

File created: 10-Feb-2022 21:52:22 {DSK}<home>larry>medley>lispusers>HASHBUFFER.;2

previous date: 15-Sep-87 11:26:06 {DSK}<home>larry>medley>lispusers>HASHBUFFER.;1

Read Table: INTERLISP

Package: INTERLISP

Format: XCCS

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(RPAQ? HASHBUFFERCOMS

```
((FNS CREATEHASHBUFFER OPENHASHBUFFER CLOSEHASHBUFFER GETHASHBUFFER PUTHASHBUFFER)
 (INITVARS (EMPTYHASHENTRYMARKER '**EMPTYHASHENTRY**')
 (GLOBALVARS EMPTYHASHENTRYMARKER)
 (FNS HASHARRAY.TO.HASHFILE HASHFILE.TO.HASHARRAY)
 (DECLARE%: DONTCOPY (RECORDS HASHBUFFER))
 (FILES HASH))
```

(DEFINEQ

(CREATEHASHBUFFER

```
[LAMBDA (FILE VALUETYPE ITEMLength %#ENTRIES OVERFLOW HASHBITSFN EQUIVFN)
 (* cdl "1-May-87 16:08")
 (DECLARE (GLOBALVARS HASHFILEDEFAULTSIZE))
 (PROG [(HASHBUFFER (create HASHBUFFER
 HASHFILE _ (CREATEHASHFILE FILE VALUETYPE ITEMLength %#ENTRIES)
 HASHARRAY _ (HASHARRAY (OR %#ENTRIES HASHFILEDEFAULTSIZE)
 OVERFLOW HASHBITSFN EQUIVFN)
 (replace (HASHBUFFER ACCESS) of HASHBUFFER with (GETFILEINFO (with HashFile (with HASHBUFFER HASHBUFFER
 HASHFILE)
 Stream)
 'ACCESS))
 (RETURN HASHBUFFER])
```

(OPENHASHBUFFER

```
[LAMBDA (FILE ACCESS MINKEYS OVERFLOW HASHBITSFN EQUIVFN) (* cdl "1-May-87 16:10")
 (PROG [(HASHBUFFER (create HASHBUFFER
 HASHFILE _ (OPENHASHFILE FILE ACCESS)
 (replace (HASHBUFFER HASHARRAY) of HASHBUFFER with (HASHARRAY (OR MINKEYS (with HashFile
 (with HASHBUFFER
 HASHBUFFER HASHFILE)
 %#Entries)
 OVERFLOW HASHBITSFN EQUIVFN))
 (replace (HASHBUFFER ACCESS) of HASHBUFFER with (GETFILEINFO (with HashFile (with HASHBUFFER HASHBUFFER
 HASHFILE)
 Stream)
 'ACCESS))
 (RETURN HASHBUFFER])
```

(CLOSEHASHBUFFER

```
[LAMBDA (HASHBUFFER FILEONLY?) (* cdl "1-May-87 16:21")
 (with HASHBUFFER HASHBUFFER (PROG1 (HASHFILEPROP HASHFILE 'NAME)
 (CLOSEHASHFILE HASHFILE)
 (if (NOT FILEONLY?)
 then (SETQ HASHARRAY NIL))))]
```

(GETHASHBUFFER

```
[LAMBDA (KEY HASHBUFFER) (* cdl "24-Oct-85 08:37")
 (PROG (VALUE)
 (with HASHBUFFER HASHBUFFER (if (EQ EMPTYHASHENTRYMARKER (SETQ VALUE (GETHASH KEY HASHARRAY)))
 then (RETURN)
 elseif VALUE
 then (RETURN VALUE)
 elseif (SETQ VALUE (GETHASHFILE KEY HASHFILE))
 then (PUTHASH KEY VALUE HASHARRAY)
 (RETURN VALUE)
 else (PUTHASH KEY EMPTYHASHENTRYMARKER HASHARRAY))
```

(PUTHASHBUFFER

```
[LAMBDA (KEY VALUE HASHBUFFER) (* cdl "24-Oct-85 08:26")
 (with HASHBUFFER HASHBUFFER (if (NEQ ACCESS 'INPUT)
 then (PUTHASHFILE KEY VALUE HASHFILE))
 (PUTHASH KEY VALUE HASHARRAY])
```

(RPAQ? EMPTYHASHENTRYMARKER '**EMPTYHASHENTRY**')

(DECLARE%: DOEVAL@COMPILE DONTCOPY

(GLOBALVARS EMPTYHASHENTRYMARKER)
)

(DEFINEQ

(HASHARRAY.TO.HASHFILE

```

[LAMBDA (HASHARRAY HASHFILE TESTFN) ; Edited 3-Sep-87 17:05 by cdl
  (DECLARE (SPECVARS HASHARRAY HASHFILE TESTFN))
  (LET (REOPEN)
    (DECLARE (SPECVARS REOPEN))
    [if (HASHFILEP HASHFILE)
      then (SETQ REOPEN T)
      else (SETQ HASHFILE (CREATEHASHFILE HASHFILE NIL NIL (HARRAYPROP HASHARRAY 'NUMKEYS)
      (RESETLST
        [RESETSAVE NIL `(CLOSEHASHFILE ,HASHFILE ,REOPEN]
        [MAPHASH HASHARRAY (FUNCTION (LAMBDA (VALUE KEY)
          (if (OR (NULL TESTFN)
                (APPLY* TESTFN KEY VALUE HASHARRAY HASHFILE))
            then (PUTHASHFILE KEY VALUE HASHFILE))
          ]
        ]
      ]
    (if REOPEN
      then HASHFILE
      else (with HashFile HASHFILE File])

```

(HASHFILE.TO.HASHARRAY

```

[LAMBDA (HASHFILE HASHARRAY TESTFN) ; Edited 3-Sep-87 17:05 by cdl
  (DECLARE (SPECVARS HASHFILE HASHARRAY TESTFN))
  (LET (REOPEN)
    (DECLARE (SPECVARS REOPEN))
    [if (HASHFILEP HASHFILE)
      then (SETQ REOPEN T)
      else (SETQ HASHFILE (OPENHASHFILE HASHFILE 'INPUT]
    [if (NULL HASHARRAY)
      then (SETQ HASHARRAY (with HashFile HASHFILE (HASHARRAY %#Entries]
    (RESETLST
      [RESETSAVE NIL `(CLOSEHASHFILE ,HASHFILE ,REOPEN]
      [MAPHASHFILE HASHFILE (FUNCTION (LAMBDA (KEY VALUE)
        (if (OR (NULL TESTFN)
              (APPLY* TESTFN KEY VALUE HASHFILE HASHARRAY))
          then (PUTHASH KEY VALUE HASHARRAY])
      ]
    HASHARRAY])

```

)

(DECLARE%: DONTCOPY

(DECLARE%: EVAL@COMPILE

(RECORD HASHBUFFER (HASHARRAY HASHFILE ACCESS))

)

(FILESLOAD HASH)

(PUTPROPS **HASHBUFFER COPYRIGHT** ("Stanford University" 1985 1986 1987 2022))

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CLOSEHASHBUFFER1 GETHASHBUFFER1 HASHFILE.TO.HASHARRAY ...2 PUTHASHBUFFER1
CREATEHASHBUFFER1 HASHARRAY.TO.HASHFILE ...2 OPENHASHBUFFER1

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EMPTYHASHENTRYMARKER1
