

## Nottingham Algorithms Group (NAG)

NAG was formed to develop a numerical library for use on the ICL 1906A. Its members are the numerical analysts and computing service teams of the University Computing Centres of Birmingham, Leeds, Manchester, Nottingham and Oxford and the Atlas Computer Laboratory, each of which has or will receive a 1906A machine. The group has been in existence for about eighteen months, and Mark 1 of the NAG library, with full documentation, was released in October 1971.

Our aim is to assist users of University Computing machines by the development of a balanced, general-purpose library, which is well documented and validated. Each of the six centres have been assigned two or three specific areas in Numerical Analysis, in which they are responsible for the collection, collation, testing, selection and documentation of suitable routines for the library. Test programs are also provided for all software.

Because of incompatibilities between the Algol and Fortran compilers on the 1906A and the different high level language emphases of the '6A centres, all library routines will be available in Algol 60 and ANSI Fortran IV. We have agreed documentation standards and a distribution system. All software will be retested in a centre other than that in which it was developed. NAG accepts responsibility in the 1906A centres for provision of the semi-compiled version and source text of the NAG library and its accompanying documentation. It is anticipated that a new Mark of the Library, with documentation, will be released at approximately six monthly intervals.

NAG is grateful for the continuing support of a number of distinguished numerical analysts who include Professor L. Fox, Dr. R. Fletcher, Dr. W. Murray, Mr. M.J.D. Powell and Dr. J.H. Wilkinson. A series of NAG seminars are being held to discuss the future contents of the various numerical areas within the library, to which interested numerical analysts have been invited.

An interchange of software and general library experience between NAG and the Argonne N.S.F. Library project, the National Bureau of Standards special functions group and other American library groups is operating.

The Computer Board has agreed to finance a NAG Library Co-ordinator for the 1906As, and is encouraging NAG to make the library more generally available in the universities.

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NAG Library

	<u>Collating Centre</u>	<u>Test Centre</u>
1. Linear Algebra	Oxford	Nottingham
2. Statistics		
(i) Statistical Routines	Manchester	Birmingham
(ii) B.M.D. Programs	Nottingham	
3. Non-linear Optimisation	Leeds	Manchester
4. Special Functions	Birmingham	Manchester
5. Sorting	Birmingham	Manchester
6. Simulation	Nottingham	Oxford
7. O.D.E.	Manchester	Oxford
8. Roots	Atlas	Leeds
9. Approximation Theory	Nottingham	Leeds
10. Quadrature	Atlas	Oxford
11. Programming	Manchester	Birmingham
12. Interpolation	Nottingham	Leeds
13. Non-linear Equations	Leeds	Nottingham