NAME

cobma – CUTEr COBYLA test driver

SYNOPSIS

cobma

DESCRIPTION

The *cobma* main program test drives COBYLA on SIF problems from the CUTEr distribution.

COBYLA is a nonlinear programming code for unconstrained and constrained problems, which only uses function values (no derivatives needed).

COBYLA was written by M.J.D. Powell, DAMTP, Cambridge University, Silver Street, Cambridge (GB) (email: mjdp@damtp.cambridge.ac.uk). It is available from the author.

The object module *cobma.o* is stored in $MYCUTER/*precision*/bin, where *precision* is either "single" or "double", according to your local installation.

USAGE

Compile (but do not link) the COBYLA source code and copy the resulting object file cobyla.o in the directory $MYCUTER/*precision*/bin. Launch using cob(1) or sdcob(1).

NOTE

COBYLA is not available in double precision.

If no COBYLA.SPC file is present in the current directory, the default version is copied from $CUTER/common/src/pkg/cobyla/. The default specifications are as follows:

0.5	RHOBEG	size of the simplex initially
0.00001	RHOEND	size of the simplex at termination
8000	MAXFUN	maximum number of function calls
0	IPRINT	verbosity – set to 0, 1, 2 or 3

The reader is referred to the paper quoted below and the code itself if they wish to modify these parameters.

ENVIRONMENT

CUTER

Parent directory for CUTEr

MYCUTER

Home directory of the installed CUTEr distribution.

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.

A direct search optimization method that models the objective and constraints functions by linear interpolation, M.J.D. Powell, In Advances in optimization and numerical analysis, Proceedings of the Sixth workshop on Optimization and Numerical Analysis, Oaxaca, Mexico, vol.275 of Mathematics and its Applications, pp.51-67. Kluwer Academic Publishers, 1994.