

ADAS Subroutine xxgtsl

SUBROUTINE XXGTSL(N , D , DU , DL , B , IFAIL)

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C
C ***** FORTRAN77 SUBROUTINE: XXGTSL *****
C
C PURPOSE: GIVEN A GENERAL TRIDIAGONAL MATRIX AND A RIGHT HAND SIDE
C           WILL FIND THE SOLUTION OF THE ASSOCIATED SYSTEM OF LINEAR
C           EQUATIONS.
C
C CALLING PROGRAM: GENERAL USE
C
C SUBROUTINE:
C INPUT :   (I*4)  N      = ORDER OF TRIDIAGONAL MATRIX
C
C INPUT :   (R*8)  DL()   = SUBDIAGONAL OF THE MATRIX. DL(2) THROUGH
C                       DL(N) SHOULD CONTAIN THE SUBDIAGONAL. ON
C                       OUTPUT DL IS DESTROYED
C INPUT :   (R*8)  D()    = DIAGONAL OF THE MATRIX. ON OUTPUT D
C                       IS DESTROYED
C INPUT :   (R*8)  DU()   = SUPERDIAGONAL OF THE MATRIX. DU(2) THROUGH
C                       DU(N) SHOULD CONTAIN THE SUPERDIAGONAL.
C                       OUTPUT DU IS DESTROYED
C INPUT :   (R*8)  B()    = RIGHT HAND SIDE VECTOR
C
C OUTPUT:   (R*8)  B()    = SOLUTION VECTOR
C
C OUTPUT:   (I*4)  IFAIL  = 0 - NORMAL VALUE
C                       = K - IF THE KTH PIVOT ELEMENT BECOMES
C                       BECOMES EXACTLY ZERO. THE ROUTINE
C                       RETURNS WHEN THIS IS THE CASE.
C
C           (I*4)  K      = GENERAL INTEGER
C           (I*4)  KB     = GENERAL INTEGER
C           (I*4)  KP1    = K+1
C           (I*4)  NM1    = N-1
C           (I*4)  NM2    = N-2
C           (R*8)  T      = GENERAL REAL
C
C ROUTINES:  NONE
C
C NOTE:
C           TRANSCRIBED FROM LINPACK PUBLICATION. VERSION DATED
C           08/14/78, JACK DONGARRA, ARGONNE NATIONAL LABORATORY
C
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C
C DATE:    04/07/95
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C DATE:    10/07/95 VERSION 1.1
C UPDATE:  TIM HAMMOND, TESSELLA SUPPORT SERVICES PLC
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C - UNIX PORT

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C

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INTEGER

IFAIL,

N

REAL*8

B (N) ,

D (N) ,

DL (N) ,

DU (N)