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PROGRAM sort
*****
* sorts an x-ordered x-y file. From standard input it reads: *
*****
parameter(nphys=100000)
integer xx(nphys),yy(nphys)
INTEGER I,mm

mm=100000
do 10 i=1,mm
  READ(*,*,END=11) xx(i),yy(i)
10  continue
11  mm=i-1

*****sort with respect to x-value
call SORT2(mm,xx,yy)
do 20 i=1,mm
write(*,*) xx(i),yy(i)
20  continue
end

SUBROUTINE SORT2(N,RA,RB)
DIMENSION RA(N),RB(N)
L=N/2+1
IR=N
10  CONTINUE
  IF(L.GT.1)THEN
    L=L-1
    RRA=RA(L)
    RRB=RB(L)
  ELSE
    RRA=RA(IR)
    RRB=RB(IR)
    RA(IR)=RA(1)
    RB(IR)=RB(1)
    IR=IR-1
    IF(IR.EQ.1)THEN
      RA(1)=RRA
      RB(1)=RRB
      RETURN
    ENDIF
  ENDIF
  I=L
  J=L+L
20  IF(J.LE.IR)THEN
    IF(J.LT.IR)THEN
      IF(RA(J).LT.RA(J+1))J=J+1
    ENDIF
    IF(RRA.LT.RA(J))THEN
      RA(I)=RA(J)
      RB(I)=RB(J)
      I=J
      J=J+J
    ELSE
      J=IR+1
    ENDIF
  ENDIF

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GO TO 20
ENDIF
RA(I)=RRA
RB(I)=RRB
GO TO 10
END
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