (replace (CHARLOOKS CLULINE) of NEWCHARLOOKS with NIL))
```

```
(b (replace (CHARLOOKS CLBOLD) of NEWCHARLOOKS with T))
```

```
(B (replace (CHARLOOKS CLBOLD) of NEWCHARLOOKS with NIL))
```

```
(i (replace (CHARLOOKS CLITAL) of NEWCHARLOOKS with T))
```

```
(I (replace (CHARLOOKS CLITAL) of NEWCHARLOOKS with NIL))
```

```
(g "Graphic T --unsupported")
```

```
(G "Graphic NIL")
```

```
(v (replace (CHARLOOKS CLINVISIBLE) of NEWCHARLOOKS with NIL))
```

```
(V (AND NIL (replace (CHARLOOKS CLINVISIBLE) of NEWCHARLOOKS with T)))
```

```
(t :: Collect the named tabs for writerrun
```

```
(PUSH TABNAMES (CHARACTER (BIN BSTREAM))))
```

```
(f ; Save the fontface until the end
```

```
(SETQ VALUE (CHARACTER (BIN BSTREAM)))
```

```
(replace (CHARLOOKS CLSIZE) of NEWCHARLOOKS with (\TFBRAVO.GETFONT VALUE BRSIZE))
```

```
(replace (CHARLOOKS CLNAME) of NEWCHARLOOKS with (\TFBRAVO.GETFONT VALUE BRFAMILY))
```

```
(o (SETQ VALUE (\TFBRAVO.READNUM? BSTREAM T)) ; Superscript
```

```
(replace (CHARLOOKS CLOFFSET) of NEWCHARLOOKS with (CL:IF (IGREATERP VALUE 127)
(IDIFFERENCE VALUE 256)
VALUE)))
```

```
(SPACE)
```

```
(CR :: We hit the trailer-terminating CR, It is either the end-marker for the last run, or a signal that this paragraph has no run-look
;; information.
```

```
(if (EQ 0 PLEN)
```

```
then
```

```
:: If we have already accounted for all the pre-trailer characters, just return a trivial paragraph-final run pointing at
;; the end-of-trailer CR
```

```
(SETQ RUNSTART (SUB1 (GETFILEPTR BSTREAM)))
```

```
(SETQ LEN 1)
```

```
(SETQ LAST T)
```

```
else (\BACKFILEPTR BSTREAM)
```

```
; Leave the CR to be read on the next (PLEN=0) call.
```

```
(SETQ LEN PLEN))
```

```
; Otherwise, PLEN is what's left for the final substantive run
```

```
(GO $$OUT))
```

```
(HELP (CHARACTER COMMAND)
```

```
" is not a legal Bravo command character look"))
```

```
finally :: Wait til end to do font, so we have the bold/italic looks for sure. Last run may not have an explicit length
```

```
(replace (CHARLOOKS CLUSERINFO) of NEWCHARLOOKS with (DREVERSE TABNAMES))
```

```
(\TFBRAVO.FONT.FROM.CHARLOOKS NEWCHARLOOKS)
```

```
(RETURN (create RUN
```

```
RUNSTART _ RUNSTART
```

```
RUNLENGTH _ LEN
```

```
RUNLOOKS _ NEWCHARLOOKS
```

```
RUNLAST _ LAST])
```

## (\TFBRAVO.FONT.FROM.CHARLOOKS

[LAMBDA (CHARLOOKS)

```
; Edited 1-Aug-2023 13:21 by rmk
```

```
; Edited 31-May-91 15:26 by jds
```

```
:: Takes a TEDIT CHARLOOKS with fields filled in (CLNAME = family name) and creates the font to fill it.
```

```
[replace (CHARLOOKS CLFONT) of CHARLOOKS with (FONTCREATE (fetch (CHARLOOKS CLNAME) of CHARLOOKS)
```

```
(fetch (CHARLOOKS CLSIZE) of CHARLOOKS)
```

```
(LIST (CL:IF (fetch (CHARLOOKS CLBOLD) of CHARLOOKS)
```

```
' BOLD
```

```
' MEDIUM)
```

```
(CL:IF (fetch (CHARLOOKS CLITAL) of CHARLOOKS)
```

```
' ITALIC
```

```
' REGULAR)
```

```
' REGULAR]
```

```
CHARLOOKS])
```



**(\TFBRAVO.READNUM?**

[LAMBDA (BSTREAM REQUIRED SCALE)

; Edited 10-Aug-2023 13:06 by rmk  
; Edited 9-Aug-2023 07:53 by rmk  
; Edited 5-Aug-2023 20:31 by rmk

;; If a digit appears as the first non-space character from the current stream position, the integer starting at that digit is returned. If MICAS, it is assumed that NUM is in micas and should be scaled to a multiple of 6 points (= 1/2 pica so that Tedit's margins aren't displayed as goofy  
;; decimals. The stream is left positioned before the first nondigit nonspace character.

```
(bind C (NUM _ 0) first (while (EQ (CHARCODE SPACE)
                                   (SETQ C (\PEEKCCODE BSTREAM T))))
  do (BIN BSTREAM))
  (CL:UNLESS (DIGITCHARP C)
    (CL:WHEN REQUIRED
      (ERROR "Bravo command without a numeric argument at position " (GETFILEPTR
                                                                    BSTREAM))
      (RETURN NIL)))
  do [SETQ NUM (IPLUS (ITIMES NUM 10)
                     (IDIFFERENCE (BIN BSTREAM)
                                   (CHARCODE 0))
    repeatwhile (DIGITCHARP (\PEEKCCODE BSTREAM T))
    finally (while (EQ (CHARCODE SPACE)
                      (\PEEKCCODE BSTREAM T))
      do (BIN BSTREAM))
    (RETURN (SELECTQ SCALE
                     (MICATOHALFFPICAPPOINTS
                      [ITIMES 6 (FIXR (FQUOTIENT NUM (FTIMES MICASPERPT 6))
                                       (MICATOPOINTS (FIXR (FQUOTIENT NUM MICASPERPT))
                                                           NUM))
                     )
  )
```

;; Profile paragraphs

(DEFINEQ

**(\TFBRAVO.HANDLE.HEADING**

[LAMBDA (BSTREAM TEXTOBJ HEADINGSTART)

; Edited 20-Aug-2023 20:11 by rmk  
; Edited 18-Aug-2023 10:37 by rmk  
; Edited 12-Aug-2023 12:25 by rmk  
; Edited 9-Aug-2023 23:37 by rmk  
; Edited 4-Aug-2023 10:39 by rmk  
; Edited 1-Aug-2023 22:24 by rmk  
; Edited 31-May-91 15:26 by jds

;; Called from \TFBRAVO.PARSE.PROFILE.PARA. The heading is a paragraph beginning at the current position, presumably just a line with a  
;; looks trailer. Its paralooks have to be marked with special heading properties--heading type and special X and Y locations.

```
(DECLARE (USEDFREE USER.CM.FMTSPEC))
(LET (HEADINGDESC HEADINGPARA HEADINGFMTSPEC) ; skip over the trailer of the profile para
  (SETFILEPTR BSTREAM HEADINGSTART)
  (SETQ HEADINGPARA (\TFBRAVO.PARSE.PARA USER.CM.FMTSPEC BSTREAM TEXTOBJ))
  (SETQ HEADINGFMTSPEC (fetch (PARA PARAFMTSPEC) of HEADINGPARA))
  (replace (FMTSPEC FMTPARATYPE) of HEADINGFMTSPEC with 'PAGEHEADING)
  ;; This is where the vertical tab info is placed for the heading, remove the special x and y and use them as the position for the descriptor
  (SETQ HEADINGDESC (LIST (GENSYM 'PageHeading)
                          (OR (fetch (FMTSPEC FMTSPECIALX) of HEADINGFMTSPEC)
                              0)
                          (OR (fetch (FMTSPEC FMTSPECIALY) of HEADINGFMTSPEC)
                              0)))
  (replace (FMTSPEC FMTPARASUBTYPE) of HEADINGFMTSPEC with (CAR HEADINGDESC))
  (replace (FMTSPEC FMTSPECIALX) of HEADINGFMTSPEC with (CADR HEADINGDESC))
  (replace (FMTSPEC FMTSPECIALY) of HEADINGFMTSPEC with (CADDR HEADINGDESC))
  ; now write out the heading paragraph
  (\TFBRAVO.INSERT.PARA HEADINGPARA BSTREAM TEXTOBJ MAX.FIXP)
  HEADINGDESC])
```

**(\TFBRAVO.PARSE.PROFILE.PARA**

[LAMBDA (BSTREAM PARAGRAPH TEXTOBJ START)

; Edited 22-Sep-2023 20:02 by rmk  
; Edited 19-Aug-2023 23:33 by rmk  
; Edited 17-Aug-2023 14:51 by rmk  
; Edited 10-Aug-2023 10:37 by rmk  
; Edited 1-Aug-2023 13:29 by rmk  
(\* gbn " 3-Jun-85 17:23")

;; Parse a Bravo profile paragraph, and set up the corresponding TEdit page looks, headings, page numbers.

;; START is the beginning of the profile lines, current fileptr (END) is the end of its looks information (which is kind of odd, since "Margins: " has no  
;; looks. At best it sets carryover tabs.

;; This code processes the profile settings, storing them away as TEXTOBJ properties for later installation. Presumably, if there are multiple valid  
;; profile paragraphs in the same file, then the settings of the last one will override earlier ones.

;; Heading lines are followed by separate paragraphs containing the formatted text of the heading. The parameters are saved in the  
;; HEADINGDESC

;; Returns T if this is truly a profile paragraph, beginning with one of the profile keywords, otherwise NIL. Either way, BSTREAM is positioned at the  
;; beginning of the next unprocessed paragraph

;; START

```

(bind LINE ROMAN UPPERCASE (END _ (GETFILEPTR BSTREAM)) first (SETFILEPTR BSTREAM START)
  while (ILESSP (GETFILEPTR BSTREAM)
    END)
  do [.. Each RATOMS reads a line, the last line including the trailer characters. ^Z is a break so processing on the last line can stop at that
    ;; token. Presumably the RATOMS will have reached END (and not gone past it), but we set the fileptr back to that position just in case,
    ;; to set up for the next paragraph. Semi-colon is a sepr in the readtable, we don't have to worry about those.
    (SETQ LINE (U-CASE (RATOMS (CHARACTER (CHARCODE CR))
      BSTREAM PROFILE.PARA.RDTBL)))

    ;; Now we have to parse, checking and skipping the irrelevant keywords. Each keyword starts a line, each while runs until its end-token
    ;; (CR?)
    (SELECTQ (pop LINE)
      (PAGE
        (TFBRAVO.ASSERT 'NUMBERS (pop LINE))
        (while LINE do (SELECTQ (pop LINE)
          (NO (PUTTEXTPROP TEXTOBJ 'PAGENUMBERS 'NO))
          (YES
            ; this is default
            (PUTTEXTPROP TEXTOBJ 'PAGENUMBERS NIL))
          (FIRST (\TFBRAVO.ASSERT 'PAGE (pop LINE))
            (PUTTEXTPROP TEXTOBJ 'FIRSTPAGENO (pop LINE)))
          (NOT-ON-FIRST-PAGE
            (PUTTEXTPROP TEXTOBJ 'PAGENUMBER.NOTONFIRSTPAGE T))
          (X (PUTTEXTPROP TEXTOBJ 'PAGENUMBERX (\TOPOINTS 'WIDTH)))
          (Y (PUTTEXTPROP TEXTOBJ 'PAGENUMBERY (\TOPOINTS 'HEIGHT)))
          (ROMAN (SETQ ROMAN T))
          (UPPERCASE (SETQ UPPERCASE T))
          NIL)))
        (COLUMNS
          ; parse the columns numbers stuff
          (PUTTEXTPROP TEXTOBJ 'NUMBEROFCOLUMNS (pop LINE))
          (while LINE do (SELECTQ (pop LINE)
            (EDGE (\TFBRAVO.ASSERT 'MARGIN (pop LINE))
              (PUTTEXTPROP TEXTOBJ 'EDGEMARGIN (\TOPOINTS 'WIDTH)))
            (BETWEEN (\TFBRAVO.ASSERT 'COLUMNS (pop LINE))
              (PUTTEXTPROP TEXTOBJ 'BETWEENCOLUMNS (\TOPOINTS 'WIDTH)))
            NIL)))
        (MARGINS
          ; parse the margins stuff
          (while LINE do (SELECTQ (pop LINE)
            (TOP (PUTTEXTPROP TEXTOBJ 'TOPMARGIN (\TOPOINTS 'HEIGHT)))
            (BOTTOM (PUTTEXTPROP TEXTOBJ 'BOTTOMMARGIN (\TOPOINTS 'HEIGHT)))
            (BINDING (PUTTEXTPROP TEXTOBJ 'BINDING (\TOPOINTS 'HEIGHT)))
            NIL)))
        (ODD (\TFBRAVO.ASSERT 'HEADING (pop LINE))
          (CL:WHEN (EQ (CAR LINE)
            'NOT-ON-FIRST-PAGE)
            (pop LINE)
            (PUTTEXTPROP TEXTOBJ 'ODDHEADING.NOTONFIRSTPAGE T))
          ; Heading is on the next line
          (PUTTEXTPROP TEXTOBJ 'ODDHEADINGDESC (\TFBRAVO.HANDLE.HEADING BSTREAM TEXTOBJ END))
          ;; We advance past the heading paragraph, presumably we are done.
          (SETQ END (GETFILEPTR BSTREAM)))
        (EVEN (\TFBRAVO.ASSERT (pop LINE)
          'HEADING)
          (CL:WHEN (EQ (CAR LINE)
            'NOT-ON-FIRST-PAGE)
            (pop LINE)
            (PUTTEXTPROP TEXTOBJ 'EVENHEADING.NOTONFIRSTPAGE T))
          (PUTTEXTPROP TEXTOBJ 'EVENHEADINGDESC (\TFBRAVO.HANDLE.HEADING BSTREAM TEXTOBJ END))
          (SETQ END (GETFILEPTR BSTREAM)))
        (HEADING (CL:WHEN (EQ (CAR LINE)
          'NOT-ON-FIRST-PAGE)
            (pop LINE)
            (PUTTEXTPROP TEXTOBJ 'HEADING.NOTONFIRSTPAGE T))
          (PUTTEXTPROP TEXTOBJ 'HEADINGDESC (\TFBRAVO.HANDLE.HEADING BSTREAM TEXTOBJ END))
          (SETQ END (GETFILEPTR BSTREAM)))
        ((LINE PRIVATE)
          NIL)
          ; Line numbers, private data not supported
        (PROGN
          ; Not a profile line, presumably a mistaken q.
          (SETFILEPTR BSTREAM END)
          (replace (FMTSPEC FMTPARATYPE) of (fetch (PARA PARAFMTSPEC) of PARAGRAPH) with NIL)
          (RETURN NIL)
        repeatuntil [EQ (CAR LINE)
          (CONSTANT (CHARACTER (CHARCODE ^Z]
        finally (CL:WHEN ROMAN
          (PUTTEXTPROP TEXTOBJ 'ROMAN (CL:IF UPPERCASE
            'X
            'x)))

    ;; Set the file to the beginning of the next paragraph
    (SETFILEPTR BSTREAM END)
    (RETURN T])
)

```

```

;; Creating the text stream

```

(DEFINEQ

## (\TFBRAVO.INSERT.PARA

[LAMBDA (PARA BSTREAM TEXTOBJ)

; Edited 20-Aug-2023 16:13 by rmk

;; Inserts pieces into TEXTOBJ that correspond to the runs in PARA. PARA may be broken up at internal CR's to get spacing and tabs right.

```
(for P PFMTSPEC in (\TFBRAVO.SPLIT.PARA PARA) do (SETQ PFMTSPEC (fetch (PARA PARAFMTSPEC) of P))
  (for RUN in (fetch (PARA RUNS) of P)
    do (SETQ PFMTSPEC (\TFBRAVO.RUN.TABSPEC RUN PFMTSPEC))
      (\TFBRAVO.INSERT.RUN RUN BSTREAM PFMTSPEC TEXTOBJ]))
```

## (\TFBRAVO.INSERT.RUN

[LAMBDA (RUN BSTREAM PARAFMTSPEC TEXTOBJ)

; Edited 17-Mar-2024 12:41 by rmk

; Edited 16-Jan-2024 18:28 by rmk

; Edited 29-Dec-2023 11:50 by rmk

; Edited 23-Sep-2023 12:11 by rmk

; Edited 23-Aug-2023 08:31 by rmk

; Edited 20-Aug-2023 16:12 by rmk

; Edited 19-Aug-2023 14:47 by rmk

;; A Bravo run can include many CR's each of which should end a separate TEDIT paragraph. Unless we want to think of those as paragraph  
 ;; internal meta-CRs ?

;; PARAFMTSPEC is the intended paragraph PARALOOKS for the paragraph, providing the margins, line leading etc. common to all runs. It may  
 ;; be specialized for each run to encode the tabs that that run actually selects (via \TFBRAVO.RUN.TABSPEC

```
(CL:WHEN (IGREATERP (fetch (RUN RUNLENGTH) of RUN)
  0)
  (LET ((NCHARS (fetch (RUN RUNLENGTH) of RUN))
        (RUNSTART (fetch (RUN RUNSTART) of RUN))
        FATP PC)
    (SETQ PC (create PIECE
      PLEN _ NCHARS
      PLOOKS _ (\TEDIT.UNIQIFY.CHARLOOKS (fetch (RUN RUNLOOKS) of RUN)
        TEXTOBJ)
      PPARALOOKS _ (\TEDIT.UNIQIFY.PARALOOKS PARAFMTSPEC TEXTOBJ)
      PPARALAST _ (fetch (RUN RUNLAST) of RUN)))
    (if (STRINGP RUNSTART)
      then ;; Run with at least one character converted to XCCS.
        (SETQ FATP (fetch (STRINGP FATSTRINGP) of RUNSTART))
        (with PIECE PC (SETQ PCONTENTS RUNSTART)
          (SETQ PTYPE (CL:IF FATP
            FATSTRING.PTYPE
            THINSTRING.PTYPE))
          (SETQ PBYTESPERCHAR (CL:IF FATP
            2
            1))
          (SETQ PBINABLE (NOT FATP))
          (SETQ PBYTELEN (UNFOLD NCHARS 2))
          (SETQ PUTF8BYTESPERCHAR 2))
        else (with PIECE PC (SETQ PCONTENTS BSTREAM)
          (SETQ PFPOS RUNSTART)
          (SETQ PTYPE THINFILE.PTYPE)
          (SETQ PBINABLE T)
          (SETQ PBYTESPERCHAR 1)
          (SETQ PBYTELEN NCHARS)
          (SETQ PUTF8BYTESPERCHAR 2)))
        (\TEDIT.INSERTPIECE PC NIL TEXTOBJ)
      PC)))
```

; No need for an empty piece

## (\TFBRAVO.SPLIT.PARA

[LAMBDA (PARA)

; Edited 9-Sep-2023 21:35 by rmk

; Edited 22-Aug-2023 23:45 by rmk

;; The Bravo paragraph PARA may contain internal CRs or FORMS that should be broken out into separate Tedit paragraphs. All of them share  
 ;; the same basic FMTSPEC, except that paragraphs after the first should have 0 for paragraph leading and first-paragraph margins. The charlooks  
 ;; for each run are carried over to the splits.

;; However, we leave alone a paragraph with a special location, since we don't know how to arrange the positions of the later sub-paragraphs.

;; After the paragraphs have been split, we make another pass to see if we can decode tab t0. We could also try to merge runs with the same  
 ;; charlooks, but TEDIT.PUT does that merging when the converted text is saved.

;; This smashes PARA's runs.

```
(LET ((PARAFMTSPEC (fetch (PARA PARAFMTSPEC) of PARA))
      NEWPARAS)
  ;; RUNSTART is STRINGP for a math/hippo or other character that has been translated to XCCS
  (SETQ NEWPARAS (if (AND (fetch (PARA FORMATPTRS) of PARA)
    (FMEMB (fetch (FMTSPEC FMTSPECIALX) of PARAFMTSPEC)
      '(0 NIL))
    (FMEMB (fetch (FMTSPEC FMTSPECIALY) of PARAFMTSPEC)
      '(0 NIL))
    then [for PTR POS RUN FIRSTRUN NEWRUNLENGTH (RUNS _ (fetch (PARA RUNS) of PARA))
      in (fetch (PARA FORMATPTRS) of PARA) everytime (SETQ POS (CDR PTR))
        (SETQ FIRSTRUN RUNS))
```

```

when [SETQ RUN (find R in old RUNS unless (STRINGP (fetch (RUN RUNSTART)
                                                         of R))
                                     suchthat (AND (IGEQ POS (fetch (RUN RUNSTART) of R))
                                                    (ILESSP POS (IPLUS (fetch (RUN RUNSTART)
                                                         of R)
                                                         (fetch (RUN RUNLENGTH)
                                                         of R))
                                                    (push RUNS (create RUN using RUN RUNSTART _ (ADD1 POS)
                                                         RUNLENGTH _ (IDIFFERENCE
                                                         (fetch (RUN RUNLENGTH)
                                                         of RUN)
                                                         NEWRUNLENGTH)))
                                                    (replace (RUN RUNLENGTH) of RUN with NEWRUNLENGTH))
                                     ; Chop off but keep the next batch.
                                     ; RUN ends its paragraph
[SETQ NEWRUNLENGTH (ADD1 (IDIFFERENCE POS (fetch (RUN RUNSTART)
                                                         of RUN]
(CL:UNLESS (EQ NEWRUNLENGTH (fetch (RUN RUNLENGTH) of RUN))
            ; POS pointed to the middle of RUN
;; Shorten RUN to characters up to and including the POS character. Subsequent characters go into
;; a new suffix-run that will start the next paragraph.
            (push RUNS (create RUN using RUN RUNSTART _ (ADD1 POS)
                                                         RUNLENGTH _ (IDIFFERENCE
                                                         (fetch (RUN RUNLENGTH)
                                                         of RUN)
                                                         NEWRUNLENGTH)))
            (replace (RUN RUNLENGTH) of RUN with NEWRUNLENGTH))
;; Fill in RUNS here, FMTSPEC below. No more FORMATPTRS
(create PARA
  RUNS _ FIRSTRUN)
finally (CL:WHEN RUNS ; Pick up anything that's left.
        (NCONC1 $$VAL (create PARA using PARA RUNS _ RUNS)))
;; The first paragraph has LEADAFTER=0, all the others have 1STLEFTMAR=LEFTMAR and
;; LEADAFTER=LEADBEFORE=0, except that the last one keeps the original LEADAFTER. Tabs are
;; retained across all the runs.
(replace (PARA PARAFMTSPEC) of (CAR $$VAL)
  with (create FMTSPEC using PARAFMTSPEC LEADAFTER _ 0))
(for PTAIL (NEWFMTSPEC _ (create FMTSPEC
                                using PARAFMTSPEC 1STLEFTMAR _
                                (fetch (FMTSPEC LEFTMAR) of PARAFMTSPEC
                                )
                                LEADBEFORE _ 0 LEADAFTER _ 0))
  on (CDR $$VAL)
  do (replace (PARA PARAFMTSPEC) of (CAR PTAIL)
    with (CL:IF (CDR PTAIL)
      NEWFMTSPEC
      (create FMTSPEC using NEWFMTSPEC LEADAFTER _
        (fetch (FMTSPEC LEADAFTER)
        of PARAFMTSPEC))))])
else (CONS PARA)))
;; If t0 is the first tab specified for a run, tx is the last tab of the previous run, and t(x+1) is defined, then change t0 to t(x+1).
[for NP in NEWPARAS do (for RUN LASTTAB RUNTABS TAB0TAIL (TABDEFS _ (fetch (PARA PARATABDEFS) of NP))
  in (fetch (PARA RUNS) of NP)
  do (SETQ RUNTABS (fetch (RUN RUNTABS) of RUN))
    (if (AND (SETQ TAB0TAIL (MEMB 0 RUNTABS))
      (SETQ LASTTAB (OR (CAR (NLEFT RUNTABS 1 TAB0TAIL))
        LASTTAB))
      (ASSOC (ADD1 LASTTAB)
        TABDEFS))
      then (SETQ RUNTABS (COPY RUNTABS))
        (RPLACA (MEMB 0 RUNTABS)
          (ADD1 LASTTAB))
        (SETQ LASTTAB (CAR (LAST RUNTABS)))
        (change (fetch (RUN RUNLOOKS) of RUN)
          (create CHARLOOKS using DATUM))
        (replace (RUN RUNTABS) of RUN with RUNTABS)
      else (SETQ LASTTAB (CAR (LAST RUNTABS]
NEWPARAS])

```

## (\TFBRAVO.RUN.TABSPEC

[LAMBDA (RUN PARAFMTSPEC)

; Edited 15-Mar-2024 19:42 by rmk

; Edited 22-Aug-2023 16:54 by rmk

; Edited 19-Aug-2023 15:47 by rmk

;; The CLUSERINFO contains a list of named tabs specified for this and presumably defined in the paragraph-wide PARAFMTSPEC. This returns a  
 ;; FMTSPEC for this run that only includes the named tabs that this run calls for.

;;

;; For the first run, the PARAFMTSPEC is the unspecialized run for the paragraph, with empty TABSPEC. Each subsequent run is given the  
 ;; FMTSPEC for the last run, so the tabs that were selected there are known. This is because t0 is loosely specified as picking the next tab in the  
 ;; FMTUSERINFO after the last tab that was used in the previous run (I think). (Or perhaps as setting the next tabs TABX as the interval?)

;;

;; Bravo's named tabs are defined for a paragraph that might consist of several runs, and each run can pick out by name just the tabs that it  
 ;; wants. For Tedit the tabs are associated with the pieces that make up a paragraph, so we have to make sure that Bravo runs are mapped to  
 ;; separate TEDIT pieces, and arrange it so that the pieces that correspond to separate runs have different different FMTSPECS.

```

;;
;; NOTE: the names in the tab definitions have been bumped up by 1 to match the names in the tab looks (e.g. (0,xxx) is (1,xxx) to correspond to
;; t1. t0 doesn't match.
(LET ([LASTTAB (CAR (LAST (CDR (fetch (FMTSPEC TABSPEC) of PARAFMTSPEC]
      (TABDEFS (fetch (FMTSPEC FMTUSERINFO) of PARAFMTSPEC))
      (TABDEFAULT (CAR (fetch (FMTSPEC TABSPEC) of PARAFMTSPEC)))
      (RUNTABS (fetch (RUN RUNTABS) of RUN))
      TAB TABSPEC)
      (CL:WHEN (AND TABDEFS (NULL RUNTABS))
        (SETQ RUNTABS (CONS (CAAR TABDEFS))))
      (CL:WHEN (AND TABDEFS RUNTABS)
        (CL:WHEN (EQUAL RUNTABS ' (0))
          ; If e.g. Tab 0 is set but the run has no tn's, assume that the first
          ; tn is intended.
          (SETQ RUNTABS ' (1 2)))
        [SETQ TABSPEC (for TABNAME in RUNTABS
          collect
            ;; For t0 we try to find the tab after the one last used in the previous run.
            (if (CDR (ASSOC TABNAME TABDEFS))
              elseif [AND (EQ TABNAME 0)
                (for TDTAIL TD on TABDEFS eachtime (SETQ TD (CAR TDTAIL))
                  when (EQ LASTTAB (CDR TD))
                    do [SETQ TABDEFAULT (fetch TABX of (CDR (CADR TDTAIL))
                      (RETURN (CDR (CADR TDTAIL))
                    ]
                else (GO $$ITERATE]
              ]
            ;; This asserts that the tabdefs are constant across a paragraph, that the right number of tabs are on each line in a paragraph. That
            ;; assumption is mostly reasonable, given the paragraph splitting. The code above allows each run (piece) to have its own tab settings.
            ;; Although \TEDIT.FORMATLINE.UPDATELOOKS can easily be modified to allow the pieces on a line to change their tab definitions,
            ;; the paragraph-looks menu assumes that tabs are constant across a paragraph. So things would go bonkers.
            [SETQ TABSPEC (SORT (for TAB in TABDEFS collect (CDR TAB))
              (FUNCTION (LAMBDA (T1 T2)
                (ILEQ (fetch (TAB TABX) of T1)
                  (fetch (TAB TABX) of T2)
                ]
              (SETQ PARAFMTSPEC (create FMTSPEC using PARAFMTSPEC TABSPEC _ (CONS TABDEFAULT TABSPEC))))
            PARAFMTSPEC])

```

## (\TFBRAVO.INSTALL.PAGEFORMAT

[LAMBDA (TEXTOBJ)

; Edited 22-Sep-2023 20:04 by rmk

; Edited 17-Aug-2023 14:31 by rmk

; Edited 13-Jun-90 01:00 by mitani

;; using the information from the profile paragraphs, this function installs the pageframes

```

(LET (FIRSTPAGENO PAGENUMBERS PAGENUMBERX PAGENUMBERY TOPMARGIN BOTTOMMARGIN NUMBEROFCOLUMNS BETWEENCOLUMNS
      COLUMNWIDTH ODDHEADINGDESC HEADINGDESC EVENHEADINGDESC HEADING.NOTONFIRSTPAGE
      PAGENUMBER.NOTONFIRSTPAGE EVENHEADING.NOTONFIRSTPAGE ODDHEADING.NOTONFIRSTPAGE FIRST VERSO RECTO
      PAGEPROPS ROMAN)
  (for VAR
    in ' (FIRSTPAGENO PAGENUMBERS PAGENUMBERX PAGENUMBERY TOPMARGIN BOTTOMMARGIN NUMBEROFCOLUMNS
          COLUMNWIDTH BETWEENCOLUMNS ODDHEADINGDESC HEADINGDESC EVENHEADINGDESC
          HEADING.NOTONFIRSTPAGE PAGENUMBER.NOTONFIRSTPAGE EVENHEADING.NOTONFIRSTPAGE
          ODDHEADING.NOTONFIRSTPAGE ROMAN)
    do (SET VAR (GETTEXTPROP TEXTOBJ VAR)))
  ;; this assumes that TEdit does not build a default page spec. If it ever does, then this logic must change.
  ;; the default page frame is always built. It is sometimes built as the only page frame when there is no headings specified. However, if
  ;; heading is specified with the not-on-first-page specified, then we must build the default page frame simply for that reason
  (CL:WHEN NUMBEROFCOLUMNS
    ;; if this is to be printed multicolumn then determine the column width from the numberofcolumns and the space between them. 72 is
    ;; points per inch, US Letter width.
    (SETQ COLUMNWIDTH (IQUOTIENT (IDIFFERENCE (IDIFFERENCE (CONSTANT (TIMES 8.5 72))
      (ITIMES 2 (GETTEXTPROP TEXTOBJ 'EDGEMARGIN)
      (ITIMES (SUB1 NUMBEROFCOLUMNS)
        BETWEENCOLUMNS))
      NUMBEROFCOLUMNS)))
    [SETQ PAGEPROPS `(STARTINGPAGE# , (OR FIRSTPAGENO 1]
    (PUSH PAGEPROPS 'FOLIOINFO (LIST (SELECTQ ROMAN
      (x 'LOWERROMAN)
      (X 'UPPERROMAN)
      'ARABIC)
      "" ""))
    (SETQ PAGENUMBERS (NEQ PAGENUMBERS 'NO))
    (SETQ FIRST (TEDIT.SINGLE.PAGEFORMAT (AND PAGENUMBERS (NOT PAGENUMBER.NOTONFIRSTPAGE))
      PAGENUMBERX PAGENUMBERY NIL NIL 0 0 TOPMARGIN BOTTOMMARGIN NUMBEROFCOLUMNS
      COLUMNWIDTH BETWEENCOLUMNS [COND
        (HEADINGDESC (CL:UNLESS HEADING.NOTONFIRSTPAGE
          (LIST HEADINGDESC)))
        (ODDHEADINGDESC (CL:UNLESS ODDHEADING.NOTONFIRSTPAGE
          (LIST HEADINGDESC)))
        (EVENHEADINGDESC (CL:UNLESS EVENHEADING.NOTONFIRSTPAGE
          (LIST EVENHEADINGDESC)
          'POINTS PAGEPROPS)))
    (CL:WHEN (OR ODDHEADINGDESC HEADING.NOTONFIRSTPAGE PAGENUMBER.NOTONFIRSTPAGE)

```

```

      (SETQ VERSO (TEDIT.SINGLE.PAGEFORMAT PAGENUMBERS PAGENUMBERX PAGENUMBERY NIL NIL 0 0 TOPMARGIN
        BOTTOMMARGIN NUMBEROFCOLUMNS COLUMNWIDTH BETWEENCOLUMNS (COND
          (ODDHEADINGDESC
            (LIST ODDHEADINGDESC
              ))
          (HEADINGDESC
            (LIST HEADINGDESC)))
        'POINTS PAGEPROPS)))
      (CL:WHEN (OR EVENHEADINGDESC HEADING.NOTONFIRSTPAGE PAGENUMBER.NOTONFIRSTPAGE)
        (SETQ RECTO (TEDIT.SINGLE.PAGEFORMAT PAGENUMBERS PAGENUMBERX PAGENUMBERY NIL NIL 0 0 TOPMARGIN
          BOTTOMMARGIN NUMBEROFCOLUMNS COLUMNWIDTH BETWEENCOLUMNS (COND
            (EVENHEADINGDESC
              (LIST
                EVENHEADINGDESC
              ))
            (HEADINGDESC
              (LIST HEADINGDESC)))
          'POINTS PAGEPROPS)))
      (TEDIT.PAGEFORMAT TEXTOBJ (TEDIT.COMPOUND.PAGEFORMAT FIRST VERSO RECTO))
)

```

(DEFINEQ

(\TFBRAVO.ASSERT

[LAMBDA (X Y)

; Edited 9-Aug-2023 10:32 by rmk  
(\* gbn "19-Sep-84 21:39")

```

  (CL:UNLESS (EQ X Y)
    (HELP "While parsing profile paragraph, " (CONCAT X " was expected, but " Y " was found.")))

```

(\TEST.CHARACTER.LOOKS

[LAMBDA (BSTREAM)

; Edited 17-Aug-2023 09:18 by rmk  
; Edited 2-Aug-2023 07:48 by rmk  
; Edited 29-Jul-2023 20:25 by rmk  
(\* gbn "6-Feb-84 19:11")

;; returns nil until done when it returns BADLOOKS or T

```

(PROG (PROPERTY VALFLAG TEM (VALUE 0)
      CHAR)
  LP (while [FIXP (SETQ CHAR (FCHARACTER (BIN BSTREAM] do (SETQ VALUE CHAR)
    (SETQ VALFLAG T))
    (COND
      (PROPERTY (CL:UNLESS VALFLAG
        (RETURN 'BADLOOKS))
        (SETQ PROPERTY NIL))
      (VALFLAG [SETFILEPTR BSTREAM (IDIFFERENCE (GETFILEPTR BSTREAM)
        (COND
          ([EQ CHAR (CONSTANT (CHARACTER (CHARCODE CR)
            2)
            (T 1]
          (RETURN NIL)))
        [COND
          ((SETQ TEM (SELECTQ CHAR
            ((s u b i g v S U B I G V)
            T)
            NIL))
            T
            (SETQ PROPERTY T))
          ((SETQ TEM (SELECTQ CHAR
            ((t f o)
            T)
            NIL))
            T
            (SETQ PROPERTY T))
          ([EQ CHAR (CONSTANT (CHARACTER (CHARCODE EOL)
            (RETURN T))
            ((NEQ CHAR '% )
            (RETURN 'BADLOOKS]
            (SETQ VALUE 0)
            (SETQ VALFLAG NIL)
            (GO LP])

```

(\TEST.PARAGRAPH.LOOKS

[LAMBDA (BSTREAM)

; Edited 5-Aug-2023 10:58 by rmk  
; Edited 2-Aug-2023 07:46 by rmk  
(\* gbn "6-Feb-84 18:30")

;; test if the sequence form valid paragraph looks, do not allow empty paragraph looks

```

(PROG ((VALUE 0)
      CHAR PROPERTY TABS NONEMPTY)
  LP (while [FIXP (SETQ CHAR (FCHARACTER (BIN BSTREAM] do (SETQ VALUE CHAR))
    [COND
      ((SELECTQ PROPERTY
        ((l d z x e y k j c q)
        (SETQ NONEMPTY T))
        NIL)

```

; keep going, these are all ok

```

NIL)
(T (SELECTQ PROPERTY
  (% ( (SELECTQ CHAR
    (%) (SETQ NONEMPTY T))
    (% (COND
      ((IGREATERP VALUE 14) ; not a legal tab no
      (RETURN NIL))
      (T (SETQ NONEMPTY T)))
    T)
    (RETURN NIL)))
  (% (SETQ NONEMPTY T))
  (% (SETQ NONEMPTY T))
  (RETURN NIL) ; not a legal paragraph look
(COND
  ((AND [NEQ CHAR (CONSTANT (CHARACTER (CHARCODE EOL]
    (NEQ CHAR '\))
    (SETQ PROPERTY CHAR)
    (SETQ VALUE 0)
    (GO LP)))
  (RETURN (AND NONEMPTY CHAR]))
)

```

```
(RPAQ? TEDIT-DEFAULT-USER.CM "TEDIT-DEFAULT-USER.CM")
```

```
(RPAQ? USER.CM.RDTBL (COPYREADTABLE))
```

```
(RPAQ? PROFILE.PARA.RDTBL (COPYREADTABLE))
```

```
(SETBRK (CHARCODE (% %: = CR))
  NIL USER.CM.RDTBL)
```

```
(SETSEPR ' (% )
  NIL USER.CM.RDTBL)
```

```
(SETSYNTAX (CHARCODE %:)
  'SEPRCHAR PROFILE.PARA.RDTBL)
```

```
(SETSYNTAX (CHARCODE CR)
  'BREAKCHAR PROFILE.PARA.RDTBL)
```

```
(SETSYNTAX (CHARCODE ^Z)
  'BREAKCHAR PROFILE.PARA.RDTBL)
```

```
:: Named tabs. To be removed
```

```
(DEFINEQ
```

```
(\TFBRAVO.ADD.NAMEDTAB
```

```
  [LAMBDA (RUN PARAFMTSPEC TEXTOBJ)
```

```
    ; Edited 9-Sep-2023 21:44 by rmk
```

```
    ; Edited 18-Aug-2023 18:42 by rmk
```

```
    ; Edited 15-Aug-2023 00:26 by rmk
```

```
    ; Edited 13-Aug-2023 19:56 by rmk
```

```
:: The CLUSERINFO contains a list of tab-looks appearing in this run, and FMTUSERINFO contains the definition of tabs that have been declared
;; in this paragraph or inherited from previous paragraphs.
```

```
::
```

```
:: Bravo's named tabs are defined for a paragraph that might consist of several runs, and each run can pick out by name just the tabs that it
;; wants. For Tedit the tabs are associated with the pieces that make up a paragraph, so we have to make sure that Bravo runs are mapped to
;; separate TEDIT pieces, and arrange it so that the pieces that correspond to separate runs have different different FMTSPECS.
```

```
::
```

```
;
```

```
:: THIS IS NOT USED, TO BE REMOVED. RUNTABOFFSETS DOESN'T EXIST
```

```

(LET ((RUNLOOKS (fetch (RUN RUNLOOKS) of RUN))
      (TABDEFS (fetch (FMTSPEC FMTUSERINFO) of PARAFMTSPEC))
      (TABDEFAULT (CAR (fetch (FMTSPEC TABSPEC) of PARAFMTSPEC)))
      (TABOFFSETS ' (fetch (RUN RUNTABOFFSETS) of RUN))
      (TAB TABNAMES TABSPEC)
      (SETQ TABNAMES (fetch (CHARLOOKS CLUSERINFO) of RUNLOOKS))
      (CL:WHEN TABDEFS
        [if TABNAMES
          then (SETQ TABSPEC (for TN in TABNAMES eachtime (add TN -1) when (SETQ TAB
            (CDR (ASSOC TN TABDEFS)))
            unless (EQ TAB T) until (EQ TN -1) collect TAB))
          elseif (CDR TABDEFS)
            then
              ;; If the run has no names, then assume that its first TAB aligns at the earliest defined tab, next aligns at the second, etc.
              ;; Sort tabs by increasing TABX, not names.
              [SETQ TABSPEC (SORT (for TD in TABDEFS collect (CDR TD))
                (FUNCTION (LAMBDA (T1 T2)
                  (ILEQ (fetch (TAB TABX) of T1)
                    (fetch (TAB TABX) of T2))
                )
              )
            elseif (EQ 0 (CAR (CAR TABDEFS)))
              then
                ;; No name and 0, make it be the default. How else would we decide where the second tab goes?
                (SETQ TABDEFAULT (fetch (TAB TABX) of (CDAR TABDEFS))

```

```

(CL:WHEN [OR TABSPEC (NEQ TABDEFAULT (CAR (fetch (FMTSPEC TABSPEC) of PARAFMTSPEC]
  (SETQ PARAFMTSPEC (create FMTSPEC using PARAFMTSPEC TABSPEC _ (CONS TABDEFAULT TABSPEC)))
  (\TEDIT.UNIQIFY.PARALOOKS PARAFMTSPEC TEXTOBJ)))
PARAFMTSPEC])

```

## (\TFBRAVO.COPY.NAMEDTAB

[LAMBDA (OBJ PIECE OLDCH NEWCH)

(\* jds "8-Feb-84 19:58")

(\* just creates a named tab stop with the same value as the original)

(\* Note that the USING phrase will create a new TEDITOBJ as well as a TEDITUSEROBJ)

(COPY OBJ)

## (\TFBRAVO.PUT.NAMEDTAB

[LAMBDA (OBJ CHARSTREAM FMTSTREAM)

(\* jds "8-Feb-84 19:59")

(\* just writes the position of the tab so that a new one can be created on read)

```

(PRINT (IMAGEOBJPROP OBJ 'OBJECTDATUM)
CHARSTREAM])

```

## (\TFBRAVO.GET.NAMEDTAB

[LAMBDA (CHARSTREAM TEXTSTREAM)

(\* jds "8-Feb-84 19:59")

(\* should read the position, create an obj and return it)

```

(IMAGEOBJCREATE (RATOM CHARSTREAM)
 \NAMEDTAB.IMAGEFNS])

```

## (\NAMEDTABNYET

[LAMBDA NIL

(\* gbn "30-Dec-83 17:23")

(PROMPTPRINT "Can't do that to a named tab!"))

## (\NAMEDTABSIZE

[LAMBDA (TABOBJECT IMAGESTREAM CURRENTX RIGHTMARGIN)

; Edited 6-Aug-2023 14:24 by rmk

(\* gbn "19-May-84 22:52")

```

(create IMAGEBOX
  XSIZE _ (IMAX 1 (IDIFFERENCE (HCSCALE (DSPSCALE NIL IMAGESTREAM)
    (IMAGEOBJPROP TABOBJECT 'OBJECTDATUM))
    CURRENTX))
  YSIZE _ 1
  YDESC _ 0
  XKERN _ 0])

```

## (\NAMEDTABPREPRINT

[LAMBDA (TABOBJ)

; Edited 6-Aug-2023 18:56 by rmk

```

(CONCAT "[TAB" (IMAGEOBJPROP TABOBJ 'TABNAME)
 "]"")

```

## (\TEDIT.NAMEDTAB.INIT

[LAMBDA NIL

; Edited 17-Mar-2024 18:26 by rmk

; Edited 6-Aug-2023 18:59 by rmk

(\* jds "22-Aug-84 14:49")

```

(SETQ \NAMEDTAB.IMAGEFNS (IMAGEFNSCREATE 'NIL (FUNCTION \NAMEDTABSIZE)
  (FUNCTION \TFBRAVO.PUT.NAMEDTAB)
  (FUNCTION \TFBRAVO.GET.NAMEDTAB)
  (FUNCTION \TFBRAVO.COPY.NAMEDTAB)
  (FUNCTION NIL)
  (FUNCTION NIL)
  (FUNCTION NIL)
  (FUNCTION NIL)
  (FUNCTION NIL)
  (FUNCTION NIL)
  (FUNCTION NIL)
  (FUNCTION NIL)
  (FUNCTION \NAMEDTABPREPRINT])

```

)

(DECLARE%: DOEVAL@COMPILE DONTCOPY

(GLOBALVARS \NAMEDTAB.IMAGEFNS)

)

(DECLARE%: DONTEVAL@LOAD DOCOPY

(AND NIL (\TEDIT.NAMEDTAB.INIT))

)



---

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