

**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]

```