NAME

CUTEST_creport – CUTEst tool to obtain statistics concerning function evaluation and CPU time used.

SYNOPSIS

CALL CUTEST_creport(status, CALLS, TIME)

DESCRIPTION

The CUTEST_creport subroutine obtains statistics concerning function evaluation and CPU time used for constrained optimization in a standardized 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 $c_i^l \le c_i(x) \le c_i^{u,}$ $(i \in m_E + 1, \ldots, m)$, and simple bounds $x^l \le x \le x^{u.}$ The objective function is group-partially separable and all constraint functions are partially separable.

ARGUMENTS

The arguments of CUTEST_creport 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,

CALLS [out] - real array of length 7
gives the number of calls to the problem functions:

CALLS(1): number of calls to the objective function

CALLS(2): number of calls to the objective gradient

CALLS(3): number of calls to the objective Hessian

CALLS(4): number of Hessian times vector products

CALLS(5): number of calls to the constraint functions

CALLS(6): number of calls to the constraint gradients

CALLS(7): number of calls to the constraint Hessians

TIME [out] - real array of length 2:

TIME(1): CPU time (in seconds) for CUTEST_csetup

TIME(2): CPU time (in seconds) since the end of CUTEST_csetup.

NOTE

Note that CALLS(4), CALLS(5) and CALLS(6) may account for codes which allow the evaluation of a selection of constraints only and may thus be much smaller than the number of constraints times the number of iterations.

AUTHORS

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SEE ALSO

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CUTE: Constrained and Unconstrained Testing Environment,

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