```
(RPAQQ LAFITE-MAILSCAVENGECOMS
       [(FNS MAILSCAVENGE \MAILSCAVENGE.INTERNAL \MAILSCAVENGE.OPEN.SCRATCH \MAILSCAVENGE.LENGTHWIDTH
             \MAILSCAVENGE.LFCOPYBYTES \MAILSCAVENGE.READSTAMP \MAILSCAVENGE.DUPLICATE? \MAILSCAVENGE.FORMAT
             \MAILSCAVENGE.MAKEWINDOW \MAILSCAVENGE.ASKUSER \MAILSCAVENGE.FIX.LENGTHS \MAILSCAVENGE.CONFIRM)
        (DECLARE%: EVAL@COMPILE DONTCOPY (CONSTANTS (*START*LENGTH 8))
                (SPECVARS *FOLDER* *ERRORMSGSTREAM* *EOL*)
                (LOCALVARS . T))
        (DECLARE%: DONTEVAL@LOAD DOEVAL@COMPILE DONTCOPY COMPILERVARS (ADDVARS (NLAMA)
                                                                              (NLAML)
                                                                              (LAMA \MAILSCAVENGE.FORMAT])


(DEFINEQ
```

(**MAILSCAVENGE**
```
  [LAMBDA (FOLDERNAME ERRORMSGSTREAM FORGET?)                           ; Edited 18-Apr-89 18:19 by bvm

    ;; User entry to the scavenger.  If FORGET?, we won't add folder to the list of known folders.

    (LET [(FOLDER (LAFITE.OBTAIN.FOLDER (LA.LONGFILENAME FOLDERNAME LAFITEMAIL.EXT)
                        'INPUT T (AND FORGET? :FORGET]
         (WITH.MONITOR (fetch (MAILFOLDER FOLDERLOCK) of FOLDER)
                (\MAILSCAVENGE.INTERNAL FOLDER ERRORMSGSTREAM])
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(**\MAILSCAVENGE.INTERNAL**
```
  [LAMBDA (*FOLDER* *ERRORMSGSTREAM* GOODPTR MSGNO)                     ; Edited  3-May-89 13:05 by bvm

    ;; Scavenge FOLDER, which can be a mail folder, mail file name, or open stream on a mail file.  Commentary goes to *ERRORMSGSTREAM*,
    ;; which for folders defaults to its browser window.  If GOODPTR is supplied, it is a file pointer that we assert points to the *START* corresponding
    ;; to msg # MSGNO, and we guarantee we will not touch anything earlier in the file.

    (LET (SCRATCHSTREAM FOLDERSTRM)
         (CL:UNWIND-PROTECT
             (PROG ((*UPPER-CASE-FILE-NAMES* NIL)
                    (*PRINT-BASE* 10)
                    (BADCOUNT 0)
                    (*START* "*start*
                             ")
                    (*EOL* (CHARCODE CR))
                    (COPYFN (FUNCTION COPYBYTES))
                    TRYPTR LFP PWINDOW XPOS DUPSCRATCH FOLDERNAME EOFPTR BODYSTART BADHEADER NOMOREP STAMPLENGTH
                    MSGLENGTH ENDPTR FIELDWIDTH LENGTHFIXUPS TRUNCATEPTR TSTREAM SUCCESS CH)
                   (DECLARE (CL:SPECIAL *FOLDER* *ERRORMSGSTREAM* *EOL*))
                                                                         ; Used by \mailscavenge.askuser
                [if (TYPENAMEP *FOLDER* 'MAILFOLDER)
                    then                                                 ; It's a mail folder, so play by the rules
                          (SETQ FOLDERSTRM (\LAFITE.OPEN.FOLDER *FOLDER* 'INPUT :OK))
                          (SETQ PWINDOW (fetch (MAILFOLDER BROWSERPROMPTWINDOW) of *FOLDER*))
                  elseif (TYPENAMEP *FOLDER* 'STREAM)
                    then (SETQ FOLDERSTRM *FOLDER*)
                  else (SETQ FOLDERSTRM (\LAFITE.OPENSTREAM *FOLDER* 'INPUT 'OLD (FUNCTION \LAFITE.EOF)
                                               NIL
                                               'LAFITE]
                (SETQ FOLDERNAME (FULLNAME FOLDERSTRM))
                (SETFILEINFO FOLDERSTRM 'BUFFERS 30)
                (SETQ EOFPTR (GETEOFPTR FOLDERSTRM))
                (SETFILEPTR FOLDERSTRM 0)
                (if PWINDOW
                    then (LAB.PROMPTPRINT *FOLDER* " Scavenging... ")
                          (SETQ XPOS (DSPXPOSITION NIL PWINDOW)))
                [if (NOT *ERRORMSGSTREAM*)
                    then (SETQ *ERRORMSGSTREAM* (if (AND (TYPENAMEP *FOLDER* 'MAILFOLDER)
                                                         (SETQ TSTREAM (\MAILSCAVENGE.MAKEWINDOW *FOLDER*)))
                                                    then        ; We waited til here to make the window in case printing
                                                                ; "Scavenging... " up there grew the window.
                                                         (TEXTSTREAM TSTREAM)
                                                    else (GETSTREAM NIL 'OUTPUT]
                (\MAILSCAVENGE.FORMAT "Scavenging ~A..." FOLDERNAME)
                (if GOODPTR
                    then                                                 ; Somebody has already gotten us started
                          (GO LP)
                  else (SETQ GOODPTR 0)
                        (SETQ MSGNO 1)
                        (if (LA.READSTAMP FOLDERSTRM)
                            then                                         ; Good start
```

```
                                       (GO PARSEMSG)
                             elseif (PROGN (SETFILEPTR FOLDERSTRM (SUB1 *START*LENGTH))
                                           (AND (EQ (BIN FOLDERSTRM)
                                                    (CHARCODE LF))
                                                (FILEPOS "*start*" FOLDERSTRM 0 7)))
                               then                                    ; LF woes
                                   (if (\MAILSCAVENGE.ASKUSER "File was apparently written with end of line
                                          convention LF.  Convert to CR (Note: TEdit formatting may be
                                          corrupted by this action, or could already have been corrupted by
                                          copying the file into LF format)? ")
                                       then (SETQ *START* "*start*")
                                            (SETQ COPYFN (FUNCTION \MAILSCAVENGE.LFCOPYBYTES))
                                            (SETQ *EOL* (CHARCODE LF))
                                            (SETQ LFP T)
                                            (SETQ SCRATCHSTREAM (\MAILSCAVENGE.OPEN.SCRATCH FOLDERNAME))
                                            (SETFILEINFO FOLDERSTRM 'EOL 'LF))
                             elseif (\MAILSCAVENGE.ASKUSER (CL:FORMAT NIL "Alleged mail folder ~A doesn't begin
                                                             with a Lafite header -- proceed anyway? "
                                                           FOLDERNAME))
                               then (SETQ BODYSTART 0)
                                    (GO FINDSTART)
                             else (RETURN NIL)))
        LP
;; GOODPTR is believed to point at *start*
        (SETFILEPTR FOLDERSTRM GOODPTR)
        (if (NOT (\MAILSCAVENGE.READSTAMP FOLDERSTRM))
            then                                       ; This shouldn't happen
                (CL:ERROR "Scavenger is confused at message ~D, byte ~D" MSGNO GOODPTR))
        PARSEMSG
        (if PWINDOW
            then                                       ; Tell which message we're on
                (DSPXPOSITION XPOS PWINDOW)
                (PRIN3 MSGNO PWINDOW))
        (SETQ BODYSTART (GETFILEPTR FOLDERSTRM))
        (if (NOT (AND (SETQ MSGLENGTH (LA.READCOUNT FOLDERSTRM))
                      (> MSGLENGTH 0)))
            then                                       ; Malformed header--not even the length exists.  Will need to
                                                       ; build a new header.  Take all the stuff from BODYSTART as
                                                       ; potential message
                (SETQ BADHEADER T)
                (GO FINDSTART))
        [SETQ BADHEADER (NOT (AND (PROGN (SETQ BODYSTART (GETFILEPTR FOLDERSTRM))
                                         (SETQ STAMPLENGTH (LA.READCOUNT FOLDERSTRM)))
                             [PROGN (SETQ BODYSTART (GETFILEPTR FOLDERSTRM))
                                    (BIN FOLDERSTRM)
                                    (BIN FOLDERSTRM)
                                    (BIN FOLDERSTRM)
                                                       ; Read 3 status bytes
                                    (OR (EQ (SETQ CH (BIN FOLDERSTRM))
                                            *EOL*)
                                        (AND LFP (EQ CH (CHARCODE CR]
                             (<= (- (SETQ BODYSTART (GETFILEPTR FOLDERSTRM))
                                    GOODPTR)
                                 STAMPLENGTH]
;; We have a plausible length.  BADHEADER true means the rest of header does not parse because (a) no header length, (b) no CR
;; after the the 3 mark bytes, or (c) header length is too short.  Wait to see whether the length appears correct before deciding
;; whether to rebuild the header or just smash it.          ; Take all the stuff from BODYSTART as potential message
        (if (OR (<= (SETQ ENDPTR (+ GOODPTR MSGLENGTH))
                    (GETFILEPTR FOLDERSTRM))
                (> ENDPTR EOFPTR))
            then                                       ; Length too short or points past eof.
                (GO FINDSTART)
          elseif [AND (< ENDPTR EOFPTR)
                      (PROGN (SETFILEPTR FOLDERSTRM ENDPTR)
                             (NOT (\MAILSCAVENGE.READSTAMP FOLDERSTRM]
            then                                       ; Length doesn't point at next *start*, have to search for a
                                                       ; boundary
                (SETFILEPTR FOLDERSTRM ENDPTR)
                (if (AND (EQ (BIN FOLDERSTRM)
                             0)
                         (to (- EOFPTR ENDPTR 1) always (EQ (BIN FOLDERSTRM)
                                                            0)))
                    then                               ; File is well-formed except for ending in a bunch of nulls.  This
                                                       ; seems to happen every once in a fhile when a file server
                                                       ; spazzes.  Throw them away.
                        (\MAILSCAVENGE.FORMAT "~%%Starting at byte ~D (after message #~D):~%%
                               File ends in ~D null bytes.  Will discard." ENDPTR MSGNO
                              (- EOFPTR ENDPTR))
                        (if SCRATCHSTREAM
                            then                       ; Copy last message verbatim to scratch file
                                (CL:FUNCALL COPYFN FOLDERSTRM SCRATCHSTREAM GOODPTR ENDPTR)
                          else                         ; Note truncation here
                                (SETQ TRUNCATEPTR ENDPTR))
                        (add BADCOUNT 1)
                        (GO DONE))
                (GO FINDSTART)
```

```
                    elseif BADHEADER
                      then                                                   ; Length ok, but header was malformed.  It is likely to be safe to
                                                                            ; just overwrite the header
                            (add BADCOUNT 1)
                            (\MAILSCAVENGE.FORMAT "~%%Message #~D at byte ~D: length ok, but header garbled."
                                  MSGNO GOODPTR)
                            (SETQ FIELDWIDTH (\MAILSCAVENGE.LENGTHWIDTH FOLDERSTRM GOODPTR))
                            (if SCRATCHSTREAM
                                then                                        ; Have to copy
                                    (SETQ BODYSTART (+ GOODPTR FIELDWIDTH LAFITEBASICSTAMPLENGTH))
                                    (SETQ MSGLENGTH (- ENDPTR BODYSTART))
                                    (GO COPYMSG)
                              else                                          ; Remember fixup
                                    (push LENGTHFIXUPS (LIST GOODPTR MSGLENGTH FIELDWIDTH T))
                                    (GO NEXT))
                    else                                                    ; Well-formed message
                        [if (AND (< (- BODYSTART GOODPTR)
                                    STAMPLENGTH)
                                 (EQ (PROGN (SETFILEPTR FOLDERSTRM BODYSTART)
                                            (BIN FOLDERSTRM))
                                     (CHARCODE *)))
                            then                                            ; May be a funny one
                                (LET ((INFO (CL:READ-LINE FOLDERSTRM))
                                      ISDUP)
                                    (if [AND (STRPOS "duplicate*" INFO 1 NIL T)
                                             (FIXP (SETQ INFO (SUBATOM INFO 11]
                                        then                                ; This message claims to be a duplicate of the one at INFO
                                            [SETQ ISDUP (\MAILSCAVENGE.DUPLICATE?
                                                             FOLDERSTRM INFO GOODPTR STAMPLENGTH MSGLENGTH
                                                             (OR DUPSCRATCH (SETQ DUPSCRATCH (OPENSTREAM
                                                                                                 "{nodircore}"
                                                                                                 'BOTH]
                                            (\MAILSCAVENGE.FORMAT "~%%Message #~D at byte ~D is marked as a
                                                  duplicate of the one at byte~D from an aborted
                                                  Expunge~A." MSGNO GOODPTR INFO
                                                  (if (NOT ISDUP)
                                                      then "; however, the original is not there"
                                                    elseif SCRATCHSTREAM
                                                      then " (not copied)"
                                                    else ""))
                                            (if ISDUP
                                                then                        ; Nothing to do.
                                                    (GO NEXT)
                                              elseif SCRATCHSTREAM
                                                then (SETQ BADHEADER T)
                                                                            ; so that message gets undeleted
                                                    (GO COPYGOOD)
                                              else                          ; Want to rewrite the flags
                                                    (push LENGTHFIXUPS (LIST GOODPTR NIL NIL T))
                                                    (GO NEXT]
                        (if SCRATCHSTREAM
                            then                                            ; Copy verbatim to scratch file
                                (CL:FUNCALL COPYFN FOLDERSTRM SCRATCHSTREAM GOODPTR ENDPTR))
                        (GO NEXT))
                FINDSTART

        ;; At this point, we have a malformed message starting at GOODPTR.  Look for its end.  If the header is also malformed,
        ;; BADHEADER is true.  BODYSTART points at what could be the start of text..
            (SETQ TRYPTR BODYSTART)
        FINDSTARTLP
            (SETQ ENDPTR (FFILEPOS *START* FOLDERSTRM TRYPTR))
            (if (NULL ENDPTR)
                then                                                        ; Can't find next message.  Maybe this is the last one
                    (if (AND (EQ MSGNO 1)
                             BADHEADER)
                        then                                                ; Never saw a single *start*
                            (if [NULL (\MAILSCAVENGE.ASKUSER (CL:FORMAT NIL "There are no message
                                                                 boundaries in this file.  Do you
                                                                 want to turn the file into a single
                                                                 message of length ~D?"
                                                                 (- EOFPTR GOODPTR]
                                then (RETURN NIL)))
                    (SETQ ENDPTR EOFPTR)
              elseif (AND LFP (PROGN                                        ; Have to check that an eol follows, since we're not sure which
                                                                           ; kind.
                                    (SETFILEPTR FOLDERSTRM (+ ENDPTR (SUB1 *START*LENGTH)))
                                    (SELCHARQ (BIN FOLDERSTRM)
                                        ((CR LF)
                                            NIL)
                                        T)))
                then (SETQ TRYPTR (+ ENDPTR (- *START*LENGTH 2)))
                    (GO FINDSTARTLP))
            [\MAILSCAVENGE.FORMAT "~%%Message #~D at byte ~D: length ~:[missing~%%    (~;incorrect~%%
                  (file says ~:*~D, ~]apparent length is ~D)" MSGNO GOODPTR MSGLENGTH
                (if BADHEADER
                    then                                                    ; Estimate based on standard header size.  We'll be exact later
```

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                                (+ LAFITESTAMPLENGTH (SETQ MSGLENGTH (- ENDPTR BODYSTART)))
                   else (SETQ MSGLENGTH (- ENDPTR GOODPTR]
        (add BADCOUNT 1)
        (if BADHEADER
            then (\MAILSCAVENGE.FORMAT "~%%     Need to rebuild internal header.  Message body may be
                   malformed.")
                 (GO COPYMSG))                                  ; Header ok, just the length was wrong
        (if (NULL SCRATCHSTREAM)
            then                                                ; Should suffice just to change length in place
                 (if (<= (NCHARS MSGLENGTH)
                         (SETQ FIELDWIDTH (\MAILSCAVENGE.LENGTHWIDTH FOLDERSTRM GOODPTR)))
                     then                                       ; Good, the correct length fits in the available space.  Save for
                                                                ; confirmation later
                          (push LENGTHFIXUPS (LIST GOODPTR MSGLENGTH FIELDWIDTH))
                          (GO NEXT))

                 ;; Arrrgh, the length is too big.  Fall thru to copy message to scratch file.

                 (\MAILSCAVENGE.FORMAT "~%%New length does not fit into old header, will have to
                       rebuild."))
   COPYGOOD

;; Bring MSGLENGTH down to just the body length so we compute the new header correctly

        (SETQ MSGLENGTH (- MSGLENGTH STAMPLENGTH))
   COPYMSG

;; At this point, we want to write the current message on scratch file.  MSGLENGTH is the length of the body, sans header, starting at
;; BODYSTART.  If BADHEADER is true, we rebuild whole header.  Otherwise, message is believed well-formed, so we can copy flag
;; bytes from old message.

        (if (NULL SCRATCHSTREAM)
            then                                                ; Have to set up scratch file
                 (\MAILSCAVENGE.FORMAT "~%%Opening scratch file to handle rebuilt header.")
                 (SETQ SCRATCHSTREAM (\MAILSCAVENGE.OPEN.SCRATCH FOLDERNAME))
                 (if (> GOODPTR 0)
                     then (\MAILSCAVENGE.FORMAT "~%%Copying ~D previous message~:P to scratch
                              file..." (SUB1 MSGNO))
                          (COPYBYTES FOLDERSTRM SCRATCHSTREAM 0 GOODPTR)
                          (\MAILSCAVENGE.FORMAT "done.")))
        (LA.PRINTHEADER SCRATCHSTREAM MSGLENGTH)
        (if BADHEADER
            then                                                ; Have to create afresh, so use primordial flags
                 (PRIN3 "UU
                        " SCRATCHSTREAM)
          else                                                  ; Original header was ok, except for length info, so copy flags
                                                                ; and mark byte from it.
               (CL:FUNCALL COPYFN FOLDERSTRM SCRATCHSTREAM (- BODYSTART 4)
                      BODYSTART)
               (SETQ BODYSTART (+ GOODPTR STAMPLENGTH)))
        (CL:FUNCALL COPYFN FOLDERSTRM SCRATCHSTREAM BODYSTART ENDPTR)
   NEXT
        (COND
           ((< (SETQ GOODPTR ENDPTR)
               EOFPTR)                                          ; Go process some more
            (add MSGNO 1)
            (GO LP)))
   DONE

;; All finished--shall we confirm it?

        (if SCRATCHSTREAM
            then                                                ; Close this now (could be slow) before saying done.
                 (SETQ SCRATCHSTREAM (CLOSEF SCRATCHSTREAM)))
        (if PWINDOW
            then (DSPXPOSITION XPOS PWINDOW)
                 (PRIN1 "done. " PWINDOW))
        (SETQ SUCCESS (if SCRATCHSTREAM
                          then                                  ; We had to use a scratch file.
                               [if LENGTHFIXUPS
                                   then                         ; Had some length fixups before we got to a really bad spot, so
                                                                ; go back and do them now
                                        [SETQ SCRATCHSTREAM (OPENSTREAM SCRATCHSTREAM 'BOTH
                                                                        'OLD
                                                                        '((TYPE LAFITE]
                                        (CL:UNWIND-PROTECT
                                            (\MAILSCAVENGE.FIX.LENGTHS LENGTHFIXUPS SCRATCHSTREAM)
                                            (SETQ SCRATCHSTREAM (CLOSEF SCRATCHSTREAM)))]
                               (if [AND (\MAILSCAVENGE.CONFIRM BADCOUNT MSGNO "Replace damaged mail
                                       file with scavenged file? ")
                                   (PROGN (if *FOLDER*
                                              then (\LAFITE.CLOSE.FOLDER *FOLDER* T)
                                            else (CLOSEF FOLDERSTRM))
                                          (CL:MULTIPLE-VALUE-BIND (RESULT CONDITION)
                                              (\LAFITE.RENAMEFILE SCRATCHSTREAM FOLDERNAME)
                                            (if RESULT
                                                then T
                                              else (\MAILSCAVENGE.FORMAT "~%%RenameFile failed~@[
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                                                                     because ~A~]." CONDITION)
                                                    NIL))]
                                     then T
                                     else                            ; File not renamed, either because of error or user choice.  Tell
                                                                     ; where the scavenged file is.
                                             (\MAILSCAVENGE.FORMAT "~%%Scavenged file stored as ~A."
                                                     SCRATCHSTREAM MSGNO)
                                       NIL)
                            elseif (AND (NULL LENGTHFIXUPS)
                                        (NULL TRUNCATEPTR))
                              then (\MAILSCAVENGE.FORMAT "~%%~A is a well-formed message file of ~D
                                       messages." FOLDERNAME MSGNO)
                                   NIL
                            elseif (\MAILSCAVENGE.CONFIRM BADCOUNT MSGNO "Shall I correct these messages
                                       in the file? ")
                              then                                   ; Do fixups in place
                                   [if *FOLDER*
                                       then (SETQ FOLDERSTRM (\LAFITE.OPEN.FOLDER *FOLDER* 'BOTH))
                                     elseif (NOT (OPENP FOLDERSTRM 'OUTPUT))
                                       then (SETQ FOLDERSTRM (OPENSTREAM (CLOSEF FOLDERSTRM)
                                                                 'BOTH NIL '((TYPE LAFITE]
                                   (\MAILSCAVENGE.FIX.LENGTHS LENGTHFIXUPS FOLDERSTRM)
                                   (if TRUNCATEPTR
                                       then                         ; Truncate file to drop nulls off end
                                            (SETFILEINFO FOLDERSTRM 'LENGTH TRUNCATEPTR))
                                                                     ; Return success
                                   T))
                     (if SUCCESS
                         then (\MAILSCAVENGE.FORMAT "done.~2%%You may want to examine the messages listed above
                                  for duplications or concatenated messages.~%%"))
                     (if TSTREAM
                         then (DETACHWINDOW TSTREAM)
                              (\MAILSCAVENGE.FORMAT "
                              (This report window is now detached from its browser.
                               You may close it at your convenience.)"))
                     (RETURN (AND SUCCESS FOLDERNAME)))
               ;; Cleanup time
               (if (type? MAILFOLDER *FOLDER*)
                   then (\LAFITE.CLOSE.FOLDER *FOLDER* T)
                 elseif (AND (STREAMP FOLDERSTRM)
                             (OPENP FOLDERSTRM))
                   then (CLOSEF FOLDERSTRM))
               (if (STREAMP SCRATCHSTREAM)
                   then                                              ; Must have aborted.
                        (DELFILE (CLOSEF SCRATCHSTREAM)))))])
```

(**MAILSCAVENGE.OPEN.SCRATCH**
```
  [LAMBDA (FOLDERNAME)                                ; Edited  3-May-89 13:03 by bvm
    (OPENSTREAM (PACKFILENAME.STRING 'VERSION NIL 'EXTENSION (CONCAT (UNPACKFILENAME.STRING FOLDERNAME
                                                                           'EXTENSION)
                                                                "-scavenged")
                      'BODY FOLDERNAME)
           'OUTPUT
           'NEW
           '((TYPE LAFITE)
             (SEQUENTIAL T])
```

(**MAILSCAVENGE.LENGTHWIDTH**
```
  [LAMBDA (FOLDERSTRM STARTPTR)                       ; Edited  3-May-89 12:42 by bvm

    ;; Return the actual width of the "message length" field in this message

    (LET ((LENSTART (+ STARTPTR *START*LENGTH)))
         (SETFILEPTR FOLDERSTRM LENSTART)
         (LA.READCOUNT FOLDERSTRM T)
         (- (GETFILEPTR FOLDERSTRM)
            LENSTART 1])
```

(**MAILSCAVENGE.LFCOPYBYTES**
```
  [LAMBDA (SRCFIL DSTFIL START END)                   ; Edited  3-May-89 13:07 by bvm

    ;; A COPYBYTES that turns LF into CR as it goes.

    (SETFILEPTR SRCFIL START)
    (to (- END START) bind CH do (\BOUT DSTFIL (if (EQ (SETQ CH (BIN SRCFIL))
                                                       (CHARCODE LF))
                                                     then (CHARCODE CR)
                                                   else CH])
```

(**MAILSCAVENGE.READSTAMP**
```
  [LAMBDA (STREAM)                                    ; Edited  3-May-89 12:20 by bvm

    ;; Like LA.READSTAMP, but also succeeds if the stamp ends in LF when we're processing a LF file.

    (AND (EQ (BIN STREAM)
```

```
                    (CHARCODE *))
              (EQ (BIN STREAM)
                    (CHARCODE s))
              (EQ (BIN STREAM)
                    (CHARCODE t))
              (EQ (BIN STREAM)
                    (CHARCODE a))
              (EQ (BIN STREAM)
                    (CHARCODE r))
              (EQ (BIN STREAM)
                    (CHARCODE t))
              (EQ (BIN STREAM)
                    (CHARCODE *))
              (SELCHARQ (BIN STREAM)
                    (CR T)
                    (LF (EQ *EOL* (CHARCODE LF)))
                    NIL])
```

(**MAILSCAVENGE.DUPLICATE?**

```
[LAMBDA (FOLDERSTRM OLDPTR GOODPTR STAMPLENGTH MSGLENGTH SCRATCH)
```
                                                                    ; Edited 2-May-89 12:06 by bvm

  ;; True if the message at pointer OLDPTR is a duplicate of the one starting at GOODPTR with lengths STAMPLENGTH & MSGLENGTH.

```
    (SETFILEPTR FOLDERSTRM OLDPTR)
    (LET (OLDLENGTH OLDSTAMP)
        (AND (LA.READSTAMP FOLDERSTRM)
             (SETQ OLDLENGTH (LA.READCOUNT FOLDERSTRM))
             (SETQ OLDSTAMP (LA.READCOUNT FOLDERSTRM))
             (\LAFITE.CHECK.DUPLICATE FOLDERSTRM SCRATCH GOODPTR STAMPLENGTH MSGLENGTH OLDPTR OLDSTAMP
                    OLDLENGTH])
```

(**MAILSCAVENGE.FORMAT**

```
  (CL:LAMBDA (&REST ARGS)                                           ; Edited 21-Apr-89 15:25 by bvm
        (if (TEXTSTREAMP *ERRORMSGSTREAM*)
            then
```
                  ;; It is MUCH faster to cons the string and hand it to tedit than to print a character at a time. One difference: unless we set the
                  ;; "dontscroll" flag, the window will scroll when we run off the bottom. This is probably desirable, as it means we look like we're
                  ;; doing something.

```
                  (TEDIT.INSERT *ERRORMSGSTREAM* (CL:APPLY (FUNCTION CL:FORMAT)
                                                           NIL ARGS)
                        (ADD1 (GETEOFPTR *ERRORMSGSTREAM*)))
          else (CL:APPLY (FUNCTION CL:FORMAT)
                    *ERRORMSGSTREAM* ARGS))))
```

(**MAILSCAVENGE.MAKEWINDOW**

```
  [LAMBDA (FOLDER)                                                  ; Edited  7-Feb-2022 11:51 by rmk
                                                                    ; Edited 21-Apr-89 15:34 by bvm
```

  ;; Return a tedit window to use for Scavenger report, or NIL if FOLDER doesn't have a browser

```
    (LET ((BROWSERWINDOW (fetch (MAILFOLDER BROWSERWINDOW) of FOLDER)))
        (if BROWSERWINDOW
            then (LET* ((FONT (DSPFONT NIL (fetch (MAILFOLDER BROWSERWINDOW) of FOLDER)))
                        (ERRHEIGHT (HEIGHTIFWINDOW (TIMES 10 (FONTPROP FONT 'HEIGHT))
                                          T))
                        (ERRW (CREATEW (CREATEREGION 0 0 10 ERRHEIGHT)
                                    (CONCAT "Mail Scavenger Report for " (fetch (MAILFOLDER SHORTFOLDERNAME)
                                                                            of FOLDER))
                                    T)))
                   (ATTACHWINDOW ERRW BROWSERWINDOW (if (< (fetch (REGION BOTTOM) of (WINDOWPROP BROWSERWINDOW
                                                                                           'REGION))
                                                           ERRHEIGHT)
                                                        then
                                                            ; Won't fit below
                                                            'TOP
                                                      else 'BOTTOM)
                          'JUSTIFY
                          'LOCALCLOSE)
                   (OPENTEXTSTREAM NIL ERRW NIL NIL `(FONT ,FONT PROMPTWINDOW DON'T))
                   ERRW])
```

(**MAILSCAVENGE.ASKUSER**

```
  [LAMBDA (PROMPT)
    (DECLARE (CL:SPECIAL *FOLDER*))                                 ; Edited  2-May-89 11:42 by bvm
    (LET (BROWSERWINDOW)
        (if (AND *FOLDER* (SETQ BROWSERWINDOW (fetch (MAILFOLDER BROWSERWINDOW) of *FOLDER*)))
            then                                                    ; Use the browser for interaction
                  (CLEARW BROWSERWINDOW)
                  (FLASHWINDOW BROWSERWINDOW)
                  (if (> (STRINGWIDTH PROMPT BROWSERWINDOW)
                         (WINDOWPROP BROWSERWINDOW 'WIDTH))
                      then                                          ; Sigh, too wide to centerprint.  I wish we had better text layout...
                            (RELMOVETO 0 (- (IQUOTIENT (WINDOWPROP BROWSERWINDOW 'HEIGHT)
                                                2))
```

```
                                          BROWSERWINDOW)
                                     (PRIN3 PROMPT BROWSERWINDOW)
                          else                                              ; Nicely center the prompt
                                 (CENTERPRINTINREGION PROMPT NIL BROWSERWINDOW))
                     (LET* ((MENUW (fetch (MAILFOLDER BROWSERMENUWINDOW) of *FOLDER*))
                            (MENUWREG (WINDOWPROP MENUW 'REGION))
                            (MENUWIDTH (fetch (REGION WIDTH) of MENUWREG))
                            [ITEMS '(("Proceed" T "Continue the scavenge as asked")
                                     ("Abort" NIL "Abort the mail scavenge operation"]
                            (MENU (create MENU
                                          ITEMS _ ITEMS
                                          CENTERFLG _ T
                                          MENUFONT _ LAFITEMENUFONT
                                          MENUROWS _ 1
                                          ITEMWIDTH _ (MAX (STRINGWIDTH (CAAR ITEMS)
                                                                         LAFITEMENUFONT)
                                                           (IQUOTIENT MENUWIDTH 4))
                                          MENUOUTLINESIZE _ 0
                                          MENUBORDERSIZE _ 0)))        ; Position the menu in the middle of the browser's menu window
                            (PROG1 (MENU MENU (LA.POSITION.FROM.REGION MENUWREG (IQUOTIENT
                                                                              (- MENUWIDTH (fetch (MENU IMAGEWIDTH
                                                                                                   )
                                                                                             of MENU))
                                                                              2)
                                                             (WINDOWPROP MENUW 'BORDER))
                                   T)
                                   (CLEARW BROWSERWINDOW)))
                 else (EQ (ASKUSER NIL NIL PROMPT)
                          'Y])
```

(**MAILSCAVENGE.FIX.LENGTHS**
```
  [LAMBDA (FIXUPS STREAM)                                              ; Edited  3-May-89 12:42 by bvm

    ;; Perform length fixups.  FIXUPS has entries of the form (startptr length fieldwidth fixheader)

    (for ENTRY in FIXUPS do (DESTRUCTURING-BIND (START LENGTH FIELDWIDTH FIXHEADER)
                                  ENTRY
                                  (SETFILEPTR STREAM (+ START *START*LENGTH))
                                  (if LENGTH
                                      then (LA.PRINTCOUNT LENGTH STREAM '(FIX ,FIELDWIDTH 10 T))
                                    else (LA.READCOUNT STREAM))
                                  (if FIXHEADER
                                      then                               ; Write the rest of the header, too
                                           (if LENGTH
                                               then (LA.PRINTCOUNT (+ FIELDWIDTH LAFITEBASICSTAMPLENGTH)
                                                        STREAM)
                                             else (LA.READCOUNT STREAM))
                                           (PRIN3 "UU
                                               " STREAM])
```

(**MAILSCAVENGE.CONFIRM**
```
  [LAMBDA (BADNO TOTALNO PROMPT)                                       ; Edited 21-Apr-89 15:27 by bvm
    (DECLARE (CL:SPECIAL *FOLDER* *ERRORMSGSTREAM*))

    ;; Called at end of scavenge to report results.  Return T/NIL response to PROMPT

    (LET ((FORMATSTRING "~2%%Finished, found ~D bad messages out of ~D total messages.~%%"))
         (\MAILSCAVENGE.FORMAT FORMATSTRING BADNO TOTALNO)
         (if (\MAILSCAVENGE.ASKUSER PROMPT)
             then [if *FOLDER*
                      then                                              ; Make sure to delete any toc that might be hanging around
                           (DELFILE (TOCFILENAME (fetch (MAILFOLDER FULLFOLDERNAME) of *FOLDER*]
                  (\MAILSCAVENGE.FORMAT "Working... ")                  ; Show some response
                  T])
)

(DECLARE%: EVAL@COMPILE DONTCOPY

(DECLARE%: EVAL@COMPILE

(RPAQQ *START*LENGTH 8)

(CONSTANTS (*START*LENGTH 8))
)

(DECLARE%: DOEVAL@COMPILE DONTCOPY

(SPECVARS *FOLDER* *ERRORMSGSTREAM* *EOL*)
)

(DECLARE%: DOEVAL@COMPILE DONTCOPY

(LOCALVARS . T)
)
)
```

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

(ADDTOVAR NLAMA )

(ADDTOVAR NLAML )

(ADDTOVAR LAMA \MAILSCAVENGE.FORMAT)
)
```

FUNCTION INDEX

CONSTANT INDEX