NAME

CUTEST_cvartype − CUTEst tool to determine the type of each variable.

SYNOPSIS

CALL CUTEST_cvartype(data, status, n, X_type)

DESCRIPTION

The CUTEST_cvartype subroutine determines the type (continuous, 0-1, integer) of each variable involved in the problem decoded from a SIF file by the script *sifdecode*.

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 $c_i^l(x) \leq c_i(x) \leq c_i^u(x)$, $(i \in m_E + 1, \ldots, m)$, and simple bounds $x^l \leq x \leq x^{u.}$ The objective function is group-partially separable and all constraint functions are partially separable.

ARGUMENTS

The arguments of CUTEST_cvartype are as follows

data [inout] - CUTEST_data_type derived type
problem-specific private data,

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,

X_type [out] - integer
an integer array whose i-th component indicates the type of variable i. Possible values are 0 (a variable whose value may be any real number), 1 (an integer variable that can only take the values zero or one) and 2 (a variable that can only take integer values).

AUTHORS

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

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.

cutest_uvartype(3M), sifdecode(1).

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