UNIVERSITY OF QUEENSLAND

Prentice Computer Centre

NEWSLETTER

authorization: Director of the Centre

1   NEW MATHEMATICAL AND STATISTICAL SUBROUTINES - IMSL

A new library of subroutines, suitable for calling from FORTRAN-10
main programs, is now available.

The library comprehensively covers most areas of statistical and
numerical analysis.   In usage and intent, it is similar to the
existing Scientific Subroutines package, except that the range and
sophistication of programs offered is much greater.

For more details of both the subroutines available and their
use, intending users should consult the manuals below, which are
available for inspection at the Centre's enquiry office -

    IMSL LIBRARY 2
    EDITION 5
    1975
    VOLUMES I, II

All subroutines are kept as binary relocatable files in a
library on the statistics area STA:. They should be loaded with
a user's program as follows:

    .EXECUTE/F10 program name, STA:IMSL /SEARCH

It would be appreciated that any difficulties encountered in
the use of the routines be reported to the Centre.

2   CONSULTING

The Centre is keen to assist users in the effective use of computers
and offers a consulting service for programming and systems work.
No charge is levied for short consultations but a charge may be
applied to very lengthy consultations carried out on a users behalf.
It is, of course, of benefit to the Centre and all users is suspected
faults in software are brought to attention as quickly as possible.

The following arrangements apply to consultations on programming difficulties:

(a)   Students must take all programming problems to their academic supervisor.

(b)   Duty Programmer(s) are scheduled at locations and during periods specified from time to time in the Prentice Computer Centre Newsletter and displayed in the service areas.

(c)   If a user is unable to detect a fault in his program, he should report the problem to the Centre by completing an appropriate 'Problem Specification' form. (NOTE: No advice will be given on programming difficulties unless a Problem Specification has been properly completed).

(d)   If a user is unable to attend personally during the scheduled hours of the duty programmer, the problem will still be examined, and a written reply made available for collection from the service area. In this case, the user should provide, on the specification form, a telephone number and most convenient time when contact can be made for additional information or discussion if required.

(e)   As all problems cannot be solved immediately, it may be necessary to leave a problem with the duty programmer. In this case the problem solution can be collected at some later date.

It may be of interest that the Centre analyses the completed problem specification forms to assist it in developing improvements to the system and to provide indication of the need for training courses or improved documentation.

As from Tuesday 20 April, consulting will be provided at the following locations at the times shown:

Computer Centre	Hawken Building Ground Floor behind the client room.	
	Weekday afternoons	2 p.m. - 5 p.m.
Commerce Station	Room 216	
	Monday, Wednesday, Friday	9 a.m. - 1 p.m.
Griffith University	Room 1.39 School of Humanities Building	
	Tuesdays and Thursdays	9 a.m. - 12 noon

Please note that completed Problem Specification forms (see (d) above) will be accepted at the Operations enquiry counters at any time between 9 am and 5 pm at Commerce and Griffith Stations and between 9 am and midnight at the central site.

The aim of the free consulting service is not to write users programs for them. We do this but at a charge. We have limited resources and we would be grateful if you would make an effort to research your problem before approaching our consultants. Very often, we find that the answer to a users problem is clearly shown in the available language and systems documentation. Thank you for your co-operation. The Director would be pleased to hear from any user having difficulty as a result of the new consulting schedule.

3   DELETION OF SUPERSEDED SOFTWARE

It has been noticed that versions of Algol (transferred October 1975) and Cobol (transferred 28 January 1976) still exist on OLD:

We propose to delete these files at the end of April. At the same time, the F10 compiler, F40 compiler and the old versions of FOROTS and FORLIB, all transferred in late March, will be deleted if no reports are received of unresolved problems associated with this transfer. Users are also reminded of our earlier decision to remove all versions of FORSE at this same time.

Whether and when to change to new versions of system software is always a problem. With something like 2000 registered users, there is a need to maintain stability, particularly as not all are sophisticated users and able to cope unaided with some of the problems caused by changing systems software. "We know the 'bugs' in the existing version!" is an often heard plea against change. On the other hand, we are aware of the number of reported problems that are traceable to some of these bugs and which cannot be programmed around and which are corrected in later releases of software. There is also the aspect that new versions of software in some cases make available new facilities upon which depend various other software products.

The current systems software is held on the STD: directory (for most users this will be the same as SYS:) and superseded versions will be held on OLD: for a period, usually about a month before deletion. New releases will normally be put on NEW for a period before being transferred to STD:.

It may not in all cases be possible to adopt this procedure- but the hope is that where an impact on user programs can be anticipated, this ordered implementation of new software will give users the opportunity to change procedures and remove reference to any unusual or non-standard features which they may have exploited in a program.

The implications of a change to a new version to a user will vary but it would not be unusual to expect a recompilation of some programs to be required. The implementation of this new version of FOROTS, for example, should not affect execution of any REL file. Most SAV files should be unaffected, though some which exercise changed areas in FOROTS, may require reloading and possible recompilation. COBOL and ALGOL SAV files will in general be unaffected by the implementation of a new version, though execution of REL files is likely to be doubtful.

In summary, it is recommended that source files be kept accessible and when versions suffer a major change, a recompilation should be performed.

4   NEW VERSION OF BLIS10

On 23 March 1976 the version of BLIS10 on STD was superseded by a new version 5 (124). BLIS10 is a system implementation language used presently for the F10 compiler.

5   A PROBLEM WITH F40 V27

The following deficiency is reported in F40 V27:   The problem affects do loop indices which are used for subscripting on the left side of an equals sign.   If the sign of the index comes out negative and the index is not used on the right side of the equals sign in the same form then the index is calculated wrongly. For example -

```
        DO 5 I=1,10
4       J (11-I) = 0
5       K (11-I) = J (11-I)
```

The subscript in statement 4 will be incorrect. That in statement 5 is correct.

6   ADDENDUM TO FORTRAN MANUAL

An addendum to the F10 Manual is now available. The only error reported at this stage is the printing of page INTRO-8-3 twice and the omission of page INTRO-8-4. Also included will be some notes on special functions in FORLIB included by the Prentice Computer Centre. These latter notes are also applicable to the F40 manual.

7   ADHESIVE LABELS

As from 1 May the Centre will only supply two types of labels:

    LABCCX - A three up 8 line label, six lines of which can
             be used for printing.

    LABCC1 - A single 6 line label, four lines of which can
             be used for printing.

When asking for these labels, they must be referred to by the
above names.   The accounting system will handle the charging
of these labels automatically.

8   NEW VERSION OF FOROTS

The version of FOROTS and FORLIB implemented on STD: provide the
same facilities as in the earlier version which is now on OLD:
rather than incorporating the changes discussed in N-199.   In
particular, Fortran Logical Units default as previously and ERR=
will include processing of illegal data characters as before.
The FLU defaults are as given in the F10 or F40 manuals EXCEPT
that LU6 defaults to TTY: not PTR:.

The version of FOROTS and FORLIB on NEW: is identical to the
standard version except that it includes the Australug recommended
default FLUs as was foreshadowed in N-199.   These defaults are -

All FLUs default to DSK: except for 5 (JOBIN) and 6 (JOBOUT).
JOBIN will be CDR: for Batch usage and TTY: for interactive running.
JOBOUT will be LPT: for Batch usage and TTY: for interactive running.
Checks are also made to ensure that JOBIN is not used for output and
JOBOUT is not used for input.   Naturally, specific device control
is possible with the OPEN statement or by use of the Monitor command
ASSIGN and changes so made will override the defaults.

It is proposed that this default FLU procedure will be adopted at a
convenient time in the future and interested persons are urged to
make use of the version on NEW: to assess the problems which may
arise in conversion to it.

When we made the change to FOROTS, we inadvertently omitted to make
some changes to the Device Table, namely that FLU8 is to default
to DTA0 and FLUs 10 to 14 default to DSK.   This has been corrected
in FOROTS version 4A(42406)-3 now on STD:.

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