NAME

CUTEST_ushp – CUTEst tool to evaluate the sparsity pattern of the Hessian matrix of the objective function.

SYNOPSIS

CALL CUTEST_ushp(status, n, nnzh, lh, H_row, H_col)

DESCRIPTION

The CUTEST_ushp subroutine evaluates the sparsity pattern of the Hessian matrix of the objective function of the problem, decoded from a SIF file by the script *sifdecoder*, in coordinate format.

The problem under consideration is to minimize or maximize an objective function $f(x)$ over all $x \in R^n$ subject to the simple bounds $x^l \leq x \leq x^u$. The objective function is group-partially separable.

ARGUMENTS

The arguments of CUTEST_ushp 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,

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

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

lh [in] - integer
the actual declared dimensions of H_row and H_col,

H_row [out] - integer
an array which gives the row indices of the nonzeros of the Hessian matrix of the objective function. Only the upper triangular part of the Hessian is stored,

H_col [out] - integer
an array which gives the column indices of the nonzeros of the Hessian matrix of the objective function corresponding to the row indices in H_row.

AUTHORS

I. Bongartz, A.R. Conn, N.I.M. Gould, D. Orban and Ph.L. Toint

SEE ALSO

CUTEst: a Constrained and Unconstrained Testing Environment with safe threads,
N.I.M. Gould, D. Orban and Ph.L. Toint,
Technical Report, Rutherford Appleton Laboratory, 2013.

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.

cutest_csh(3M), sifdecoder(1).

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