

UNIVERSITY OF QUEENSLAND

Prentice Computer Centre

NEWSLETTER

authorization: Director of the Centre

1 CHANGES IN THE COBOL SYSTEM

A new version of Cobol (V10) will be made available for testing and evaluation on NEW: shortly. This new version does involve some fairly significant changes, particularly in that it uses PUSHJs rather than user UUOs to link to its execution time operating system. Users are therefore urged to approach its use with some caution. To make this change, it has been necessary to move down all Cobol versions on the system directories as indicated below.

There should be no problems to users in this change and there will be a bonus in that the new Sort system will now be the standard for all Sort verbs in a Cobol program. This Sort procedure has been used extensively since January and comparative tests indicate that it uses between 1/2 and 1/5 the resources for sorting. If a program uses checkpointing, a core specification in the environment division should be specified to allow space for checkpoint file buffers.

The following are the necessary changes:

- (a) Cobol V6 on OLD: which has not been accessed since April is to be discarded. (N-200 advised that this version was to be removed.)
- (b) Cobol V6A presently on STD: is to be transferred to OLD:. This version allows only the old CSORT module.
- (c) Cobol V6A and SORT presently on NEW: is to be transferred to STD:. This version is identical to (b) above except that it uses the new SORT module.
- (d) Cobol V10 and SORT V2 presently on PUB: is to be transferred to NEW:.

2 A NEW VERSION OF LOGIN

In the near future, a new version of LOGIN is to be implemented. This new version is the result of some 200 changes and corrections to the previous one. In a change of this magnitude, despite very careful testing, it is not possible to examine all possible interactions. Additionally, LOGIN is the item of software which controls user access to the system and, hence, cannot be tested on NEW: as is possible with other software. For these reasons, the first week or so of its use must be regarded as a trial period and we ask all users to report immediately any problems they find.

From the user viewpoint, little change should be seen. Additional switches are now available and these are listed in HLP:LOGIN HLP. In most cases, the function provided by these switches are available in other ways, their inclusion in LOGIN merely provides a more convenient way of accomplishing the function.

3 IOLIB

IOLIB is a system of subroutines, macros and parameters for use in MACRO-10 programs. The system is intended to provide a prewritten set of commonly used subroutines and macros that rely on a standardised method of IO and make assembly language programming simple and programs readable. IOLIB may be used for the most complicated systems programming and is also an extremely useful tool for teaching assembly language programming. Manuals are on sale at the Centre for \$3.

4 ATOPLT

As foreshadowed in newsletter N-201, documentation on ATOPLT is available from the Centre. The documentation consists of additional pages for MNT-11 (the Plotting Manual) with an updated index page. The price is 50 cents.

5 NEW SOFTWARE

BACKUP V2(216) implemented on NEW: type "HELP NEW:BACKUP" for instruction (31 Mar 76).

DIRECT 5 (336) implemented on NEW: type "HELP NEW:DIRECT" for instructions (31 Mar 76).

6 MIDITRAN AND MARK SENSE PREPROCESSING

As from 1 August 1976 all mark sense applications (e.g. Mditran, EVAL) will require the use of the clock marked cards. Previous versions will be removed.

The following replaces appropriate sections of the Mditran Supervisor's notes MIDI-1(Sup) which is being updated and is available from the Centre on request.

page 5 Section 2.2

A job of one box (2000 cards) will require about 200 blocks of storage for the data cards.
Thus the recommended maximum batch of three boxes will require 600 blocks to read the cards

page 5-6 Section 3

3. JOB CONTROL CARDS

To improve the reliability of reading Mditran cards and the control cards used to give job details are read in a special mode which uses clock marks (the small black marks at the bottom edge of the cards) to indicate columns in which data marks or punches may be found. All Mditran cards and control cards for Mditran decks must be of the clocked variety.

The deck can then be resubmitted for a proper run.

(a) Typical Deck Setup

Mditran is actually made up of two segments. The First segment expects to find a spooled card file and supersedes it with the corresponding ASCII file. Then the preprocessor will automatically invoke the actual compiler/execution system to process the deck. Because of differences in the input spoolers, different deck setups are required at the central system and the remote station.

The following deck setup is required at the central station -

```
$SEQUENCE                ;prepunched
                          ;by the Centre
$JOB                      ;with appropriate
                          ;arguments
$DATA /IMAGE:37
class/school parameter card ;see (v) below
student job decks
end-of-image card
$EOD
.R MIDITR
$EOJ
```

The following deck setup should be used at a remote station -

```
$SEQUENCE ;prepunched
;by the Centre
$JOB ;with appropriate
;arguments
$DATA /MIDITR
class/school parameter card ;see (v) below
student job decks
end-of-image
$EOD
.R MIDMON
$EOJ
```

Both these deck setups will dispose of all temporary files and leave only the statistics file (discussed below).

Notes

- (i) \$SEQUENCE cards are the standard ones available from the Centre. They should have clock marks only on the first few columns. Mark any identifying data on the area outside the clock marks. Indicate also that this is a Miditran job, so that the card reader will be setup properly.
- (ii) The \$JOB card is punched up in the conventional manner.
- (iii) The \$DATA, \$EOD, \$EOJ etc. cards are available prepunched from the Centre, though some (e.g. \$DATA) will require additional information to be punched on them. Do not use old style data cards without clock marks.
- (iv) The end-of-image card may be made up by marking the first and last columns of a Miditran card or by punching a blank control card in columns 1 and 37. All rows should be marked or punched in the appropriate columns. A faulty end-of-image card can cause a variety of problems, including the incorporation of subsequent jobs into your deck.
- (v) The class/school

Finally

- (vi) To ensure that the card reader is setup properly, mark clearly all Miditran jobs on the \$SEQUENCE card.
- (vii) Make sure that all control cards are on the clocked cards and not on old style unclocked data cards.

page 9 Section 3 (d)

Delete the last paragraph.

Where it is desired to use the Miditran preprocessor to create a file from a Miditran card deck, the program PREMID should be used, example -

```
$DATA /IMAGE:37
data
.
.
end-of-image
$EOD
.R PREMID
```

will create an ASCII card reader file. At the remote stations, the input spooler will perform this function automatically with the switch /MIDITR, example -

```
$DATA /MIDITR
data
.
.
end-of-image
$EOD
```

will create the same ASCII card reader file at a remote station.

To enforce this change in procedure, the following files will be removed from SYS:

MIDI.SHR, MID40.SHR, PREPRO.SHR, PRE40.SHR.

7 XBCPL - A PROGRAM TO CROSS-REFERENCE BCPL PROGRAMS

XBCPL reads a number of BCPL source files and generates as its output a file containing a cross-reference listing of all identifiers and key-words used within the files. XBCPL may be run by the command .R XBCPL and takes command strings of the form

a) *output-file=input-file1,....,input-filen

or

b) *input-file1,....,input-filen

where if form 2 is used the output file is DSK:input-file1.LST. Full file specifications may be typed. If the extension is omitted .BCL is assumed. Command strings may be continued by typing "-" as the last non-blank character in the line to be continued.

8 CLOCK MARKED CARDS

The only mark sense cards acceptable for Miditran and Snobol will be those supplied by the Centre which have the clock marks on the bottom of the card. All control cards used with mark sense decks must also be the clock marked variety. If these are not available in the normal pigeon-holes, ask Staff for them.

Details of Miditran usage are covered elsewhere but for SNOBOL, please note the following:

Details of running SNOBOL are given in MNT-15 with the Addendum of 29-Sept-75. Please note that the image card width is 37 columns, not 40 as indicated in early copies of the addendum sheet.

The first card in mark sense deck is used to define subjob limits, as outlined in the Addendum sheet. At this stage, it is not possible to enter SNOBOL decks at a remote station because the special markings for single and double quotes are not recognized.

(a) Central System -

\$SEQUENCE	
\$JOB	user parameters
\$DATA /IMAGE:37	
subjob limit card	
Snobol decks	
end-of-image card	Cols. 1 and 37
\$EOD	
.EX/LIST/SNOBOL CDR:(I)	
\$EOJ	

(b) Remote Stations

It is not possible to read SNOBOL decks from a remote station for the reasons outlined above.

9 CHANGES TO EVAL

Users of EVAL, the multiple choice test marking program, should note that supplies of the new clock marked cards for the processing of University tests have arrived. The changes outlined below relate only to the cards for University use, the procedure and cards for the processing of school tests remain unchanged.

In appearance, the cards themselves are virtually identical to the ones they replace, except for the small black 'clock marks' along their bottom edge. These marks are used by the card reader in clocking the reading of the columns on the card. This mode of reading results in an improvement in the reading accuracy, and as a side benefit a simplification of the control card preparation.

Those users who desire to prepare the control cards themselves and directly submit their decks, should read carefully the notes below. Users who wish to avoid this can, as before, simply complete the green test information slip and lodge it and their test card deck at the Enquiries Office of the Centre for processing.

To minimize inconvenience to both University users with stocks of the old cards and School users, the existing version of the EVAL program will remain on UTI:. Procedures for its use with either the aforementioned cards remain unchanged. This new version, however, will be placed on the experimental area NEW: for general access. Use of other than the clock marked cards will not be supported beyond 4 October 1976.

Running EVAL Directly

The PDP-10 control cards and the test parameter card(s) must be punched on the 80 column clock marked cards currently used for Miditran control card preparation. These cards are punched normally on their front sides on every column. The end-of-image card mentioned in (vi) below is one of these cards with all rows of columns 1 and 40 punched out.

The deck setup is:

```
(i)          $SEQUENCE
(ii)         $JOB [ , ]/.....
(iii)        $DATA /IMAGE:40
(iv)         test parameter card
(v)          EVAL cards
             (iv) - (v) repeated as desired
(vi)         end-of-image card
(vii)        $EOD
(viii)       .RUN NEW:EVAL
(ix)         $EOJ
```

The test parameter card of (iv) is punched to the following specification:

<u>Columns</u>	<u>Information</u>
1-25	Name of department
26-35	Class or subject name
36-50	Name of test
51-60	Date of test
61	Y if item analysis required
62	Y if class distribution required
63	Y if rank order required
64-66	No. items in test
67-70	Required test mean (62 assumed if left blank)
71-74	Required standard deviation (12 assumed if left blank)
75	Y if output is required to be sorted in student number order
76	Y if listing of students responses, as they appear, is required
77	card type, U for University cards

The sequence card of decks submitted directly should have clearly marked on it "READ WITH OPTICAL READER ON SWITCH EXTERNAL".

Supplies of both the new cards and those for the punching of control cards are obtainable from the Computer Centre.

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