NAME

CUTEST_cdimsh − CUTEst tool to determine the number of nonzeros needed to store the Hessian of the Lagrangian function for the problem decoded from a SIF file by the script *sifdecoder*.

SYNOPSIS

CALL CUTEST_cdimsh(status, nnzh)

For real rather than double precision arguments, instead

CALL CUTEST_cdimsh_s(...)

and for quadruple precision arguments, when available,

CALL CUTEST_cdimsh_q(...)

DESCRIPTION

The CUTEST_cdimsh subroutine determines the number of nonzero elements required to store the Hessian matrix of the Lagrangian function for the problem decoded into OUTSDIF.d in the constrained minimization case. The matrix is stored in sparse "coordinate" format.

The problem under consideration is to minimize or maximize an objective function $f(x)$ over all $x \in R^n$ subject to general equations $c_i(x) = 0$, $(i \in 1, \ldots, m_E)$, general inequalities $c_i^l \leq c_i(x) \leq c_i^{u,}$ $(i \in m_E + 1, \ldots, m)$, and simple bounds $x^l \leq x \leq x^{u.}$ The objective function is group-partially separable and all constraint functions are partially separable.

ARGUMENTS

The arguments of CUTEST_cdimsh are as follows

status [out] - integer
the outputr status: 0 for a succesful call, 1 for an array allocation/deallocation error, 2 for an array bound error, 3 for an evaluation error,

nnzh [out] - integer
the number of nonzero elements required to store the matrix.

AUTHORS

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SEE ALSO

CUTEst: a Constrained and Unconstrained Testing Environment with safe threads,
N.I.M. Gould, D. Orban and Ph.L. Toint,
Computational Optimization and Applications **60**:3, pp.545-557, 2014.

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,
ACM TOMS, **21**:1, pp.123-160, 1995.

sifdecoder(1).