NAME

USH – CUTEr tool to evaluate the sparse Hessian matrix.

SYNOPSIS

CALL USH(N, X, NNZH, LH, H, IRNH, ICNH)

DESCRIPTION

The USH subroutine evaluates the Hessian matrix of the objective function of the problem decoded into OUTSDIF.d at the point X in the case where the only possible constraints are bound constraints. This Hessian matrix is stored as a sparse matrix in coordinate format.

ARGUMENTS

The arguments of USH are as follows

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

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

NNZH [out] - integer
the number of nonzero elements in the Hessian matrix

LH [in] - integer
the actual declared dimensions of H, IRNH and ICNH,

H [out] - real/double precision
an array which gives the value of the Hessian matrix of the objective function evaluated at X. The i-th entry of H gives the value of the nonzero in row IRNH(i) and column ICNH(i). Only the upper triangular part of the Hessian is stored,

IRNH [out] - integer
an array which gives the row indices of the nonzeros of the Hessian matrix of the objective function evaluated at X,

ICNH [out] - integer
an array which gives the column indices of the nonzeros of the Hessian matrix of the objective function evaluated at X.

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.

csh(3M).