Modern Fortran

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Background

There is a trend to use C/C++ for numerical programming. This is surely a mistake since Fortran programmes run faster (given a good compiler) and are easier to debug.

Description

Fortran 90/95 is the current version of Fortran. This version introduces modules and interfaces, dynamic arrays, free-format source (well, almost) and many other features, and is therefore a truly vast improvement over Fortran 77 — the language has been improved almost beyond recognition!

Fortran 2000 is in preparation and will include features to support exception handling (at last!) and object-oriented programming.

This course focuses on: the use of the new features to enable modular, maintainable design and implementation of progammmes; the use of old F77 code within new F90 programmes; the use of Makefiles with Fortran 90; and the linking of F90 programmes to both the F77 and F90 NAg numerical analysis libraries, and the Uniras graphics libraries.

Prerequisites

This course is designed for those who have previous experience in programming, particually for those who are currently using Fortran 77; experience in a language such as C, Pascal or Java should be fine. This course is unsuitable for those with no programming experience.

Course Notes

The notes used in the presentation of the course are available at the following URLs:

`http://docs.umist.ac.uk/~simonh/_course_fortran_90`
`http://talby.csu.umist.ac.uk/~isd/_course_fortran_90`

Please use the first site unless problems occur.