

NAG_F77 - The Numerical Algorithms Group Fortran77 Library

NAG_F77 is a FORTRAN77 proprietary library of numerical software, produced by the Numerical Algorithms Group ("NAG").

The library is organized into chapters that are devoted to particular topics; a letter is assigned to each such topic. For instance, chapter "F" is devoted to linear algebra. Each chapter is divided into numbered subchapters; for instance, subchapter "F03" is for determinants. Associated with each subchapter are a number of user-callable routines, whose names begin with the subchapter's code. Thus, the routine **f03acc** is called to compute the determinant of a real symmetric positive definite matrix.

The vendor offers versions of **NAG_F77** in both single and double precision arithmetic. However, a given site might have only single, only double, or both single and double precision routines available in their library. To determine what is available, it is possible to call the NAG library routine **a00aaf**. This will print out the appropriate information. The following program would take care of this:

```
program main

call a00aaf ( )
stop
end
```

The version of **NAG_F77** installed on Aspen, Birch, and Olympus uses *double precision* arithmetic.

Compilation on **aspen**, **birch**, and **olympus**:

```
f77 -c -dalign myprog.f
```

Loading on **aspen**, **birch**, and **olympus**:

```
f77 myprog.o -lnag -lsocket -lnsl -lintl
```

One step compile-and-load on **aspen**, **birch**, and **olympus**:

```
f77 myprog.f -dalign -lnag -lsocket -lnsl -lintl
```

The **[NAG_F77](#)** script is available on **aspen**, **birch**, and **olympus**. This greatly simplifies the process of linking your program, at least for the simplest cases:

```
nag_f77 myprog.f
```

will compile your program, link it with NAG_F77, and create the executable program **a.out**.

Web site:

<http://www.nag.com/>

Documentation:

[the NAG F77 PDF documentation directory](#).

Example Calling Programs 1:

nagexample_f routine

will copy to your directory a sample program that uses the NAG routine of the given name. It will also copy any necessary data, compile and run the example. The example file will be left in your directory.

Example Calling Programs 2:

You can also retrieve the example programs by going to the <http://www.nag.com/numeric/FL/FLdocumentation.asp>, the online NAG Fortran77 Library manual, going to the documentation for a specific routine, and downloading the associated example.

Reference 1:

Numerical Algorithms Group, Limited,
Fortran Library Introductory Guide, Mark 20

Reference 2:

<http://www.nag.com/numeric/FL/FLdocumentation.asp>, the online NAG Fortran77 Library manual.

The NAG library is also available in [a C version](#) and [a FORTRAN90 version](#).

NAG_IDENTIFY calls a built-in routine that reports the version and precision of the library.

- [nag_identify.f](#), is the text of the program;
- [nag_identify.csh](#), compiles and runs the program;
- [nag_identify.out](#), the output from the program.

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