

LAPACK Working Note 81
Quick Installation Guide for LAPACK on Unix Systems¹

Authors and Jack Dongarra

Contents

1	Introduction	4
---	------------------------	---

3 ILAENV and IEEE-754 com4i495(d)-335.396()5(m)-2.66e.

1 Introduction

LAPACK is a linear algebra library for high-performance computers. The library includes Fortran 77 subroutines for the analysis and solution of systems simultaneous linear

4 Overview of Tape Contents

Most routines in LAPACK occur in four versions: REAL, DOUBLE PRECISION,

And, if all else fails, there is the Fortran 77 reference implementation of the Level 1, 2, and 3 BLAS available on netlib (also included in the LAPACK distribution tar file).

`http://www.netlib.org/blas/blas.tgz`

No matter which BLAS library is used, the BLAS test programs should always be run.

Users should not expect too much from the Fortran 77 reference implementation BLAS; these versions were written to define the basic operations and do not employ the standard

5.1 Untar the File

Epsilon	=	5.96046E-08
Safe minimum	=	1.17549E-38
Base	=	2.00000
Precision	=	1.19209E-07
Number of digits in mantissa	=	24.0000
Rounding mode	=	1.00000

The safe minimum returned by SLAMCH('S') is initially set to the underflow value, but if $1 \text{ (overflow)} \geq \text{(underflow)}$ it is recomputed as 1 (overflow)

- **Testing/timing version of LAPACK/TIMING/LIN/ilaenv.f**
- **Testing/timing version of LAPACK/TIMING/EIG/ilaenv.f**

The test program in LAPACK/INSTALL/tstieee.f checks an installation architecture to

`xeigtsts < lse.in > slse.out`

The tests using `xeigtstc`, `xeigtstd`, and `xeigtstz` also use the `finest` option

If you encounter failures in any phase u the timing process, please feel free to cutac
run, the versi(u)-n of the operating system, t

```
xlintims < stime
```

6.7.3 Timing the Eigensystem Routines

The eigensystem timing program is found in LAPACK/TIMING/EIG and the input files are in LAPACK/TIMING. Four input files are provided in each data type for timing the eigensystem routines, one for the generalized nonsymmetric eigenvalue problem, one for the nonsymmetric eigenvalue problem, one for the symmetric and generalized symmetric eigenvalue pr4.7628(a)5(3(a))3.88733(e)4.442343(e)188.7773(c)-292.53(a)38(9.)4.4764(,)-294.179(o)5(u)-5.44495(e)-

Appendix A

by scaling intermediate results, but some library versions

Usually on HPPA architectures, a similar restriction in SLABAD should be enforced for all

