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January, 1967  
Volume 1, Number 4

University of Minnesota  
Minneapolis, Minnesota

ANNOUNCEMENTS

Our 6600 will be crated on January 31, 1967, for the move from C.D.C. at Arden Hills, to our site on Highway 280. Our computer will be operational at our site about the middle of February. There will be a limited amount of operation done on a 6400 during the moving of our computer.

The following manuals are now available for reference at the N.A.C.

601 749 00 Fortran 2.0 RM  
408 123 00 Care and Handling of Mag. Tape  
601 645 00A 6400/6600 CP Instructions (card)  
387 073 00 Import/Export Remote System RM

Purchase of Cards

As most N.A.C. users know, boxes of cards (2000 cards per box) may be purchased at the Engineering Bookstore for \$3.25 per box or \$.35 for 200 cards or obtained from the N.A.C. by presenting the account clerk, Janice Reinking in 212 Experimental Engineering, with a journal voucher for \$3.00 per box. However, most users are not aware that the University has a card contract. This contract provides that cards may be ordered in multiples of 2000 without going through the bidding process. The usual requisition with sample cards attached should be submitted through the University's Purchasing Department. Prices are \$.924 per 1000 for unstriped cards, \$.934 per 1000 for striped cards, and \$.974 per 1000 for solid pink Fortran cards. Card orders will take about two weeks.

Use of Magnetic Tapes

We suggest that any particular magnetic tape be used either on the 6600 or the 1604 but not on both. Since the 1607 tape drives (used by the 1604) employ a pinch roller system for stopping a tape, actual contact is made with the tape by a mechanical rubber brake during the stop procedure. This contact usually rubs a small portion of the oxide surface from the tape where the contact is made. The portion removed is usually not significant to the 1607 drives but should the same tape be used on the 606 or 607 drives (used by the 6600), the portion of the tape where oxide has been removed quite frequently causes the drives to sense a parity error on read and write operations.

Submission and Return of 6600 Job Decks

All 6600 job decks are submitted in room 227 Experimental Engineering. At submission time the dispatcher will add a control card of the form shown immediately below to the job deck. This card will be placed directly after the job card.

Comment\*\*\*NNN\*\*\* where NNN is a 3-digit number

When the run has been completed, the output will be found in room 227 Experimental Engineering in that bin of the output shelves numbered NNN. Currently, two runs are being made daily. Output from the morning run is available around 12:30 and input for the afternoon run must be submitted by 1:00. The afternoon run's output is available around 4:00. This schedule applies only while our computer is in Arden Hills. A new and better schedule will be announced after the 6600 has been moved to its new location.

Items Needing Special Handling on the 6600

1) Magnetic tape records of a length greater than 5000 characters cannot be read by the standard 6000 series software. Special software has been written to handle long records in either 200 or 556 BPI. The routines to read long records have been added to the 6600 Scope 2.0 system library and write ups for their use are available.

2) A card punch will not be available on the 6600 after the machine is moved to our own site early in February. After that time, until the system code has been changed, punched cards can be obtained only by the WRITE OUTPUT TAPE statement to an actual tape, and not by the PUNCH statement. All such tapes must be punched on the 523 card punch on the 1604 system. Shortly thereafter all PUNCH statement output will automatically be dumped to magnetic tape for punching on the 523.

Notes on 6600 UMST

The programs listed below are now available on the 6600 system library. Until further notice all UMST programs should be run with a field length of 110000 and a priority of 7. These UMSTAT programs will be removed from the 1604 library sometime in February.

- |               |                  |
|---------------|------------------|
| UMST500       | (UMSTAT50)       |
| UMST510       | (UMSTAT51)       |
| UMST520       | (UMSTAT52)       |
| UMST530       | (UMSTAT53)       |
| ***UMST570*** | ***(UMSTAT56)*** |
| UMST600       | (UMSTAT60)       |
| UMST610       | (UMSTAT61)       |
| UMST620       | (UMSTAT62)       |

\*\*\*NOTE: This will be corrected to UMST560 soon. Watch the UMSTAT sign on the computer room window.

### 6600 UMST System Control

On the 1604 the UMSTAT system was a separate system with its own monitor. The library consisted of a tape which was mounted by the operator, loaded, and then allowed to process UMSTAT problems. On the 6600 there is only one system library. UMST is only a group of programs available along with all other types of programs in conjunction with FORTRAN operations. The first record of a job is reserved for system control statements, that is, the Job Card and the Program Call Card(s). The Program Call Card has the following general format:

```
NAME(file 1, file 2,...fileN).
```

NAME represents the name of a program on the system library that the user wants to call. The appearance of a card of this form causes the program "NAME" to be loaded (if available) and executed.

Suppose we wanted to load the program UMST500. The Program Call Card would be

```
UMST500(INPUT,OUTPUT).
```

However for UMST programs INPUT and OUTPUT are standard arguments as all UMST programs must have input and output to some medium. Therefore if standard input (cards) and standard output (listing) are desired, the user need only write

```
UMST500.
```

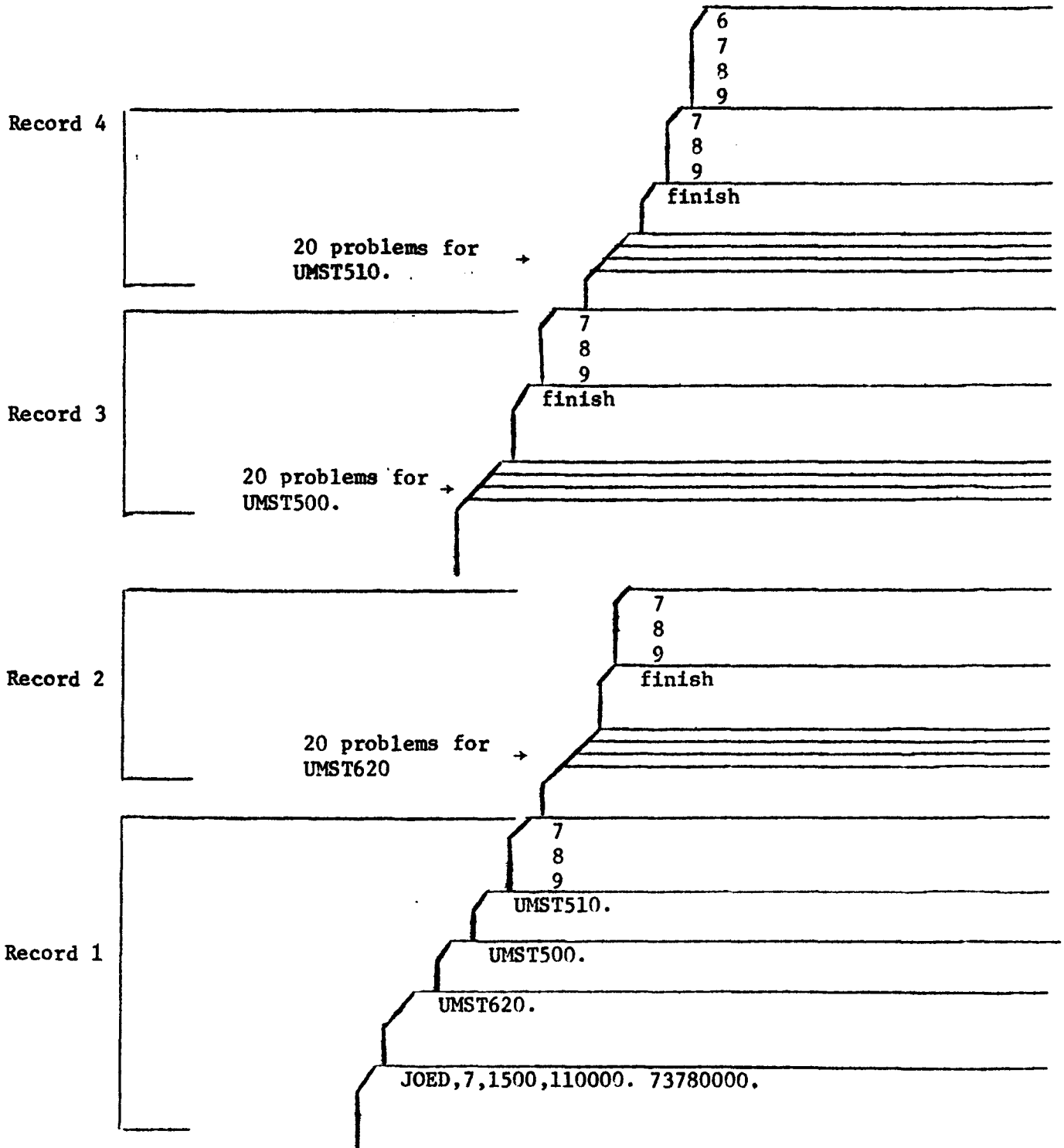
The names INPUT and OUTPUT are assumed. Specifying these arguments as other than standard would be useful if the user wanted to preprocess his data with a FORTRAN program and then use an UMST program or if the output from an UMST program were to be used as input to another UMST or a FORTRAN program.

### UMST Record Allocation

The records are each associated with a single program. One program on a single call can read only a single record. Suppose calls from record one are made to UMST620, UMST500, and UMST510, in this order. Then the second record is input for UMST620, the third for UMST500, and the fourth for UMST510. The programs are written to process consecutive problems. They ignore cards prior to the problem card, and therefore the triple dot can be left in the program deck. Each record can only consist of input for a specific UMST program, but many problems for that program.

EXAMPLE

Joe Doe wants to run three UMST programs and he has 20 problems for each. He estimates his total time at 10 minutes and needs programs 50, 51, and 62.



GENERAL 6600 LIBRARY PROGRAMS

The following routines have been added to the 6600 system library since the list was given in the last newsletter. The calling sequences remain the same as their counterparts on the F-60 system library. All of these programs have been tested and to our knowledge produce correct results. We would appreciate that any difficulties encountered in the use of them be reported immediately to one of the 6600 consultants.

\*See consultant for changes in calling sequence

- CDFNI Inverse of cumulative normal distribution function
- CHSQI Inverse chi-square distribution
- EI Exponential integral
- FREQDSN Frequency distribution of arrays, raw data
- IVLFREQ Frequency distribution for class intervals
- LINT Lagrange polynomial interpolation
- \*NRAN Random integer generator in partially specified closed interval
- MXLNEQ Solve linear equations, determinant, and inverse
- MXCMBN Matrix A + or - Matrix B to C
- MXMOV Move + or - Matrix A to B
- MXTRIDI Solve a tri-diagonal linear system
- MXTRP Transpose a rectangular matrix
- JACOBI Eigenvalue-eigenvector of real symmetric matrix
- PLROOT1 Complex roots of real polynomial
- RK Differential equation solver with variable step and error control
- RKGHN Differential equation solver
- SYMPACK Pack symmetric matrix for SYMINV
- SYMUPK Unpack symmetric matrix for SYMINV
- TINV Inverse T-distribution
- XINT Gaussian multiple integration
- \*RAN2F Generate uniform random numbers on (0,1)
- \*IRAN Generate uniform integer random numbers on (0,NRANGE)
- FVR F-distribution

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If you received this issue of the newsletter with your name and address on a printed sticker, you are on our mailing list. If you have any corrections to your address or any other names to add to our mailing list, please fill in the form below and return to Mrs. Carolyn Carlson, Numerical Analysis Center, 215 Experimental Engineering.

Please put me on the mailing list for the NAC Notes and Comments

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