

NAME

INTERP – Interpolate in a table of numerical values.

SYNOPSIS

Y=INTERP(X,DATA,LDATA,NPTS,LAST)

Y	is the REAL*8 interpolated function value returned
X	is the REAL*8 argument at which the value of the tabular function is to be found
DATA(LDATA,2)	is the REAL*8 table of (x,y) pairs defining the function
LDATA	is the INTEGER*4 leading dimension of DATA
NPTS	is the INTEGER*4 number of (x,y) pairs in the table
LAST	is the INTEGER*4 index in DATA of the left end of the bin containing X

DESCRIPTION

This routine calls TBLBIN to find the table bin containing X. Then it performs linear interpolation between the endpoint values of that bin.

LINKAGE

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

AUTHOR

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EXAMPLE

```

      REAL*8 DATA(7,2)/-2.D0,-1.D0,0.D0,1.D0,2.D0,3.D0, 4.D0,
;
      -4.D0,-1.D0,0.D0,1.D0,4.D0,9.D0,16.D0/
      REAL*8 Y, INTERP
      INTEGER*4 LAST/1/
      Y=INTERP(2.5D0,DATA,7,7, LAST)
      WRITE(6,901) LAST,Y
901  FORMAT(' LAST=',I1/' Y(2.5)=' ,F4.1)
      STOP
      END

```

This example produced the following output:

```

unix[1] a.out
LAST=5
Y(2.5)= 6.5
unix[2]

```