

University of Queensland

PRENTICE COMPUTER CENTRE

Newsletter

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2 ELIMINATION OF THIRD SHIFT

The implementation of the new PDP1090 system obviously creates added operator load as there are additional equipment (consoles, disk drives, magnetic tape drives, a printer and a card reader) to be attended to by our operators. Given the need to keep costs as low as possible (and therefore our charges to users), our planning has been based on eliminating third shift and hence make operational staff available for the new system. Our hope is that as demand increases we will receive each year progressive marginal additions of capital to add to the initial configuration of the more efficient PDP1090 system and gradually replace the less efficient PDP1050 system. Thus we hope to meet growth in demand by greater efficiency arising from the new system. Our stated aim is to endeavour to reduce internal charges by at least 35% over the next five years and, as a first step, we have reduced charges by 16% as from 1.3.78.

Our hope is that users will notice little change resulting from the elimination of third shift. Timesharing will still be available until midnight and existing batch priorities with associated nominal turnaround will still apply. It should be emphasized that the nominal turnaround at various priorities is not a guarantee. All we can guarantee is that higher priority work will be run before lower priority work. It is for this very reason, of course, that substantial discounts are provided for processing nominated at priorities lower than 'normal'.

Director (2189)

3 BATCH JOB CORE ALLOCATION ON THE KL10

The following difference between batch job processing on the KA and on the new KL system should be noted, especially by SPSS users.

Firstly, some background. All users on either DECsystem-10 are constrained in the amount of core their job can use by a parameter called CORMAX. This is set automatically to a value dependent on the time of day (40K before 6 p.m., 70K after).

Batch jobs, however, whether submitted via cards or from the terminal with a SUBMIT command, are subject to an additional constraint - the value of the /CORE: switch supplied on the SUBMIT command or the \$JOB card. If this switch is not provided explicitly, then a default of 32K is in effect on the KL.

Unfortunately, under the batch processing system on the KA10 processor, the value of the /CORE: switch was ignored and the only limit on a job's core allocation was the set CORMAX. However, on the KL10 system, this switch performs as it should and can override the system wide limitations of CORMAX.

This change gives problems to users, used to the easy ways of the KA system, of programs such as SPSS (and to a lesser extent CLUSTR) which may use, as a matter of course, more than the default core.

For example, an SPSS job which requires more than the default SPACE of 2K, submitted without an explicit /CORE switch will bomb out on the KL system with

```
%FRSSYS User program has requested more core than is available
as SPSS uses approximately 30K + the value of SPACE in effect.
```

The solution to this problem is that you must supply an appropriate value for /CORE on your batch requests if your job requires more than the default values mentioned earlier, e.g. from a terminal -

```
.SUBMIT/COST:$20/PRIOR:4/CORE:70K      X.CTL
```

from cards -

```
$JOB [ , ]/NAME:-/COST:20/PRIOR:4/CORE:50K.
```

The use of the /CORE switch does not imply the user is allocated and charged for that amount of core but only sets an upper limit on how much his job can use. Its main use is ensuring equitable scheduling of jobs for running.

Chris McGovern (3968)

4 TAPE CONVERSIONS FOR THE KL10

As indicated in previous Newsletters, the KL10 computer does have 9-track tapes but does not have 7-track tapes or DECTapes and, as a consequence, there may be some conversion problems for KL10 users who made use of 7-track or DECTapes previously on the KA10. To assist those users, the Centre offers a free conversion service. For users wishing to input data to the KL10 from 7-track or DECTapes, the Centre will -

- (a) Convert 7-track tapes to 9-track tapes;
- (b) Transfer DECTape contents to the user's public disk area.

Conversion turnaround time will be up to 24 hours.

The services described above are intended as once only, one way conversions to assist users to establish themselves on the KL10. On the other hand, for KL10 users who have an ongoing commitment involving 7-track tapes, for example, a department with a mini with 7-track tape drives, the Centre offers a conversion service, 7 to 9 track or 9 to 7 track, at cost. In this case, users will receive a log file of the conversion process and the cost therein will be debited to their account.

Users may set batch priority 4 if 24 hour turnaround is required or priority 2 for weekly turnaround. Cost will vary accordingly.

Users wishing to use any of these services should complete an appropriate form available from Mrs. Carol Walker at the Hawken Batch Station (extension 2188) and leave the form and the tapes to be converted if they are not normally held by the Centre with Mrs. Walker.

John Barker (3016)

5 AN IMPORTANT NOTE ON CLUSTR

As some users seem unaware of the article in last September's newsletter concerning the numerical taxonomy suites CLUSTR and TAXAN, the essence of it is repeated here.

The latest documentation is the manual entitled "CLUSTR - A NUMERICAL CLASSIFICATION SUITE", obtainable from the Batch Station in the Hawken Building at a cost of \$2.50. All previously circulated documentation (prior to September 1977) were drafts and have been superseded by it.

The only changes made to the system as documented in the drafts are as follows:

- (i) TAXAN style printed output of the dendrogram fusions can now be optionally obtained in CLUSTR. Previously, plotted output only was obtainable. The options specifications in columns 37-40 of the options card is now

L listing only of dendrogram fusions
P plot only of dendrogram
B listing and plot of dendrogram fusions
N or blank no dendrogram required.

For the sake of compatibility, the previous option 'Y' is still valid and yields, as before, a plot (only) of the dendrogram.

- (ii) In TAXAN both the plot of the dendrogram and the principal co-ordinate analysis have been made optional rather than automatic. See the manual for details. As before the changes are compatible with the specification in the manual draft.
- (iii) The summed (S) option for 3D reduction is now implemented.

Chris McGovern (3968)

6 CHANGES TO CLUSTR

Changes, effective from 11 May, have been made to the following transformation options in the CLUSTR numerical taxonomy suite:

'S' standardization by totals
'V' expression as std. deviation from mean.

The formulae on page 1-7 of the CLUSTR manual are now invalid, and users who have purchased copies should anotate them appropriately.

The effect of the changes is that the formulae given in parts (iii) and (v) should be transposed to read

(iii)
$$F(X_{ij}) = \frac{X_{ij}}{\sum_{K=1}^v X_{kj}}$$
 standardize by column
for normal analysis

$$F(X_{ij}) = \frac{X_{ij}}{\sum_{K=1}^n X_{ik}} \quad \begin{array}{l} \text{standardize by } \underline{\text{row}} \\ \text{for } \underline{\text{inverse}} \text{ analysis} \end{array}$$

(v) $F(X_{ij}) = (X_{ij}-m)/s$

where m and s are the mean and standard deviation in columns (normal analysis) and rows (inverse analysis).

The changes have been made on the instigation of Professor W. Stephenson so as to make these transformations appropriate for the biological classification problems that CLUSTR was designed to handle.

The effect of the change is to make, for example, two sites to be considered similar if the relative proportions of the various species is similar. The former definition is one commonly used in other social science areas to overcome the variability in the measurement scales between different variables. In the area to which CLUSTR addresses itself, data often consists of counts of occurrences and hence this problem does not arise.

Chris McGovern (3968)

7 DETAILED ACCOUNTING

As from the beginning of June, modifications will be made to detail records written to DETAIL.ACT. For further information, watch NOTICE.TXT or contact Eileen Lander on extension 3941.

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