NAME

lbsma − CUTEr L-BFGS test driver

SYNOPSIS

lbsma

DESCRIPTION

The *lbsma* main program test drives L-BFGS on SIF problems from the CUTEr distribution.

The L-BFGS package is a limited-memory algorithm designed for unconstrained minimization by Jorge Nocedal (Northwestern U.).

USAGE

The L-BFGS file lbfgs.f should be edited to remove the subroutines DAXPY and DDOT. It should then be compiled, and the resulting file lbfgs.o placed in (or symbolically linked to) the directory $MYCUTER/double/bin.

There is no single-precision version.

NOTE

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

```
    5   M        specifies the number of iterations in the memory
   -1   IPRINT(1) specifies the frequency of output (<0: no output)
    0   IPRINT(2) specifies content of output (0: minimal)
10000   MAXIT    specifies the maximum number of iterations
0.00001 EPS      specifies the required gradient accuracy
```

The reader is referred to the paper quoted below and the code itself if he or she wishes 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, ACM TOMS, **21**:1, pp.123-160, 1995.

Updating quasi-{N}ewton matrices with limited storage, J. Nocedal, Mathematics of Computation, **35**, pp 773--782, 1980.

sdlbs(1), lbs(1).