NAME

CUTEST uofg threaded - CUTEst tool to evaluate function value and possibly gradient.

SYNOPSIS

CALL CUTEST_uofg_threaded(status, n, X, f, G, grad, thread)

DESCRIPTION

The CUTEST_uofg_threaded subroutine evaluates the value of the objective function of the problem decoded from a SIF file by the script *sifdecoder* at the point X, and possibly its gradient.

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

ARGUMENTS

The arguments of CUTEST_uofg_threaded are as follows

status [out] - integer

the outputr status: 0 for a successful call, 1 for an array allocation/deallocation error, 2 for an array bound error, 3 for an evaluation error, 4 for an out-of-range thread,

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,

f [out] - real/double precision

the value of the objective function evaluated at X,

G [out] - real/double precision

an array which gives the value of the gradient of the objective function evaluated at X,

grad [in] - logical

a logical variable which should be set to .TRUE. if the gradient of the objective function is required and .FALSE. otherwise.

NOTE

A call to CUTEST_uofg_threaded is more efficient than two separate calls to CUTEST_ufn_threaded and CUTEST ugr threaded,

thread [inout] - integer

thread chosen for the evaluation; threads are numbered from 1 to the value threads set when calling CUTEST_usetup_threaded.

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,

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 cofg threaded(3M), sifdecoder(1).