

NAME

LEXHEB – Sort Hebrew hashcodes into ascending lexicographical order.

SYNOPSIS

CALL LEXHEB(MXCH,NWD,LS,VS, ORDER)

MXCH	is the INTEGER*4 number of characters (rows) in LS and VS
NWD	is the INTEGER*4 number of words (columns) to sort
LS(MXCH,NWD)	is the INTEGER*1 matrix whose columns are letter hashcodes
VS(MXCH,NWD)	is the INTEGER*1 matrix whose columns are vowel hashcodes
ORDER	is the INTEGER*4 order of the columns in LS and VS

DESCRIPTION

On input ORDER must contain the starting order of the columns in LS and VS (typically 1...NWD) and on output it contains the order they must have for the Hebrew words they contain to be arranged alephbetically; LS and VS themselves are never changed. For hashcodes read from `${HOME}/Utility/hebrew.hsh`, MXCH=12.

The routine constructs a local matrix of NWD columns, each corresponding to a word. Each column consists of the hashcodes for the consonants of the word (from LS) followed by the hashcodes of the vowels in the word (from VS). Then it does a lexicographic bubble-sort of the concatenated columns, rearranging ORDER in the process.

DIAGNOSTICS

Duplicate character sequences are reported.

LINKAGE

gfortran source.f -L\${HOME}/lib -lmisc

AUTHOR

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EXAMPLE

```

PARAMETER (MXCH=12, NWD=4)
INTEGER*1  LS (MXCH, NWD) , VS (MXCH, NWD)
INTEGER*4  ORDER (NWD) /1, 2, 3, 4/
DO 1 I=1, 4
    READ (5, 901)  (VS (K, I) , LS (K, I) , K=1, MXCH)
901    FORMAT (22X, 12 (2Z2.2) )
    1 CONTINUE
    CALL LEXHEB (MXCH, NWD,  LS, VS, ORDER)
    WRITE (6, 902) ORDER
902    FORMAT (5I4)
    DO 2 I=1, 4
        J=ORDER (I)
        WRITE (6, 901)  (VS (K, J) , LS (K, J) , K=1, MXCH)
    2 CONTINUE
    STOP
END

```

This example produced the following output:

```
unix[1] cat Utility/hebrew.hsh | rowcut 1669 13 2817 77
hoseef          5 01060E070217010D01190000000000000000000000000000 he continued, added
achal           3 0801060F0112000000000000000000000000000000000000 he ate
mimaych         3 02140314010E000000000000000000000000000000000000 from you (fs)
ahfar           3 0818081A0120000000000000000000000000000000000000 dust
unix[2] cat Utility/hebrew.hsh | rowcut 1669 13 2817 77 | a.out
    2     1     3     4
                                0801060F0112000000000000000000000000000000000000
                                01060E070217010D01190000000000000000000000000000
                                02140314010E000000000000000000000000000000000000
                                0818081A0120000000000000000000000000000000000000
unix[3]
```

The Hebrew word <achal> begins \qamats{aleph} or 0801 (see Homebrew Hebrew page 5 and recall that hashcodes are hexadecimal numbers); <hoseef> begins \hebrew{hay} or 0106; <mimaych> begins \chiriq{mem} or 0214; <ahfar> begins \qamats{ayin} or 0818. Thus the program has put these words into the correct alephbetical order of their Hebrew spellings.