NAME

CDH − CUTEr tool to evaluate the Hessian of the Lagrangian.

SYNOPSIS

CALL CDH(N, M, X, LV, V, LH1, H)

DESCRIPTION

The CDH subroutine evaluates the Hessian matrix of the Lagrangian function for the problem decoded into OUTSDIF.d at the point X, and possibly its gradient in the constrained minimization case. The matrix is stored as a dense matrix.

By convention, the signs of the Lagrange multipliers V are set so the Lagrangian function can be written as $L(X, V) = f(X) + < c(X), V >$.

ARGUMENTS

The arguments of CDH 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,

LV [in] - integer
the actual declared dimension of V,

V [in] - real/double precision
an array which gives the Lagrange multipliers,

LH1 [in] - integer
the actual declared size of the leading dimension of H (with LH1 no smaller than N),

H [out] - real/double precision
a two-dimensional array which gives the value of the Hessian matrix of the Lagrangian function evaluated at X and V.

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.