UNIVERSITY OF QUEENSLAND

Computer Centre

WEEKLY NEWSLETTER

date   : week ended 19 October 1972
authorization : Director of the Computer Centre

1   OPERATIONS

1.1   PDP-10 System

Monday   16 October   maintenance until 0815
                                 end of day accounting 0820-0935
                                 system failure, offline 1125-1150,
                                 monitor reloaded.

Tuesday   17 October   maintenance until 0810
                                 end of day accounting 0816-0949
                                 system failure, offline 1230-1302 and
                                 1330-1340, monitor reloaded each time.

Wednesday   18 October   system failure, offline 0932-0958 and
                                 1618-1625, monitor reloaded each time.

Thursday   19 October   system   failure,   offline   1310-1330
                                 1415-1430   and   2040-2053,   monitor
                                 reloaded in each case.

schedule for forthcoming week: maintenance 0600-0800
                                 operations 0830-2400
                                 batch   2400-0600.

1.2   GE-225 System

schedule for forthcoming week: maintenance 0700-0830, 2000-2130
                                 operations 0900-2000, 2130-2400.

2   FORTRAN ERROR

If the COPY command in batch is used to create a Fortran data
file containing blank lines, the batch feature that deletes
trailing blanks produces lines with no characters.   Such lines
are skipped by the Fortran program. This error may be avoided by

using sequence numbers on the data cards. Blank lines are not ignored when input is from the job input device and neither are lines containing at least one character.

3   SSP ERROR

Attention is drawn to the fact that the routines RANDU and GAUSS and possibly other routines are machine dependant and will cause problems on this system. It is suggested that RANDU should not be used at all, its function being replaced by the library function RAN to return a real variable with random distribution between 0.0 and 1.0. To change the starting point of the pseudo-random sequence, use the library subroutine SETRAN, for example as

```
          READ 100,J
          CALL SETRAN(J)
          o
          o
          o
```

THE SUBROUTINE GAUSS may in most instances be replaced by the following:

```
          SUBROUTINE GAUSS(IX,S,AM,V)
          A=0.0
          DO 50 J=1,12
   50     A=A+RAN(0)
          V=(A-6.0)*S+AM
          RETURN
          END
```

This will replace the SSP routine GAUSS in all respects except for restarting the sequence of numbers generated. For this purpose a call to SETRAN should be used.

Further information on the library routines RAN and SETRAN is given in appendices B and C of the Centre's Fortran manual (MNT-5).

4   BASIC TAB FUNCTION

The TAB function (p. 6-3) may be used to control the spacing of output, for example;

```
          55        PRINT TAB(n); Z
```

will cause the printing of Z to start in column n. The largest value n may take to give printing on the one line is 62. This is because the present version of the operating system forces a new line after 72 characters, even if the actual remote console has a greater carriage length.

5 COBOL

Unlike Fortran, Cobol does not collapse constants in an expression at compile time, for example in

    COMPUTE A1=AT * 10**7 + BT

The constant is evaluated at execution time and in floating point, with the consequent likelihood of rounding problems.

Thus, expand such constants in full, which will reduce execution time and normally cause the evaluation to be made in integer arithmetic. The example should be

    COMPUTE A1=AT * 10000000 + BT

6 SUGGESTIONS

6.1 A Card Punch for the PDP-10

A card punch was not purchased with the initial installation because of finance constraints. It has been our opinion that with a disk based system there would be little need for the punching of card decks. To provide a mechanism for the punching of source decks, the PDPUN service was initiated. Users can get PDP-10 source files punched out by filling out a 'Request Form for Punched Card Output', available from the Administrative Officer. It is intended to extend this operation to a general symbiont type system where users will be able to say PUNCH (in the same way as PLOT or LIST now operate) to produce card punched output.

No attempt has been made to provide a mechanism for the punching or reading of binary cards, as is possible on the GE-225, because it is considered that the ease of compilation makes external communication at binary level unnecessary.

6.2   Provide Programmer Services Throughout the Day

To have a programmer available for consultation at all times of the day would reduce the effort available for system development, software maintenance, and other work. This is the reason for restricting consulting time to half of the day only. As only approximately 35% of the presently available consulting hours are used, it is difficult to justify any extension of hours.

6.3   Get More 029 Card Punches

There are at present one 026 and three 029 card punches available in the clients' room. These punches are provided for users to punch only corrections to their decks – they are not intended to be available for general card punching. There is a limit of 5 minutes on each machine and clients waiting for a punch are entitled to ask the person using the punch to leave if he has been using it for more than the limit. Use of the machines is concentrated only for 6 months of the year but they are rented for a minimum of 24 months. It is therefore financially impracticable to rent more punches. In addition, with the size of the present clients' room additional equipment would make conditions in that room even more crowded than it is already.

6.4   Announce the Expected Turnaround Times for Batch Jobs

With a timesharing system it is utterly impossible to announce the expected turnaround time for any job – batch or timesharing. The current batch job competes for system attention with all the other jobs in the pool. The time for a batch job is not only dependant on the jobs that precede it but also on the dynamic situation of the system work load. In addition stated times cannot guarantee that there will be no hardware or software problems with the machine. Estimated turnaround times for batch jobs is usually; 6 hours for normal priority, and 24 hours for low priority. The Centre appreciates the problem experienced by batch users and is currently investigating other mechanisms to overcome it.