


```

(OLDVERSIONS [OR (FIXP (CADR COMTAIL))
                  (RPLACD COMTAIL (CONS 1 (CDR COMTAIL))
                  (pop COMTAIL))
(BY (RPLACA (SETQ COMTAIL (CDR COMTAIL))
          (MKSTRING (CAR COMTAIL)))
    (push DESIREDPROPS 'AUTHOR))
(COLLECT (SETQ VALUES-WANTED T))
(DELETE)
(COUNTSIZE (SETQ VALUE 0)
            (push DESIREDPROPS 'SIZE))
((PROMPT PRINT)
  (SETQ COMTAIL (CDR COMTAIL))
  [push HEADINGS (LIST NIL (NCHARS (CAR COMTAIL))
    (if (EQ COM 'PROMPT)
        then (SETQ PROMPTFLG T)
        else (SETQ PRINTFLG T)))
  (@ (SETQ COMTAIL (CDR COMTAIL))
    (if (FNTYP (SETQ COM (CAR COMTAIL)))
        then [RPLACA COMTAIL (CONS COM ' (FILENAME)
          (SETQ NAMEFLG T)
        elseif (FMEMB 'FILENAME (FREEVARS COM))
          then (SETQ NAMEFLG T))
    (COLUMNS (SETQ COLUMNS (CADR COMTAIL))
              (SETQ PRINTFLG T)
              (RPLNODE COMTAIL 'NOP (CDDR COMTAIL)))
    (OUT (SETQ OUTFILE (CADR COMTAIL))
         (RPLNODE COMTAIL 'NOP (CDDR COMTAIL)))
    ((DELETED UNDELETE)
      (ERROR "DELETED/UNDELETE directory commands are not supported")
      (SETQ DELETEDONLY T))
    ((OLDERTHAN NEWERTHAN)
      (push DESIREDPROPS 'ICREATIONDATE 'IWRITDATE)
      (if (EQ COM 'OLDERTHAN)
          then (push DESIREDPROPS 'IREADDATE))
      (RPLACA (SETQ COMTAIL (CDR COMTAIL))
              (if (NUMBERP (SETQ COM (CAR COMTAIL)))
                  then ; A number of days
                      [IDIFFERENCE (IDATE)
                        (TIMES COM (DEFERREDCONSTANT (IDIFFERENCE (IDATE "2-JAN-77
                                                                00:00")
                                                                (IDATE "1-JAN-77 00:00"))
                        elseif (IDATE COM)
                        else (\ILLEGAL.ARG COM))))
    (DEPTH [SETQ FILING.ENUMERATION.DEPTH (IF (AND (SMALLP (CADR COMTAIL))
                                                    (IGEQL (CADR COMTAIL)
                                                            0))
                                              THEN (CADR COMTAIL)
                                              ELSEIF (MEMB (U-CASE (CADR COMTAIL))
                                                            ' (T ALL))
                                              THEN MAX.SMALLP
                                              ELSE (\ILLEGAL.ARG (CADR COMTAIL))

      ;; We remove the depth number from the list, leaving just the DEPTH, to be removed below. Otherwise we have to
      ;; have a trailing pointer.
      (RPLACD COMTAIL (CDDR COMTAIL)))
(COND
  ((STRINGP COM)
    (RPLNODE COMTAIL 'PRINT (CONS (MKSTRING COM)
                                   (CDR COMTAIL)))
    (GO COMLP))
  ((SETQ TEM (FASSOC COM FILEINFOTYPES))
    (push DESIREDPROPS COM)
    (push HEADINGS (LIST COM (CADR TEM)))
    (SETQ PRINTFLG T))
  ((LISTP COM)
    (FRPLNODE2 COMTAIL (APPEND COM (CDR COMTAIL)))
    (GO COMLP))
  ((FIXSPELL COM NIL (NCONC (MAPCAR FILEINFOTYPES (FUNCTION CAR))
                              DIRCOMMANDS)
    NIL COMTAIL NIL NIL T NIL 'MUSTAPPROVE)

    ;; User MUST approve any spelling corrections, to prevent accidental correction of DELVER to DELETE. Yucko!
    (GO COMLP))
  (T (ERROR "invalid DIRECTORY command" COM]
(AND (SETQ COMTAIL (CDR COMTAIL))
  (GO COMLP)))
(SETQ COMMANDS (DREMOVE 'DEPTH COMMANDS))
(RESETLST

;; RESETLST is here, among other reasons, to clean up after any file generators that worry about the DIR being aborted
(SETQ FILEGROUP (create FILEGROUP
                        PATTERN _ (DIRECTORY.PARSE FILES)
                        FILEGENERATORS _ FILEGROUP))
; DIRECTORY.PARSE smashes generators on FILEGROUP for
; each atomic file specification it finds.

[COND
  ((EQL \MACHINETYPE \MAIKO)

```

```

(RESETSAVE NIL ' (AND RESETSTATE (\UFS.ABORT.DIRECTORY)
; Make sure all instances of UFSGENFILESTATE will be
; released.

(COND
  ((OR PRINTFLG OUTFILE PROMPTFLG)
   [COND
     (PROMPTFLG (RESETSAVE (SETTERMTABLE ASKUSERTTBL)
      [RESETSAVE (OUTPUT (COND
        ((NULL OUTFILE) ; Default output is to terminal
        T)
        ((GETSTREAM OUTFILE T T))
        (T [RESETSAVE NIL (LIST 'CLOSEF? (SETQ OUTFILE (OPENSTREAM OUTFILE
          'OUTPUT]
          OUTFILE)]
      [COND
        ((AND PFLG (NEQ (CAR PFLG)
          'PAUSE))) ; Postpone print commands until after predicate commands
        (SETQ COMTAIL COMMANDS)
        (bind SEENP PREVTAIL do (SELECTQ (CAR COMTAIL)
          ((P PP)
            (SETQ SEENP (OR PREVTAIL T)))
            ((BY COLUMNS @ OUT OLDERTHAN NEWERTHAN)
              (pop COMTAIL))
            (PROGN [COND
                ((AND SEENP (NEQ COMTAIL (CDR PFLG)))
                 ; Move the P or PP to before COMTAIL
                 (RPLACD PREVTAIL (CONS (CAR PFLG)
                  COMTAIL)))
              (COND
                ((NEQ SEENP T)
                 (RPLACD SEENP (CDDR SEENP)))
                (T (pop COMMANDS]
              (RETURN)))
              (SETQ COMTAIL (CDR (SETQ PREVTAIL COMTAIL]
          [COND
            ((AND HEADINGS (for X in HEADINGS thereis (CAR X)))
             (TERPRI)
             (for X in (REVERSE HEADINGS) bind (I _ 22) do (TAB I)
              [COND
                ((CAR X)
                 (PRIN1 (CAR X)
                  (add I (CADR X)
                (SETQ PRINTFLG T)
                (TAB 0 0)))
            (while (DIRECTORY.NEXTFILE FILEGROUP) do (DODIRCOMMANDS COMMANDS FILEGROUP))
            (COND
              (PRINTFLG (TAB 0 0))))
;; DREVERSE because files are pushed.
(RETURN (OR (DREVERSE VALUE)
  (CL:UNLESS VALUES-WANTED (CL:VALUES]))

```

(DIRECTORY.PARSE

[LAMBDA (FG)

; Edited 26-Mar-2022 18:49 by rmk
(* bvm%: "14-May-84 12:55")

;; This pushes file generators on FILEGROUP for each of the atomic filespecifications it comes to.

```

(DECLARE (USEDFREE FILEGROUP DESIREDPROPS DEFAULTTEXT DEFAULTVERS))
(LET (TEMP)
  (COND
    ((NLISTP FG)
     [push FILEGROUP (\GENERATEFILES (SETQ FG (DIRECTORY.FILL.PATTERN FG DEFAULTTEXT DEFAULTVERS))
      DESIREDPROPS
      ' (SORT RESETLST]
     (DIRECTORY.MATCH.SETUP FG))
    [(SETQ TEMP (DIRCONJ (CADR FG))) ; Infix operator
     (CONS TEMP (CONS (DIRECTORY.PARSE (CAR FG))
      (DIRECTORY.PARSE (CADDR FG))
    [(SETQ TEMP (DIRCONJ (CAR FG))) ; Prefix operator
     (CONS TEMP (CONS (DIRECTORY.PARSE (CADR FG))
      (DIRECTORY.PARSE (CADDR FG))
     (T (ERROR "Bad file-group conjunction" (CADR FG]))

```

(DIRECTORY.FILL.PATTERN

[LAMBDA (PATTERN DEFAULTTEXT DEFAULTVERS)

; Edited 26-Mar-2022 17:54 by rmk
(* bvm%: "6-Feb-85 14:16")

```

(DECLARE (GLOBALVARS \CONNECTED.DIRECTORY))
(PACKFILENAME.STRING 'BODY PATTERN 'NAME '* 'VERSION (OR DEFAULTVERS '*))
'EXTENSION
(OR DEFAULTTEXT '*))
'DIRECTORY
(AND (NOT (FILENAMEFIELD.STRING PATTERN 'HOST))
 \CONNECTED.DIRECTORY))

```

(DIRCONJ

[LAMBDA (CONJ)

(* rmk%: "29-OCT-81 11:01")

;; Returns canonical form of directory conjunction, NIL if invalid

```
(SELECTQ CONJ
  ((OR +)
   'OR)
  ((AND *)
   'AND)
  ((- ANDNOT)
   'ANDNOT)
  NIL])
```

(DIRECTORY.NEXTFILE

[LAMBDA (FG)
 (PROG (TEM)
 LP (COND

(* bvm%: " 8-Jul-85 19:32")

```
((SETQ TEM (\GENERATENEXTFILE (CAR (fetch FILEGENERATORS of FG))
  NIL))
```

[COND

((LISTP TEM)

; Old style enumerator returns charlist

(SETQ TEM (CONCATCODES TEM])

[COND

((STRINGP TEM)

(replace STRINGNAME of FG with TEM)

(replace LITERALNAME of FG with NIL))

```
(T (replace LITERALNAME of FG with (AND (LITATOM TEM)
  (U-CASEP TEM)
  TEM))
```

(replace STRINGNAME of FG with (SETQ TEM (MKSTRING TEM]

(RETURN FG))

(replace FILEGENERATORS of FG with (CDR (fetch FILEGENERATORS of FG)))

(GO LP))

(T (RETURN]))

(DMATCH

[LAMBDA (PAT TESTNAME)
 (COND

(* bvm%: " 4-May-84 13:16")

```
((OR (EQ PAT T)
  (NULL PAT))
```

T)

(T (SELECTQ (CAR PAT)

```
(OR (OR (DMATCH (CADR PAT)
  TESTNAME)
  (DMATCH (CDDR PAT)
  TESTNAME)))
```

```
(AND (AND (DMATCH (CADR PAT)
  TESTNAME)
  (DMATCH (CDDR PAT)
  TESTNAME)))
```

```
(ANDNOT (AND (NOT (DMATCH (CDDR PAT)
  TESTNAME))
  (DMATCH (CADR PAT)
  TESTNAME)))
```

(DIRECTORY.MATCH PAT TESTNAME])

(DIRECTORY.MATCH.SETUP

[LAMBDA (FILENAME)
 (SELCHARQ (CAR (SETQ FILENAME (CHCON FILENAME)))

(* bvm%: " 6-May-86 14:35")

```
{ {do ;; Throw out hostname/device part, because the canonical name might be different from the one in the pattern
```

(SELCHARQ (pop FILENAME)

({ (RETURN))

NIL))

NIL)

[for TAIL on FILENAME bind (BASE _ (UPPERCASEARRAY)) do

; Coerce to uppercase

```
(RPLACA TAIL (SELCHARQ (CAR TAIL)
  (ESCAPE (CHARCODE *))
  (COND
```

```
((LEQ (CAR TAIL)
  \MAXTHINCHAR)
```

(GETCASEARRAY BASE (CAR TAIL)))

(T (CAR TAIL])

FILENAME])

(DIRECTORY.MATCH

[LAMBDA (PATTERN TESTNAME)
 (PROG ((FIRSTCHAR 1)

(* bvm%: " 4-May-84 13:01")

(SELCHARQ (NTHCHARCODE TESTNAME 1)

(({ %[]

do ;; Throw out hostname/device part, because the canonical name might be different from the one in the pattern

(SELCHARQ (NTHCHARCODE TESTNAME (add FIRSTCHAR 1))

```

        (( {} %))
        (RETURN (add FIRSTCHAR 1)))
      NIL)))
    NIL)
  (RETURN (DIRECTORY.MATCH1 PATTERN TESTNAME FIRSTCHAR))

```

(DIRECTORY.MATCH1

; Edited 11-Mar-88 14:50 by bvm

```

[LAMBDA (PATTERN TESTNAME FIRSTCHAR)
  (PROG ([CASEBASE (ffetch (ARRAYP BASE) of (\DTEST UPPERCASEARRAY 'ARRAYP]
    (NAMELIMIT (NCHARS TESTNAME))
    PATCHAR TESTCHAR)
  LP (COND
    [(IGREATERP FIRSTCHAR NAMELIMIT)
      (RETURN (bind (OKCHARS _ (CHARCODE (%. ;))) do (if (NULL PATTERN)
        ; Run out of name, so rest of pattern better be 'null', i.e.,
        ; something like *.*;
        then (RETURN T)
        elseif (EQ (CAR PATTERN)
          (CHARCODE *))
        then (SETQ PATTERN (CDR PATTERN))
        elseif (MEMB (pop PATTERN)
          OKCHARS)
        then (SETQ OKCHARS (CDR OKCHARS))
        else (RETURN NIL])
      (NULL PATTERN)
      ;; Name left, but no pattern. This is always a mismatch unless last matched pattern character was ';' in which case what follows is the
      ;; version. Have to hope that the device generated only the newest version
      (RETURN (EQ PATCHAR (CHARCODE ;])
    (T (COND
      [(EQ (SETQ PATCHAR (CAR PATTERN))
        (CHARCODE *))
        ;; Matches any number of characters. Thus, see if we have a match ANYWHERE on remainder of TESTNAME. Also
        ;; succeed if the pattern is just some tail of *.*; now.
        (RETURN (OR (NULL (SETQ PATTERN (CDR PATTERN)))
          [LET (PAT PATTERN))
            ;; OK if pattern is *.*; *,* or *.*; and TESTNAME has no extension
            (AND [OR (NEQ (CAR PAT)
              (CHARCODE ".")])
              (if (EQ (CAR (SETQ PAT (CDR PAT)))
                (CHARCODE *))
                then ; Wildcard extension always ok
                  (SETQ PAT (CDR PAT))]
              (PROGN ; Make sure we don't spuriously match a file with extension
                ; against extensionless pattern
                (NOT (STRPOS "." TESTNAME FIRSTCHAR]
                (EQ (CAR PAT)
                  (CHARCODE ";"))
                (OR (NULL (SETQ PAT (CDR PAT)))
                  (EQ (CAR PAT)
                    (CHARCODE *])
              (do (COND
                ((DIRECTORY.MATCH1 PATTERN TESTNAME FIRSTCHAR)
                  (RETURN T)))
                (add FIRSTCHAR 1) repeatuntil (IGREATERP FIRSTCHAR NAMELIMIT])
            ((OR (EQ PATCHAR (COND
              ((LEQ (SETQ TESTCHAR (NTHCHARCODE TESTNAME FIRSTCHAR))
                \MAXTHINCHAR)
              (\GETBASEBYTE CASEBASE TESTCHAR))
              (T TESTCHAR)))
              (SELCHARQ PATCHAR
                (%#
                  T)
                ; Matches anything
                ;
                ; Would match except for different delimiter
                (EQ TESTCHAR (CHARCODE !)))
              NIL))
            (pop PATTERN)
            (add FIRSTCHAR 1)
            (GO LP))
          (T (RETURN NIL]))

```

(DODIRCOMMANDS

; Edited 29-Mar-2022 08:16 by rmk

; Edited 30-Apr-92 15:03 by jds

```

[LAMBDA (COMMANDS FILEGROUP)
  (PROG ((COMTAIL COMMANDS)
    (I 0)
    (FILENAME (fetch LITERALNAME of FILEGROUP))
    COM FILE NAMEPRINTED ATTRVALUE)
  (DECLARE (SPECVARS FILENAME FILE NAMEPRINTED I)
    (USEDFREE VALUE))
  (COND
    ([AND COLUMNS (NOT (ILESSP (SETQ I (ITIMES (IQUOTIENT (IPLUS (POSITION)
      COLUMNS -1)
      COLUMNS)

```

(DIRPRINTNAME

```
[LAMBDA (FILEGROUP FLG)
  (DECLARE (USEDFREE LASTHOST&DIR NAMEPRINTED))
  (COND
    ((NOT NAMEPRINTED)
     (PROG ((STREAM (GETSTREAM NIL 'OUTPUT))
            (FULLNAME (fetch STRINGNAME of FILEGROUP)))
      ; Edited 27-Apr-90 10:07 by nm
```

```

(LASTNAME (CAR LASTHOST&DIR))
DIFFERENT DIRECTORYEND)
[for I from 1 bind THISCHAR LASTCHAR do
; Scan for end of directory name, and notice whether it matches
; previously printed directory
(SELCHARQ (SETQ THISCHAR (NTHCHARCODE FULLNAME I))
(NIL (RETURN))
({} < > / %))
(SETQ DIRECTORYEND I))
NIL)
(COND
([AND (NOT DIFFERENT)
(COND
[ (NULL (SETQ LASTCHAR (NTHCHARCODE LASTNAME I)
(> LASTCHAR \MAXTHINCHAR)
; Fat chars don't go thru casearray
(NEQ LASTCHAR THISCHAR))
(> THISCHAR \MAXTHINCHAR))
(T
; Two thin chars, are they really different?
(NEQ (GETCASEARRAY UPPERCASEARRAY LASTCHAR)
(GETCASEARRAY UPPERCASEARRAY THISCHAR))
(SETQ DIFFERENT I]
(COND
((AND DIFFERENT DIRECTORYEND (OR (NEQ DIRECTORYEND (CADR LASTHOST&DIR))
(<= DIFFERENT DIRECTORYEND)))
(TAB 0 0)
(TERPRI)
(SPACES 3)
(for I from 1 to DIRECTORYEND do (\OUTCHAR STREAM (NTHCHARCODE FULLNAME I)))
(SETQ LASTHOST&DIR (LIST FULLNAME DIRECTORYEND]
(DTAB 20)
[for I from (ADD1 (OR DIRECTORYEND 0)) do (COND
((AND FLG (EQ (NTHCHARCODE FULLNAME I)
(Charcode ;)))
(RETURN)))
(\OUTCHAR STREAM (OR (NTHCHARCODE FULLNAME I)
(RETURN]
(SPACES 1)
(SETQ NAMEPRINTED T])

```

(DPRIN1

```

[LAMBDA (STR)
(DTAB (NCHARS STR))
(PRIN1 STR)]

```

(* Imm "20-OCT-78 02:53")

(DIRFILENAME

```

[LAMBDA (FILEGROUP)
;; Edited 28-Mar-2022 11:08 by rmk: Don't convert to atoms, always return strings
;; Edited 28-Jul-87 14:55 by bvm:
(DECLARE (USEDFREE FILE FILENAME))
(IF (fetch LITERALNAME of FILEGROUP)
ELSE (SETQ FILENAME (fetch STRINGNAME of FILEGROUP))
(CL:WHEN (AND *UPPER-CASE-FILE-NAMES* (NOT (U-CASEP FILENAME)))
(SETQ FILENAME (U-CASE FILENAME)))
(SETQ FILE FILENAME)
(replace LITERALNAME of FILEGROUP with FILENAME])

```

; These might be used freely by user predicates, with @
; commands**(DIRGETFILEINFO**

```

[LAMBDA (FILEGROUP ATTRIBUTE)
(\GENERATEFILEINFO (CAR (fetch FILEGENERATORS of FILEGROUP))
ATTRIBUTE])

```

(* bvm%: " 5-May-84 15:19")

(DREAD

```

[LAMBDA (PROMPT)
(PROG1 [PROG NIL
LP (PROGN (TAB I 0)
(PRIN1 PROMPT))
(SELECTQ (READC T)
((Y y)
(PRIN1 ' "Yes" T)
(RETURN T))
((N n)
(PRIN1 ' "No" T)
(RETURN))
(? (PRIN1 ' "Y or N: " T)
(GO LP))
(PROGN (PRIN1 " " T)
(GO LP]
(add I (NCHARS PROMPT)
5))])

```

(* Imm "21-OCT-78 01:28")

```
)

(RPAQ? *UPPER-CASE-FILE-NAMES* T)

(CL:PROCLAIM ' (CL:SPECIAL *UPPER-CASE-FILE-NAMES*))

(RPAQQ DIRCOMMANDS
  ((- . PAUSE)
   (AU . AUTHOR)
   BY COLLECT (COLLECT? PROMPT " ? " COLLECT)
   COUNTSIZE
   (DA . CREATIONDATE)
   (DATE . CREATIONDATE)
   (DEL . DELETE)
   (DEL? . DELETE?)
   DELETE
   (DELETE? PROMPT " delete? " DELETE)
   DELETED
   (LE LENGTH "(" BYTESIZE ")")
   NEWERTHAN OLDVERSIONS (OLD OLDERTHAN 90)
   OLDERTHAN
   (OU . OUT)
   OUT P PAUSE (PR . PROTECTION)
   PROMPT
   (SI . SIZE)
   (TI . WRITEDATE)
   UNDELETE
   (VERBOSE AUTHOR CREATIONDATE SIZE READDATE WRITEDATE)
   TRIMTO
   (DELVER OLDVERSIONS DELETE)
   DEPTH))

(RPAQQ FILEINFOTYPES
  ((WRITEDATE 22)
   (READDATE 22)
   (CREATIONDATE 22)
   (LENGTH 9)
   (BYTESIZE 2)
   (PROTECTION 6 FIX 6 8)
   (SIZE 5)
   (AUTHOR 11)
   (READER 11)
   (TYPE 7)
   (FILETYPE 6 FIX 6 8)))

(DECLARE%: DONTCOPY

(DECLARE%: EVAL@COMPILE

(RECORD FILEGROUP (STRINGNAME LITERALNAME PATTERN . FILEGENERATORS))
)

(DECLARE%: EVAL@COMPILE

(PUTPROPS DTAB DMACRO ((N)
                        (TAB (PROG1 I (add I N 1))
                          0)))
)

(DECLARE%: DOEVAL@COMPILE DONTCOPY

(GLOBALVARS DIRCOMMANDS ASKUSERTBL FILEINFOTYPES)
)
)

(PUTPROPS DIRECTORY COPYRIGHT ("Venue & Xerox Corporation" 1986 1987 1988 1990 1992))
```

FUNCTION INDEX

DIRCONJ	4	DIRECTORY.MATCH1	5	DIRPRINTNAME	6	DREAD	7
DIRECTORY	1	DIRECTORY.NEXTFILE	4	DMATCH	4	FILDIR	1
DIRECTORY.FILL.PATTERN ..	3	DIRECTORY.PARSE	3	DODIR	1		
DIRECTORY.MATCH	4	DIRFILENAME	7	DODIRCOMMANDS	5		
DIRECTORY.MATCH.SETUP ...	4	DIRGETFILEINFO	7	DPRIN1	7		

VARIABLE INDEX

UPPER-CASE-FILE-NAMES ..	8	DIRCOMMANDS	8	FILEINFOTYPES	8	LISPMACROS	1
----------------------------	---	-------------------	---	---------------------	---	------------------	---

MACRO INDEX

DTAB	8
------------	---

RECORD INDEX

FILEGROUP	8
-----------------	---
