NAME

CCFG – CUTEr tool to evaluate constraint functions values and possibly gradients.

SYNOPSIS

CALL CCFG(N, M, X, LC, C, JTRANS, LCJAC1, LCJAC2, CJAC, GRAD)

DESCRIPTION

The CCFG subroutine evaluates the values of the constraint functions of the problem decoded into OUTSDIF.d at the point X, and possibly their gradients in the constrained minimization case.

ARGUMENTS

The arguments of CCFG are as follows

N [in] - integer
the number of variables for the problem,

M [in] - integer
the total number of general constraints,

X [in] - real/double precision
an array which gives the current estimate of the solution of the problem,

LC [out] - integer
the actual declared dimension of C, with LC no smaller than M,

C [out] - real/double precision
an array which gives the values of the general constraint functions evaluated at X. The i-th component of C will contain the value of c_i (x),

JTRANS [in] - logical
a logical variable which should be set .TRUE. if the transpose of the constraint Jacobian is required and .FALSE. if the Jacobian itself is wanted. The Jacobian matrix is the matrix whose i-th row is the gradient of the i-th constraint function,

LCJAC1 [in] - integer
the actual declared size of the leading dimension of CJAC (with LCJAC1 no smaller than N if JTRANS is .TRUE. or M if JTRANS is .FALSE.),

LCJAC2 [in] - integer
the actual declared size of the second dimension of CJAC (with LCJAC2 no smaller than M if JTRANS is .TRUE. or N if JTRANS is .FALSE.),

CJAC [out] - real/double precision
a two-dimensional array of dimension (LCJAC1, LCJAC2) which gives the value of the Jacobian matrix of the constraint functions, or its transpose, evaluated at X. If JTRANS is .TRUE., the i,j-th component of the array will contain the i-th derivative of the j-th constraint function. Otherwise, if JTRANS is .FALSE., the i,j-th component of the array will contain the j-th derivative of the i-th constraint function,

GRAD [in] - logical
a logical variable which should be set .TRUE. if the gradient of the constraint functions are required and .FALSE. otherwise.

AUTHORS

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SEE ALSO

CUTEr (and SifDec): A Constrained and Unconstrained Testing Environment, revisited,
N.I.M. Gould, D. Orban and Ph.L. Toint,
ACM TOMS, **29**:4, pp.373-394, 2003.

CUTE: Constrained and Unconstrained Testing Environment, I. Bongartz, A.R. Conn, N.I.M. Gould and Ph.L. Toint, TOMS, **21**:1, pp.123-160, 1995.