

File created: 7-May-84 23:19:59 {PHYLUM}<LISPCORE>LIBRARY>BSEARCH.;2

changes to: (VARS BSEARCHCOMS)

previous date: 30-Apr-84 19:59:49 {PHYLUM}<LISPCORE>LIBRARY>BSEARCH.;1

Read Table: OLD-INTERLISP-FILE

Package: INTERLISP

Format: XCCS

(* * Copyright (c) 1983, 1984 by Xerox Corporation)

```
(RPAQQ BSEARCHCOMS ((FNS BFILEPOS)
  (VARS \BFILEPOS.SHORTPATTERNL)))
```

(DEFINEQ

(BFILEPOS

```
[LAMBDA (PATTERN FILE LOWINDEX HIGHINDEX SKIP TAIL CASEARRAY) (* JonL "1-Jan-84 02:34")
```

```
(OR (STRINGP PATTERN)
```

```
(LITATOM PATTERN)
```

```
(SETQ PATTERN (MKSTRING PATTERN)))
```

```
(RESETLST
```

```
(PROG ((PLEN (NCHARS PATTERN))
```

```
(INCREMENT 128)
```

```
(FF (FUNCTION FILEPOS))
```

```
(OFPOS 0)
```

```
ORIGINALLYOPENP FLEN QUARTERFLEN STARTI NEXTI MAXI TEM STRM)
```

```
[if (SETQ TEM (OPENP FILE))
```

```
  then (SETQ ORIGINALLYOPENP T)
```

```
        (SETQ STRM (\GETSTREAM TEM))
```

```
  else (RESETSAVE (SETQ STRM (OPENSTREAM FILE (QUOTE INPUT)))
```

```
        (QUOTE (PROGN (CLOSEF? OLDVALUE]
```

```
(SETQ FLEN (GETFILEINFO STRM (QUOTE LENGTH)))
```

```
(if (IGREATERP 0 (SETQ MAXI (IDIFFERENCE FLEN PLEN)))
```

```
  then
```

(* Who's he kidding? The PATTERN length is greater than the file length)

```
        (RETURN))
```

```
(SETQ QUARTERFLEN (IMAX 2 (LRSH FLEN 2)))
```

```
(SETQ OFPOS (GETFILEPTR STRM))
```

```
(if (NULL LOWINDEX)
```

```
  then (SETQ LOWINDEX OFPOS)
```

```
  elseif (ILESSP LOWINDEX 0)
```

```
    then (add LOWINDEX (ADD1 MAXI))
```

```
        (if (ILESSP LOWINDEX 0)
```

```
          then (SETQ LOWINDEX 0))
```

```
  elseif (IGREATERP LOWINDEX MAXI)
```

```
    then (RETURN))
```

(* Note that LOWINDEX really means low-end limit for search)

```
(if (NULL HIGHINDEX)
```

```
  then (SETQ HIGHINDEX MAX.FIXP)
```

```
  elseif (ILESSP HIGHINDEX 0)
```

```
    then (add HIGHINDEX (ADD1 MAXI)))
```

```
(SETQ HIGHINDEX (IMIN HIGHINDEX MAXI))
```

```
(if (ILESSP HIGHINDEX LOWINDEX)
```

```
  then (ERROR "High-end index less than low-end"))
```

```
[if ORIGINALLYOPENP
```

```
  then (RESETSAVE (LIST STRM OFPOS)
```

```
        (QUOTE (AND RESETSTATE (APPLY (QUOTE SETFILEPTR)
          OLDVALUE]
```

```
(SETQ NEXTI)
```

```
(SETQ STARTI (ADD1 HIGHINDEX))
```

```
(SETQ TAIL (if TAIL
```

```
  then PLEN
```

```
  else 0))
```

FINDFIRST

```
(if NEXTI
```

```
  then (SETQ STARTI NEXTI)
```

```
  elseif (ILEQ STARTI LOWINDEX)
```

```
    then
```

(* Looks like we never found any instance of the PATTERN)

```
        (RETURN)
```

```
  else (SETQ MAXI (SUB1 STARTI))
```

```
        [SETQ STARTI (IMAX (PROG1 LOWINDEX
```

```
          (IDIFFERENCE STARTI (if (ILESSP INCREMENT QUARTERFLEN)
```

```
            then (PROG1 INCREMENT
```

```
              (SETQ INCREMENT (LLSH INCREMENT 1)))
```

```
            else QUARTERFLEN]
```

```
          (SETQ NEXTI (FFILEPOS PATTERN STRM STARTI MAXI SKIP NIL CASEARRAY))
```

```
          (GO FINDFIRST))
```

NARROWDOWN

(* At this point, we have one instance found at STARTI and certification that none occur at or beyond MAXI)

```
(SETQ NEXTI (IPLUS STARTI (LRSH (IDIFFERENCE MAXI STARTI)
  1)))
```

```
{MEDLEY}<lispusers>bsearch.;1  (BFILEPOS cont.)
```

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```
    (if (IEQP NEXTI STARTI)
        then (RETURN (IPLUS STARTI TAIL)))
    (if (SETQ TEM (FFILEPOS PATTERN STRM NEXTI MAXI SKIP NIL CASEARRAY))
        then (SETQ STARTI TEM)
        else (SETQ MAXI NEXTI))
    (GO NARROWDOWN)))])
```

```
)
```

```
(RPAQQ \BFILEPOS.SHORTPATTERNL 16)
```

```
(PUTPROPS BSEARCH COPYRIGHT ("Xerox Corporation" 1983 1984))
```

FUNCTION INDEX

BFILEPOS1

VARIABLE INDEX

BSEARCHCOMS1 \BFILEPOS.SHORTPATTERNL2
