UNIVERSITY   OF   QUEENSLAND

Prentice   Computer   Centre

NEWSLETTER

authorization: Director of the Centre

1   EXPIRY DATES OF PPNS

When an account is set up with us, two aspects are involved. The
first of these is concerned primarily with charging, ie. a name,
the selection of a charge code, the account number for funding
and so on. The second aspect concerns computer access and requires
the setting up of a Project Programmer Number (PPN). Since the
beginning of this year we have been allocating an expiry date for
all PPNs. We found it necessary to do this because of the large
number of inactive users discovered when trying to create entries
for new users at the start of the academic year. It is understand-
able that in a university there will be a large number of users
who require use perhaps for a semester, perhaps for a full year.

We have, therefore, set expiry dates for all PPNs; in the absence
of other advice at 31 December 1976, but in a few cases for other
dates. For 21 days prior to the expiry date Login prints an
appropriate warning message.

After the expiry date it is not possible to log-in. Please advise
us if you want the PPN extended. If we know before it expires, it
will be easy for us to extend it. If it has expired, then the PPN
and associated files may not be easily recovered.

In summary, PPNs expire at the end of the year. It is the user's
responsibility to advise us if he wants it extended beyond that
date.

2   IMPLEMENTATION OF SOFTWARE

System software usually exists on one of three directories -
STD: which contains our standard software
NEW: for newly released software

OLD: for superceded software which is kept on the system
        for a limited period.

It is our normal practice when implementing software to place it
on the NEW: directory for a period of a month so that interested
users may evaluate it prior to adoption as part of our standard
software. At the end of this period, provided that no problems
or serious incompatibilities are encountered, the version will
be transferred to STD: (while the previous STD: version will be
transferred to OLD: and held there for a month). In this way,
users who suspect problems with a newly introduced system may
have recourse to the previous version for comparison purposes.
It should also be noted that before software is introduced it
has been tested both by DEC (in the case of DEC software) and
ourselves. However, it must be emphasized that each person
develops a certain style of usage which may not exercise certain
aspects of a software system and test procedures may not detect
problems encountered by another person using it in another way.
Additionally, the maintainer of a particular system will be
primarily concerned with applying fixes for reported errors and
with complex systems may accidentally introduce problems elsewhere
which possibly may not be detected by his testing.

All of which is an introduction to the fact that on Monday 9th
October 1976 we plan to introduce or shuffle down a number of
software systems. Most of these are DEC items which have been
implemented unchanged and those which are being transferred from
NEW: to STD: have been there for well in excess of the nominal
period. The changes to be made are as follows.

     DDT   NEW: version 36(152) goes to STD:
                    STD: version 35(110) goes to OLD:

     Direct   NEW: version 5(336) goes to STD:
                    STD: version 4(234) goes to OLD:

     Dynamo   NEW: version will be transferred to LAN:
                    (no previous version)

     Filex   version 17(52) goes to NEW:
             NEW: version 16(7) goes to STD:
             STD: version 15(3) goes to OLD:

2

FORDDT	NEW: version 4A(55) goes to STD: STD: version goes to OLD:
Glob	NEW: version 5B(127) goes to STD: STD: version 5A(116) goes to OLD:
Link	NEW: version 2B(436) goes to STD: STD: version 2A(244) goes to OLD:
Maklib	NEW: version 2(14) goes to STD: STD: version 1(16) goes to OLD:
Mtcopy	NEW: versiob 3(63) goes to STD: STD: version 1(50) goes to OLD:
Strlib	NEW: version 1(10) goes to STD: (no previous version)
Teco	NEW: version 23B(162) goes to STD: STD: version 23A(134)-2 goes to OLD:
Deletions	OLD: SELOTS 2A(21) OLD: CREF 51(20)

3   SPRINT VERSION 2

SPRINT Version 2 will become the Input Spooler at the Centre on
4th October, 1976. Please note the following changes.

(i) $TOPS10 card (new). The $TOPS10 card directs the Input
       Spooler to copy all cards following it into the Batch
       control file. The cards following a $TOPS10 card are
       expected to contain Batch Controller and monitor commands.
       These cards will not be processed in any way by SPRINT-10.
       Copying of the deck is terminated by different cards
       depending on whether the /DOLLARS or the /NODOLLARS switch
       is specified. Refer below for a detailed explanation.

       Note. A single monitor or Batch command or a group of
       consecutive monitor and/or Batch commands must be preceded
       by a $TOPS10 card and followed by the appropriate terminating
       card. Such commands entered into the SPRINT-10 input stream
       that are not properly delimited, will cause an error message
       to be issued.

Card Format

$TOPS10/sw$_1$ .../sw$_2$ .../sw$_n$

/sw$_1$/sw$_2$ .../sw$_n$ = switches that control the mode
of reading and interpreting of
the input stream.

(ii) $LANG cards, where LANG = ALGOL, BLISS, COBOL, F1∅, F40, MACRO,
SIMULA, SNOBOL.

$LANG cards can be used with two different input conditions.

1. The source code immediately follows the $LANG card and
the $LANG card does not have a filename specified. In
this case the $LANG card directs the Input Spooler to
copy the program onto disk, assign the program a unique
filename of the form LN???? with the extension appropriate
to the language and insert a COMPILE monitor command into
the control file. The file being copied onto disk is
terminated by different cards depending on whether the
/DOLLARS switch is specified. The source and object files
will explicitly be deleted at LOGOUT time.

2. The source code of the program is already on disk and the
user has specified a filename on the $LANG card. In this
case, the $LANG card directs the Input Spooler to insert
a COMPILE monitor command into the control file. Only
switches LIST, NOLIST, CREF, OLD, NEW are appropriate
in this case.

Note. A $LANG card with a filename specified, followed by
a deck containing the source code, will cause an error message
to be issued.

$FORTRAN causes the F40 compiler to be used. The only way to
use F1∅ is to use the $F1∅ card as there is no /F1∅ switch.

$SIMULA has been implemented for SIMULA programs.

(iii)   /DOLLARS, /NODOLLARS switches (new) for use on control cards
followed by a deck.

/DOLLARS   When this switch is specified, and a card
within the deck has a dollar sign ($) in column
1 but is not a $SEQUENCE, $JOB, $EOD or $EOJ

/DOLLARS   Note. Any deck for which the /DOLLARS switch is specified, must terminate with one of the following cards: $SEQUENCE, $JOB, $EOD, $EOJ or an end-of-file card.

/NODOLLARS   If this switch is in effect and a card beginning with a dollar sign is encountered while the deck is being copied, then SPRINT-10 examines column 2. If column 2 contains a dollar sign, the initial dollar sign is suppressed and the remaining information on the card is copied onto disk. If column 2 has an alphabetic character, the card is treated as a SPRINT-10 control card. If column 2 is any character other than a dollar sign or an alphabetic character, then the card is treated as part of the user's data. /NODOLLARS is the default.

Note. Any deck for which the /NODOLLARS switch is specified (either by including the switch or by default) can be terminated with any SPRINT-10 control card other than a $MODE.

(iv)   /OLD, /NEW may be specified on $LANG, $DATA or $EXECUTE control cards.

(v)   Reading of clocked-marked cards in IMAGE mode (e.g. MIDITRAN).

When /IMAGE:n is specified on a control card, SPRINT inspects to find at least n columns on each card in the following deck. If this is not the case, as may happen occasionally with external clocking, a message

        %SPTLDC Lost Data on Card #n

is printed in the log file, followed by a card image consisting of the octal representation of each column read. (At a future date, a /MIDITRAN switch will be implemented in SPRINT which will enable the translated image to be given). SPRINT then adds enough blank columns to bring the count up to n.

4   <u>NEW SOFTWARE</u>

In preparation for 6.02 release, the following system cusps were updated - QMANGR BATCON LOGOUT KJBO INITIA. The changes made

are primarily for software maintenance purposes only and users
generally should note no significant differences in performance.
The new version of INITIA is accompanied by a new version of
TTY.INI, the parameter file which controls teletype settings.
This should cause correct teletype characteristics to be set up
by INITIA.

MAKLIB 2(14) was implemented on NEW: on September 1, 1976 and
is to replace the previous version of STD: on 4 October 1976.
It includes some maintenance patches and a binary patching
facility. A help file is on NEW:

Further documentation in the nature of a manual (DOC:MAKLIB.MAN)
exists and the documentation to support this release
(DOC:MK002.DUC) will be left on the DOC: area until the version
becomes standard.

DDT 36(152) was implemented on NEW: on 1 September 1976 and will
be transferred to STD: on 4 October 1976 replacing the existing
versions which will be transferred to OLD:.

This version is primarily a maintenance release and no significant
differences should be observed. The file DOC:DDT36.DOC which
supports this release will be left on the DOC: area until the
version becomes standard.

SOS 21(122) was implemented on PUB: on 1 September 1976 and will
be transferred to STD: on 4 October 1976. SOS is a DEC supported
editor which has been implemented because of reference to it in
various documents. A help file exists on HLP and the file
DOCH:SOSUG.MAN is a user's guide.

The documentation to support this release (DOCH:SUS21.DOC) will be
left on the DOC: area for a limited period.

5   NEW VERSION OF SPSS

The latest version (6.02B) of the Statistical Package for the
Social Sciences has been installed for user testing on NEW:

Control card format and usage is exactly the same as for the
currently supported version (6.01.1) on STA:. It possesses
the following enhancements and advantages.

(i)   It is 1K smaller

(ii)   Execution speed is improved by approximately 20%.

(iii)   New variable creation and tranformation functions.

(iv)   A new procedure TETRACHORIC

The procedure RELIABILITY for the evaluation of multiple item scales is also implemented.

Documentation

The basic reference for this version remains the red manual. As well the following two files (both on NEW:)are useful.

(i)   SPSS.DOC explains all deviations from the manual
        in this DEC-10 implementation, knows bugs and details
        of the new procedures (such as TETRACHORIC) not
        documented in the manual.

(ii)   RELIAB.DOC gives full details of the procedure RELIABILITY-
        theory, control card format, options etc. Copies of these
        files may be obtained via the command

        .PRINT NEW:SPSS.DOC , NEW:RELIAB.DOC

Use

To run this version of SPSS the form of the command is

        .RUN NEW:SPSS
        *Destination = Source, switches

Destination and Source are standard Dec system file specifications. Destination indicates where the output listing is to be sent. If not supplied it defaults to DSK: with the filename of the source file and an extension of .LST.

As a consequnce of the size reduction of SPSS, it will now fit, with the default workspace allocation of 2K, into 32K. Thus use of the /SPACE: switch is unnecessary during the day.

New Features

(a) The new procedure TETRACHORIC is used to compute tetrachoric correlation coefficients between dichotomous variables. Their use is widespread in test scoring and item analysis to estimate the Pearson product moment correlation between dichotomous items, when continuity and not a time dichotomy is a logical assumption.

7

(b)   The three functions UNIFORM, NORMAL and POISSON can be
used in COMPUTE's etc. to generate random numbers from the given
distributions with specific parameters.

The other two functions LAG and ACCUM are used respectively to
lag time ordered variables by their values on previous cases,
and to create variables whose values for a particular case are
running sums of its values for all previous cases in the file.
See the file SPSS.DOC for further details.

Edit Facility

It is possible to direct SPSS to perform syntax checking only,
by inserting EDIT as the first control card. In this mode, SPSS
will check each control card, one at a time, for mis-spellings,
illegal control card formats but will not attempt to execute the
procedure requests. Since the SPACE allocation required for such
runs is only that required for TRANSPACE (usually small) EDIT runs
can be useful for

   (i)   locating any errors in the program prior to 'live'
          runs with the data and

   (ii)   determining exactly (from the listing) what WORKSPACE
          and TRANSPACE is required on the 'live' run.

For fuller details see chapter 13 of the red manual.

5   NEW PACKAGE - MULTIVARIANCE

NYBMUL is a generalized univariate and multivariate analysis of
variance, covariance and regression program. It originated at the
State University of New York at Buffalo and has been converted for
use on the DEC system-10.

The program is documented in MULTIVARIANCE USERS' GUIDE VERSION V
RELEASE 3, JUNE 1976, copies of which may be inspected at the
Computer Centre or purchased at a cost of $6.

NYBMUL will perform univariate and multivariate linear estimation
and tests of hypotheses for any crossed and/or nested design, with
or without concomitant variables. The number of observations in
the subclasses may be equal, proportional, or disproportionate.

The latter includes the extreme case of null subclasses such as might arise in the application of incomplete experimental designs. The user does not have to account for null groups - the program automatically detects them.

A variety of formats for input data are available - raw unsorted data with cell header cards, raw data sorted by cells, binary files of the preceding types, or within group correlation/covariance matrices with mean-frequency summary data. As well a series of data transformations are provided.

Input for NYBMUL from SPSS

While SPSS (Statistical Package for the Social Sciences) contains facilities for analysis of variance and covariance it does not pretend to be an all purpose program in this area. It does, however, contain a comprehensive set of procedures for data transformation, recoding of variables, file manipulation, sampling and selection of subgroups.

NYBMUL on the other hand is a generalized program for multivariate ANOVA etc. and the data handling features of SPSS can be useful in preparing files for input to NYBMUL.

For example, data input to NYBMUL must be complete variate-wise (ie. the data vector for each subject may contain no missing scores). To solve this problem with SPSS, the user may either delete cases with missing scores (via SELECT IF cards) or implement values, for example, by using means from the sample (or subgroup of the sample) or by estimating missing values using a regression model. Similarly NYBMUL's requirement that factor levels be coded 1,2,3 .. can be accomplished (via RECODE's) in SPSS. Finally the input file to NYBMUL is produced from SPSS via the WRITE CASES procedure.

Use of NYBMUL

NYBMUL is quite a large program requiring approximately 56K for execution. This includes an allocation of 4K for the storage of labels, intermediate matrices etc. As a result of its storage mode, the program has the flexibility to handle a variety of different sized problems within the fixed workspace allocation.

The only absolute limitation to the designs that NYBMUL can handle

is that the order of the design (ie. number of factors) can
not exceed 1∅. Otherwise the number of variables, covariates,
factor levels etc. is only limited by the workspace provided.
A guide to workspace requirements for different sized problems
can be found in pages 86-87 of the manual.

Up to five files (F∅R1∅.DAT, ... F∅R14.DAT) are used for scratch
storage. These files should be deleted on completion of a run
and logical units 1∅ through 14 should not be used to specify
the alternate data input unit number on the Input Description
Card (page 30 of manual).

The main alternative deck setups recommended are

(i) $JOB (,   )/NAME: /CORE:56K/PRIOR:4/COST:

        $DATA /S

            program and data cards

        $EOD

        .RUN STA:NYBMUL

        %FIN::   .DELETE FOR1?.DAT

        $EOJ

        use if control and data cards are together in the order
        indicated in the manual.

(ii) $JOB (,   )/NAME: /CORE:56K/PRIOR:4/COST:

        $DATA /S

            program control cards

        $EOD

        .AS DSK n

        .RUN STA:NYBMUL

        %FIN: .DELETE FOR1?.DAT

        $EOJ

        use if data exists in a separate file. Supply n as
        value for input tape number on Input Descritpion Card,
        and give file a name of the form FORm.DAT
        (FPR09.DAT)