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9C 739

UNIVERSITY COMPUTER CENTER
UNIVERSITY OF MINNESOTA, MINNEAPOLIS, MINN 55455

NOTES
AND
COMMENTS

VOLUME 7
NUMBER 5
MAY 1973

MEMORIAL DAY HOLIDAY HOURS

All facilities close: 2:00 P.M., Saturday, May 26
Lauderdale opens: 6:00 P.M., Monday, May 28
Other facilities open: 8:00 A.M., Tuesday, May 29

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BRIEF NOTES

New Publications

- Technical Report: A General File Management System for the CDC 6600, by Douglas A. Kellogg.
- Technical Report: GEOTREE, A Benchmark Test for a General File Management System, by Douglas A. Kellogg.

Special Request Slips

Special request slips are required for the following special cases:

- | | |
|---|---|
| 1. transient tapes | 4. jobs punching more than 2000 cards |
| 2. multiple reel tapes | 5. jobs requesting more than 400 pages of printed output. |
| 3. any special instructions to the operator | |

In these cases a new request slip will be provided (see example). When using these slips, be as specific as possible since the operator will not attempt to interpret vague instructions and may drop the job.

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U.C.C.                SPECIAL REQUEST SLIP                J.C.C.
-----
DECK NAME----- BIN NO.----- DATE-----
PUNCH CARDS, APPROX. NO. IF OVER 2000 -----
PRINTED PAGES, APPROX. NO. IF OVER 400-----
LIST THE NAMES OF ALL TRANSIENT TAPES, INSTRUCTIONS FOR
MULTIPLE REEL TAPES, AND ANY OTHER SPECIAL INSTRUCTIONS.
(MAKE SURE YOU ARE CLEAR AND COMPLETE, USE BACK IF NECESSARY)
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-----
01/15/73 RJM
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Job Opportunity

There is a possible half-time appointment in the Physics Department at the research assistant level, which is appropriate for a CICS beginning or intermediate grad student, for the period June 15 to September 15. This position is associated with Dr. Nier's Atmospheric Explorer experiment. Large volumes of data will be processed through a dedicated terminal which is connected to a Sigma 9 computer near Washington, D.C. A knowledge of advanced Fortran and assembly language on the 6600 or any other computer are minimum requirements. The appointee will assist in software development at the writing and debugging level, as well as day to day operations. Contact David Kayser at 373-0044 or 3353, or come to Physics 42A or SB51.

EBR Users and Potential EBR Users

On May 21st we will have for a trial period (5-6 weeks) the use of equipment to duplicate original EBR film. It will use the new vesicular type 3-mil film for either a reversed or a non-reversed image. Film life is dependent on process and storage control, but 30-50 years is a reasonable minimum. During this test samples of duplicates will be provided, if requested, at no cost for EBR film generated during this time.

REPORT ON BMD AND UMST

In our monthly report we rank the UMST and BMD programs by frequency of usage. We then put the most used statistical programs on the disk and the remaining programs on the respective tapes by their rank. The following table shows the locations and ranking of each program:

NAME	DISK		TAPE			
	STATLIB	LIBMT 06	LIBMT07	LIBMT08	LIBMT09	
1	UMST 500	UMST 520	BMD 03D	BMD 08V	BMD 01D	
2	UMST 510	UMST 540	BMD 01V	BMD 05R	BMD 01S	
3	UMST 530	UMST 560	BMD 02V	BMD 04V	BMD 01M	
4	UMST 550	UMST 610	BMD 03R	BMD 05V	BMD 06R	
5	UMST 570	UMST 620	BMD 02T	BMD 03M	BMD 09S	
6	UMST 580	UMST 640	BMD 01R	BMD 06V	BMD 04M	
7	UMST 590		BMD 05M	BMD 08D	BMD 07V	
8	UMST 600		BMD 04D	BMD 07D	BMD 06D	
9	UMST 630		BMD 10D	BMD 09D	BMD 02M	
10	BMD 02D		BMD 11D	BMD 06M	BMD 10S	
11	BMD 05D		BMD 03V	BMD 03S	BMD 02S	
12	BMD 07M		BMD 04S	BMD 04R	BMD 01T	
13	BMD 02R		BMD 06S*	BMD 07S*	BMD 08S*	
14	BMD 05S					

* PROGRAM NOT AVAILABLE

CARD READER ERROR MESSAGES*

There are five different messages that JANUS can write at the beginning of your output when an invalid card is encountered. Each message specifies, in decimal, the number of the "logical record" (in the CDC sense of the term) and the number of the card within that "logical record" where the error occurred. The logical record number, RC, starts with zero for the control card record and is increased by one whenever a 7/8/9 card is encountered. Card numbers within a record start with number one. The general form of the error message is:

Error type RC.xxxx.CD.yyyy

JANUS will never write more than 42 error messages for any one job. Should a deck have more than 42 errors, JANUS will stop checking for them.

Users whose "records" are shorter than about two boxes of cards get straightforward messages. However, there is a potential problem for users of long decks. Both the record number and card number are printed modulo 4096 (which is 10,000 octal). This means that the following message, occurring in a 5-record deck,

Message RC.0003,CD.0001

could mean that card 1 or card 4097 (4096+1) or card 8193 (2*4096+1) or card 12289 (3*4096+1) or ... etc. is the "bad card".

BINARY DECK MESSAGES

CKSUM ERROR RC.xxxx,CD.yyyy

Each binary card contains a checksum created when it was punched by SCOPE. This value is checked when the card is read, and an error is generated if the checksum is incorrect. The job is pre-aborted, and the deck needs to be recreated.

FORMAT ERR RC.xxxx,CD.yyyy

A card identified as binary (7-9 punch in col. 1), and not being read as free-form (80 column) binary, has no recognizable format (word count error). There is probably an extra, useless, card in the deck.

SERIAL CHK RC.xxxx,CD.yyyy

Binary cards are numbered serially in columns 79 and 80, as a binary number (least significant bit in row 9 of col. 80). This message usually indicates that a binary card has been omitted or accidentally rearranged. If the problem is not obvious, it is wise to recreate the deck.

BCD ERRORS

A Hollerith card (no 7-9 punch in col. 1) has been detected which contains one or more columns of invalid Hollerith data. Any column that does not contain a valid Hollerith combination is read as a blank, and the following message is given:

HOLL CHECK RC.xxxx,CD.yyyy

MODE ERRORS

If an input record contains cards of mixed format (SCOPE binary, BCD or 80-column binary) within a single record, the following message is given:

MODE CHANGE RC.xxxx,CD.yyyy

This probably indicates a missing EOR card before or after a binary deck, or a mispunched BCD card (e.g., 7-9 in col. 1). The mode change is accepted. However, a change from BCD to binary within a record will usually generate a SERIAL CHK (see above), which causes the job to terminate.

* This article appeared in the University of Virginia Newsletter (Apr 73) Volume IX, #4.

Examples

JOB,LnnnnLLLL,CM40000,T10.

RUN.

LOAD,INPUT.

LGO.

7/8/9

(FORTRAN Program)

7/8/9

(Binary Subroutine)

7/8/9*

(Binary Subroutine)

7/8/9*

7/8/9

(Data (BCD))

6/7/8/9

HOLL CHECK RC.0001,CD.0003

The 3rd card in the FORTRAN program has an illegal punch in it.

GKSUM ERROR RC.0002,CD.0009

The 9th card in the 1st subroutine is bad.

HOLL CHECK RC.0005,CD.0125

The 125th (or 4221st, etc.) card in the data deck has a punch which is not a valid Hollerith punch.

Note that the data deck is record 5. Because binary decks end with 7/8/9 cards, an extra 7/8/9 card (which means an extra record to JANUS) is required before the data deck, to indicate the end of all binary decks.

CDC 6600 USAGE FOR APRIL

54,353 jobs were run:

from ExpEng	33.3%
from Lauderdale	18.3%
from West Bank	17.9%
from all other remote terminals	26.4%
for maintenance	4.1%

Average times:

on input queue	18.6 minutes
at control point	6.1 minutes
on output queue	4.9 minutes
printing	1.6 minutes

SUGGESTION BOX

For clarity, some questions have been reworded. Unsigned suggestions are not considered.

- Q/S Please re-compile the program BMD03R with some compiler that accepts the T format specification. Since the output from this program is partially dependent on the order of the variables, this facility is important to the correct functioning of the program.
- A. We re-compiled it with MNF.
- Q/S Thanks for the new TT (transient tape) racks, they are a real time saver.
- A. You're welcome.
- Q/S Is there any chance of making dayfile messages 80-100 columns long so cards don't take two lines?

A. A change of this sort would involve a major rewriting effort. We feel that this is not justified for the following reasons:

- 1) 98-99% of all dayfile messages processed by the SYSTEM are 20 to 40 characters in length. The remaining 1-2% which require 2 lines consist of the following (in order of use):
 - a) JOB CARD containing deck name, programmer name or course number.
 - b) BIN cards with bin information duplicated beginning in column 41 of the card.
 - c) REQUEST cards.
 - d) Long dayfile messages from the user.
 - e) COMMENT cards.
- 2) Most peripheral processors are organized to generate dayfile messages up to 40 characters in length. Our system is designed to split control cards and user messages into 2 lines if necessary (columns 1-40 on line 1, columns 41-80 on line 2). The change suggested above would benefit few people since it would be merely stylistic rather than functional.

Q/S Please put a bell at the EXP ENG I/O counter so that we can call an operator out from the 'back room'.

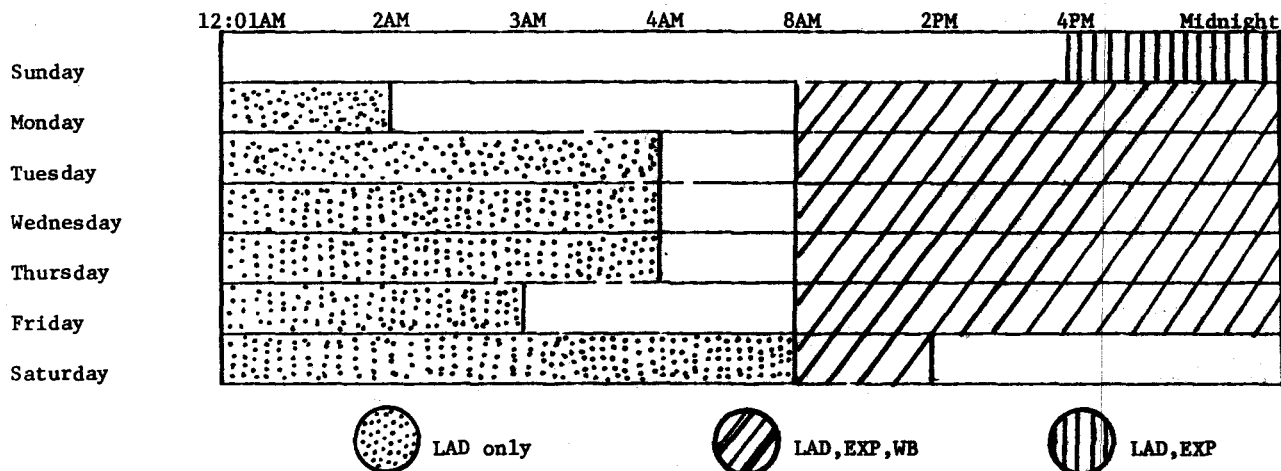
A. Good idea; we'll get to work on it.

Q/S Could the UCC shuttle bus stop at the northwest end of campus at Burton or Pattee Hall? Surely there are enough users from this area to make such a stop worthwhile. Also, output diverted from the Elliott Hall terminal to Lauderdale could then be dropped off by the driver.

A. This is really 2 questions:

- 1) Can the shuttle bus make extra stops? No, this is not possible with our present tight schedule.
- 2) Can we set up procedures for diverting output to Lauderdale and then providing return by shuttle bus? This involves a number of problems. First, all procedures will have to deal with all the remote terminals, not just Elliott Hall. Any policy we set for the REMOTES must be made with advice from the remote users and the solutions we come up with will have to satisfy as many users as possible. Second, the two printers at Lauderdale now run full time. Any further increase in printing demand will only slow job throughput further. Third, as we said in answer to your first question, our bus schedule is tight! We would have to do some re-scheduling. The answer to your question will have to be we don't know; we're working on it.

6600 OPERATING HOURS



Medium Speed Remote Terminals

Room 38 ElectE	(Mpls)
Room N640 EltH	(Mpls)
Room S191 KoltH	(Mpls)
Room 321 MinMet	(Mpls)
Room 69 Physics	(Mpls)
Room 17 AgEng	(St. P)
Room 257 BioSci	(St. P)
Room 384 HortS	(St. P)
Room 54 BA	(WB)

Local Supervisor(s)

C. Berg
M. Cook
J. DeWitt
Rod Rosse
T. Faulkner
J. Abdullah
C. Swanson
R. Lewis
Bob Scarlett
Dave Olson
R. Vance Morey
N. Valentine
R. Comstock
L. Hulbert
J. Heinen
M. Brenner
H. Smith

Telephone

373-5404
373-3895
376-7377
376-3149
376-7024
373-2348
373-5475
373-2300
373-0243
373-0044
373-0763
373-1059
373-0928
376-3067
373-1086
373-0949
373-3608

Useful Telephone Numbers

- 373-4876 Manager, Operations (R. Folden)
- 373-4599 Manager, User Services (T. Hodge)
- 373-4548 Account Clerk, 6600
- 373-7753 Account Clerk, 6400
- 373-4995 EBR Operator (leave a message)
- 373-4596 ExpEng I/O
- 376-7584 Field Engineering
- 373-2521 Keypunch Supervisor
- 373-4940 Lauderdale Shift Supervisor
- 373-4994 Recorded Message
- 373-7744 Reference Librarian
- 373-4995 Tape Librarian (leave a message)
- 373-4360 UCC Office
- 373-4921 Users' Room (Lauderdale)
- 373-3608 West Bank I/O

Locations of UCC Keypunches

<u>East Bank</u>	<u>No.</u>	<u>St. Paul</u>	<u>No.</u>	<u>West Bank</u>	<u>No.</u>	<u>Lauderdale</u>	<u>No.</u>
38 ElectE	2	17 AgEng	1	90 BlegH	2	Users Room	4*
N640 EltH	1	302 CofH	1				
130 ExpEng	2	384 HortS	1				
131 ExpEng	1						
208 ExpEng	8*						
S191 KoltH	1						
321 MinMet	1						
69 Physics	1						

*includes 1 interpreting card punch

CDC INQUIRY CONCERNING SPECIAL APPLICATIONS SOFTWARE

Control Data Corporation is presently collecting information about applications software in order to catalog and publish lists of special applications software developed and used at computer installations using CDC equipment (particularly educational institutions). We have been asked to assist.

UCC has found that this type of information exchange often saves much time and effort in program development. UCC would also like to compile such a catalog of programs used at the University of Minnesota.

Therefore, if you have some special applications programs which you feel are generally useful and which you would be willing to share with other users throughout the country, would you please fill in the information outlined below and return to:

R. Hotchkiss
Applications
University Computer Center
227 Experimental Engineering
University of Minnesota
Minneapolis, Minnesota 55455

Name:

Department:

Address:

Telephone:

Brief description of program(s):

Would you be willing to speak to a CDC representative? _____

INPUT / OUTPUT

We are still offering a page of this newsletter to users who wish to exchange information on programs, equipment, etc. with other UCC users.

We will be printing this form in each newsletter hereafter for your convenience.

To: Editor, N & C
University Computer Center
Room 227 Experimental Engineering
University of Minnesota
Minneapolis, Minnesota 55455

Please publish the following message in the INPUT/OUTPUT section of the next UCC Newsletter:

Message: _____

Contact:
Name _____
Address _____

Telephone _____

UNIVERSITY ARCHIVES
ROOM 11 KAL LIP
MINNEAPOLIS CAMPUS

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