

NAME

SORTI4 – Sort a list of INTEGER*4 numbers into ascending order.

SYNOPSIS

CALL SORTI4(N, LIST, LORD)

N is the INTEGER*4 number of elements in LIST
 LIST(N) is the INTEGER*4 list of integers to sort
 LORD(N) is an INTEGER*4 vector telling the order of the unsorted LIST

DESCRIPTION

If N is less than 1 on input, the routine returns without doing anything. Otherwise it sets LORD to the vector [1,2,...,N] and insertion-sorts LIST, swapping the same elements of LORD. At the end of this process, LIST is in ascending order and LORD(J) contains the index in the unsorted LIST of the J'th element in the sorted LIST.

SEE ALSO

SORTR8, which sorts a vector of REAL*8 values.

LINKAGE

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

AUTHOR

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EXAMPLE

```

      INTEGER*4 LIST(10)/1,5,-6,13,2,47,-9,8,12,12/,LORD(10)
      WRITE(6,901) LIST
901  FORMAT(10I3)
      CALL SORTI4(10, LIST, LORD)
      WRITE(6,901) LORD
      WRITE(6,901) LIST
      STOP
      END

```

This example produced the output below. It shows that the first element in the sorted list, -9, is element 7 of the list before sorting. LORD can be used to address elements of another array that corresponds to LIST before LIST is sorted; e.g., if NAME has elements that are originally aligned with those of LIST then, after sorting, NAME(LORD(J)) is the element of NAME corresponding to LIST(J).

```

unix[1] a.out
  1  5 -6 13  2 47 -9  8 12 12
  7  3  1  5  2  8  9 10  4  6
 -9 -6  1  2  5  8 12 12 13 47
unix[2]

```