University Computer Center newsletter

CONTENTS

USERS URGED TO CONSERVE DISK SPACE
REMOVE UN-NEEDED, UNUSED, UNUSUAL, AND UNNECESSARY FILES

--by L.A. Liddiard

When UCC switched operating systems from MOMS to KRONOS on September 1st, an additional disk drive
was added to the user file base, giving a total of six drives for user and temporary files, one drive for
removable packs, and one drive for staff, temporary, and I/O queue files. Even with this additional capacity
the user drives are currently 88% full. Each user's files are put on specific real devices and if his device
fills when the user is writing information, his job will fail when the operator drops the job to clear the
disk-full condition.

To avoid problems, UCC urgently requests that users CATLIST their account numbers periodically and
PURGE all un-needed, unused, and/or unnecessary files. Remember that any user files which remained on the
MOMS packs on August 31st were transferred to KRONOS as permanent files. Some of these files may be unnecessary
but they still accumulate charges against their account numbers. Since permanent file costs are charged
against supply budgets, monitoring files closely is an economy measure.

To get a quick, short list of permanent file information, add the control card
            CATLIST.
to a job. This will list the names and count the number of permanent files cataloged under an account number.
The control card
            CATLIST,LO=F.
will give a complete list of information about all the permanent files under an account number. The statement
            CATLIST,LO=F,FN=name.
will give full information for the permanent file "name". After this cataloging procedure, unnecessary files
can be removed by using the control card
            PURGE,name1,name2,....
which purges the named files.

In addition to purging un-needed files, users are reminded that some seldom-used files can be stored
more economically on magnetic tape. (See the next article in this newsletter on procedures for backing up
permanent files.) These procedures will save real money and ensure that jobs will run to completion rather
than running into a full device problem.

SAVE MONEY
BACK UP YOUR OWN PERMANENT FILES

--by A.B. Mickel

The routines LOADPF and DUMPPF have been provided to allow the user to back up his own permanent
files on tape. Because secured permanent files (automatically backed up by UCC) cost three times as much as
unsecured permanent files, users may save money by creating unsecured files and then backing them up with LOADPF
and DUMPPF. To back up all unsecured files on a catalog, use the following control cards:

to back up files:	*to reload files:*
Job card with T10, CM30000.	Job card with T10, CM30000.
ACCOUNT card.	ACCOUNT card.
LABEL,DUMP,D=HY,PO=W,VSN=.....	LABEL,DUMP,D=HY,PO=R,VSN=.....
DUMPPF.	LOADPF.
(6-7-8-9 card)	(6-7-8-9 card)

If the user wishes to back up all files (both secured and unsecured), the control cards DUMPPF(FS=ALL) and
LOADPF(FS=ALL) should be substituted in the above examples.

MIRJE SERVICE DELAYED
PLEASE ACCEPT OUR APOLOGIES

--by L.A. Liddiard

The MIRJE service, first announced in the September newsletter, was supposed to be available on a trial basis on September 9th and running (with 32 ports) on September 16th. This has not happened, since the delivery of the necessary controller has been delayed. The controller should arrive "late in October."

Individual users of this service will receive direct notices when MIRJE actually begins operation. Those persons who are using the MERITSS system in the interim will be given transfer instructions at that time. Further questions should be directed to Thea Hodge at 373-4599 or Richard Franta at 376-3963.

LIBRARY CHANGES & ADDITIONS

--by M.J. Frisch

September 2, 1974:
GPR31 (Statos 31 plotter package) made available to KRONOS 2.1 users.

September 3, 1974:
QLENTH put on KRONOS 2.1 FTN library.

September 12, 1974:
The following subprograms put on the KRONOS 2.1 FTN library:

CMXCMBN	CMXMOV	CMXTRP	MXLNEF	NONLIN	PROCERC
CMXLNEF	CMXMPLY	DMXLNEF	MXLNEQ	PRNPLOT	RCVECT
CMXLNEQ	CMXPLY1	DMXLNEQ	MXTRP1	PROCER	RESTFL

September 23, 1974:
The following subprograms put on the KRONOS 2.1 FTN library:

AXISP	LYNE	PLTSCL	SKALE
DPLOT	PLOTPAC	POLPLOT	SYMBOL2

DOCUMENTATION/PUBLICATIONS

A NEW INDEX TO DOCUMENTATION -- *by A.B. Mickel*

A new KRONOS Control Card Index to documentation has been compiled and is now available. This index is similar to the old MOMS Control Card Index which was available on the INFO file and accessed via the WRITEUP command. The 6 page index is an alphabetical list of control cards with a description of the purpose of each, a class category, and the source for documentation. Because the INFO file and the WRITEUP command have not yet been converted to KRONOS, this index is available temporarily by running the job:

Jobcard with T1 and CM20000.
ACCOUNT card.
FETCH(INDEX)
CBF(INDEX,OUTPUT)
(6-7-8-9 card)

UCC PUBLICATIONS

RPG at the University of Minnesota is a new publication and now available in Room 140 ExpEng.
SLIP at the University of Minnesota has been revised and is now available in Room 140 ExpEng.
A Pocket Guide to UCC Facilities has been revised, has a new orange cover, and is available from the Reference Room (235a ExpEng).
Writeups for PLTSCL and STATOS 31 Plotter Routines have been revised and are now available in Room 140 ExpEng.
KRONOS Conversion Guides are still available either at the consultant's desk or in the Reference Room. The following is a correction to the "Compiler Conversion Guide."

page 3, section II.D: substitute this table for the original:

tape type	coded (formatted)	binary (unformatted)
Internal	RT=Z ; BT=C	RT=S ; BT=C
External (X mode)	RT=F ; BT=C	RT=S ; BT=C
S tape	RT=Z ; BT=C	RT=S ; BT=C
L tape	RT=Z ; BT=C	RT=U

The new default FORTRAN file conventions (BT=C;RT=Z) for binary and (BT=I;RT=W) for coded can be overridden with a FILE card using BT and RT values from the table above. BT means 'block type' and RT means 'record type.'

SPECIAL LANGUAGE PROCESSORS

--by A.B. Mickel

A NEW PASCAL COMPILER IS AVAILABLE

A new PASCAL compiler was released by Niklaus Wirth and co-workers at E.T.H., Zurich, Switzerland in May of this year. This compiler differs from the current one in two important respects: 1) the new compiler generates relocatable binary code which is loaded by the operating system loader and allows linkage to FORTRAN-callable subprograms, and 2) this compiler fully implements the definitions of the Revised Report for PASCAL of November, 1972. (The current compiler implements all of the definitions except that packed arrays and files are absent and CLASS types exist.)

Execution times are slightly faster for programs run under the new compiler. However, load time is now incurred. The compiler has increased in size to include better code generation schemes and a field length of 52200 is needed to compile a small or medium-sized program.

To access the new compiler, use the control cards:

```
Job card with CM52200 or larger.
ACCOUNT card.
NEW(PASCAL)
PASCAL.
REDUCE(-)
LGO.
(7-8-9 card)
[PASCAL program]
(7-8-9 card)
[data, if any]
(6-7-8-9 card)
```

An information file on specific conversion information has been placed on the file PSCINFO. To obtain a listing, run the following job:

```
Job card with T1 and CM20000.
ACCOUNT card.
FETCH(PSCINFO)
CBF(PSCINFO,OUTPUT)
(6-7-8-9 card)
```

Because no program is upward compatible to the new compiler, the current compiler will remain available for quite some time, even when the new version becomes the 'current' version.

A new book has been published which describes the PASCAL language at the programmer's level. A User Manual for PASCAL by K. Jensen and N. Wirth (Springer-Verlag, September, 1974, 120 pages, paperback) should soon appear in the Engineering Bookstore. PASCAL users may benefit by obtaining this book when it appears and listing the file PSCINFO for information on the new compiler.

The next PASCAL short course will be offered either Winter or Spring Quarter.

SLIP ACCESS CHANGED

SLIP (Symmetric List Processing), an extension of FORTRAN consisting of a set of subprograms and extensions operating on doubly-linked lists, now has easier access:

MNF	RUN23
Jobcard.	Jobcard.
ACCOUNT card.	ACCOUNT card.
FETCH(SLIP)	FETCH(SLIP)
MNF(parameters,B=LGO,C=RUN)	RUN23(S)
LOAD(LGO,SLIP)	LOAD(LGO,SLIP)
EXECUTE.	EXECUTE.

A recent book Four High-Level Extensions of FORTRAN IV: SLIP, AMPPL-II, TREETRAN, SYMBOLANG (Findler, Pfaltz, Bernstein, Spartan Books, 1972) should soon be available in the Engineering Bookstore.

The writeup SLIP at the University of Minnesota has been revised and is now available in Room 140 Experimental Engineering.

MORE INFORMATION ON SNOBOL

This summer, new versions of CAL SNOBOL (SNOBOLC) and the SNOBOL macro-implementation were installed on the CYBER 74. (See the June newsletter for changes to CAL SNOBOL and the August newsletter for the change from Purdue SNOBOL to Colorado SNOBOL, the macro-implementation.) Since September 1st, further changes have been made to both SNOBOLs.

Because of the new interactive entry on the CYBER 74, CAL SNOBOL was modified to accept programs submitted under timesharing while still accepting batch programs. Other changes are:

1) NEW FUNCTIONS

CCIMAGE()	- which returns a string whose value is the current control card image with trailing blanks.
ENDRECORD(FNAME)	- writes an end-of-record on the file specified by the value of FNAME.
ENDFILE(FNAME)	- writes an end-of-file on the file specified by the value of FNAME. [ENDRECORD and ENDFILE replace ENDGROUP to be more compatible with the KRONOS operating system.]
EOR(FNAME)	- succeeds and returns the null string if the file identified by the value of FNAME is positioned at the end-of-record. EOR fails otherwise.
EOF(FNAME)	- succeeds and returns the null string if the file identified by the value of FNAME is positioned at the end-of-file. EOF fails otherwise. [EOR and EOF replace EORLEVEL to be more compatible with KRONOS.]

2) NEW CONTROL CARD PARAMETERS

CAL SNOBOL is accessed as follows with a suggested minimum field length of 20000:

        SNOBOLC(parameters)

where the parameters are separated by commas and are listed below:

    I - specifies the file on which the source program resides. Default is I=INPUT.
    L - specifies the file onto which the listing of the source program is to go. Default is L=OUTPUT.
        L=0 suppresses the listing.
    D - specifies the file to which the initial INPUT association is made. If, for example, D=DATA
        is selected, INPUT('INPUT','DATA',80) is pre-defined. D=INPUT is default.
    O - specifies the file to which the initial OUTPUT association is made. If, for example, O=RESULTS
        is selected, OUTPUT('OUTPUT','RESULTS',' ') is pre-defined. O=OUTPUT is default.
    F - sets the upper limit on field length expansion that SNOBOL may grow to during execution.
        Default is 33000 octal. This parameter must be used to get a field length in excess of 33000.
    C - Determines which character set is to be used. C=B specifies the normal character set for
        Batch. C=T selects a character set convenient for TTYs or CRTs under timesharing. The default
        is determined by job origin.
    P - determines the page listing format. P=B specifies the normal paging and header for Batch.
        P=T selects a 72 column header and listing with no page ejects for timesharing. Default is
        determined by job origin.

3) This version automatically accepts source programs with or without leading line numbers (such as those
    generated by AUTO under timesharing).

        A change to the macro-implementation of SNOBOL, Colorado SNOBOL Version 3.10, is outlined below:

1) The I/O unit numbers have been changed from 1,2,3,4 to 5,6,7,8 for the files INPUT,OUTPUT,PUNCH,SCRATCH,
    respectively to conform more closely to the conventions outlined in the book by Griswold, Poage, and
    Polonsky, The SNOBOL4 Programming Language (Prentice-Hall, 1971).

2) This version of Colorado SNOBOL is accessed by the control cards:
                NEW(SNOBOL)
                SNOBOL(parameters)
    using a field length of at least 55000. This version will replace the current version after documentation
    is completed.
        Documentation for these two new versions will soon appear in 140 ExpEng. These will be titled
"CAL SNOBOL at the University of Minnesota" and "SNOBOL4 at the University of Minnesota." A SYSNOTE will also
announce the date of the actual change of the Colorado SNOBOL version.

THE SNOBOL CORNER

 A problem posed in a recent short article in the April 1974 issue of the Communications of the ACM (pages
239-240), was to find all the integers between 1 and 100 whose squares are palindromes. Not that this is
very enthralling, but there was a competition held to find a program solution in 8 different programming
languages (FORTRAN, BASIC, SNOBOL, RPG, APL, COBOL, PL/I, and ALGOL). The person representing SNOBOL drew
criticism as his 3-line solution was incomprehensible to the other contestants. In these days of readability
and structured programming, John Strait of the UCC staff coded a readable 5 line solution:

```
        NEXT    N = LE(N,100) N + 1      :F(END)
                NN = N * N
        LOOP    NN FENCE LEN(1) $ CH RTAB(1) . NN *CH     :S(LOOP)
                OUTPUT = LE(SIZE(NN),1) N "SQUARED IS A PALINDROME"  :(NEXT)
        END
```

which produced the output:

```
        1 SQUARED IS A PALINDROME
        2 SQUARED IS A PALINDROME
        3 SQUARED IS A PALINDROME
        11 SQUARED IS A PALINDROME
        22 SQUARED IS A PALINDROME
        26 SQUARED IS A PALINDROME
```

in 0.239 CP seconds on the CYBER 74 using CAL SNOBOL.

THE SUGGESTION BOX

[Questions may be re-worded for clarity. Unsigned cards are ignored.]

Q/S *It would be helpful to implement some way of locating punch output under KRONOS. There seems to be no dayfile record so, according to consultants and operators, there is no way of knowing where the cards are -- at least that's what happened to me.*

A Our early version of KRONOS did not put the bin number on the punched output. This was corrected one week after your suggestion was received.

(L. Liddiard)

Q/S *Would it be possible for a single user (or user number) or possibly a group of friendly related users to get a private bin at ExpEng? If this service were limited to groups that run several (say 3) jobs per day it should save some time and effort for everybody.*

A UCC has assigned private bins for specific hardship cases, such as blind programmers, but does not plan to have a general policy of private bins at ExpEng. The main reasons for rejecting this suggestion is the increase in human labor to keep track of such bins and the non-uniform handling of specific users which would tend to create a 'privileged' class of users.

(L. Liddiard)

Q/S *I miss finding the dollar cost as part of the dayfile information when running under KRONOS. Can it be included?*

A This would be quite difficult to do since it can not be readily adapted from MOMS. At the present time, with limited manpower, we will have to assign projects such as this a very low priority.

(J. Foster)

Q/S *Could you please put the sorting bins (in 208 ExpEng) back near the sorter? They were very handy when sorting large jobs.*

A These bins will be replaced when the wall repairs are finished.

(J. Foster)

Q/S *Could you please tell your operators to be more careful in where they put ROUTEd and XMITed output? Listings have an equal chance of ending up in either bin.*

A The operators will be reminded of the correct procedure.

(L. Liddiard)

Q/S *I don't think that having to include an FA=P on the LABEL card each time makes any sense. In my humble opinion you should specify on the BLANK card and be done with it. It acts like a password. Why have two?*

A You are not required to use the FA parameter. However, if FA=P is used on the BLANK control card it must also be used on the LABEL control card. FA=P was implemented to give a read-only capability for tapes (as explained on page 4 of the "MOMS to KRONOS Tape Users Conversion Guide"). It thus gives the owner additional protection from having his tape written on unintentionally.

(M. Frisch)

Q/S *On several occasions, some output from the 1004 has been unduly long and has not given an indication of when it would terminate. In at least one case the dayfile itself was almost as long as the output. May I suggest that long printing jobs be automatically routed?*

A By October 15 the KRONOS system should be changed to use the same priority as MOMS did to print output files. Files will then be printed by shortest PRU length rather than by input priority (input priority means that a 300 page job submitted before a 10 page job also prints before the 10 page job if both are in the output queue). Currently there are no plans for automatically diverting long print files from a 1004 site. Courtesy suggests that those with such long files should not run them during the peak period of 10 AM to 4 PM, or should submit them at a high speed station.

(L. Liddiard)

Q/S *Page 13 of the "MOMS to KRONOS Tape Users Conversion Guide" gives a table for changing tape control cards. If a tape was not created on MOMS it may not be readable with the F=S specification on the KRONOS LABEL card. The user should then specify F=F, FC=5000 or some large number of frames as a frame count, along with the 'foreign' format specification. Section 9 of the <u>KRONOS 2.1 Reference Manual</u> gives a full description of F format.*

A This suggestion is from CDC. We have not tested it due to a lack of such tapes, however, users with this type of tape may find the suggestion helpful.

(L. Liddiard)

Q/S *A useful function for the FORTRAN library would be one which returned the integer value 1 for a .TRUE. argument and a 0 for .FALSE.. I realize that this is easily coded in FORTRAN but I usually decide not to because of the trouble involved (that is, another page ejected on program listings). For example:*

Calling sequence for TF	*FORTRAN equivalent of TF*
.	INTEGER FUNCTION TF(L)
LOGICAL ARG $ INTEGER TF	LOGICAL L
.	IF(L)TF=1
N=5*TF(ARG)+6*TF(.N.ARG)	IF(.NOT.L)TF=0
.	RETURN
REWIND N	END
.	
(chooses unit to rewind	
depending on ARG)	

If this could be implemented in the FORTRAN library, it could be very fast and simple (similar to LRSHFT), possibly generating an in-line code. Of course, the name TF should start with an integer prefix.

A   The proposed function does not have enough general use to justify being implemented in the FORTRAN library. It would seem just as reasonable in your example to use an INTEGER variable whose value is either 0 or 1 to accomplish the same thing.

(M. Frisch)

NOTE: *We have received several cards and calls commending the efficiency and courtesy of our operators. Thank you. We all like compliments.*

(L. Liddiard)

SHORT COURSES

The following short courses have been scheduled. No fees are charged and registration is required only for the keypunch workshops. The listed reference materials are available at the Engineering Bookstore.

KEYPUNCH WORKSHOPS

Short workshops on the use of the keypunch. Only 1 session is necessary; use the sign-up sheets in the ExpEng main stairway.

DAYS	: Each Wednesday
HOURS	: 11:00 - 11:45 AM
ROOM	: 225 ExpEng
INSTRUCTOR:	P. Gerlach

SNOBOL

SNOBOL4 is a very powerful string processing and symbol manipulation language used primarily for non-numeric applications. Knowledge of at least one higher level language is assumed.

DAYS	: Oct. 23,25,28,30 (MWF)
HOURS	: 2:00 - 4:00 PM
ROOM	: ChemE 40
INSTRUCTOR:	A. Mickel
REFERENCES:	A SNOBOL4 Primer by Griswold and Griswold
	The SNOBOL4 Programming Language by Griswold, Poage, and Polonsky

INTRODUCTION TO MODIFY

MODIFY is a program designed to create, maintain, and update library files.

DAYS	: Oct. 21,23,25 (MWF)
HOURS	: 3:00 - 5:00 PM
ROOM	: MechE 18
INSTRUCTOR:	R. Franta
REFERENCES:	MODIFY Reference Manual

STATISTICAL PACKAGES a UCC WITH EMPHASIS ON SPSS

DAYS	: Nov. 4,5,6,7 (MTuWTh)
HOURS	: 3:15 - 4:00 PM
ROOM	: ExpEng 193 (M,W) MainE 4 (Tu,Th)
INSTRUCTOR:	D. Anderson

SYSTEM 2000

How to use System 2000, a generalized data base management system. Techniques for defining data bases, retrieving and updating, and using the data base are discussed.

DAYS	: Nov. 11,13,15,18,20,22
HOURS	: 3:15 - 5:00 PM
ROOM	: MainE 325
INSTRUCTOR:	S. Nachtsheim
REFERENCES:	System 2000 Reference Manual, System 2000 Users' Guide

INTRODUCTION TO COBOL

Deals with beginning programming in the COBOL language. Use of mass storage, program libraries, and other facilities are discussed.

DAYS	: Oct. 29,31, Nov. 5,7,12,14 (Tu,Th)
HOURS	: 3:00 - 5:00 PM
ROOM	: ExpEng 193
INSTRUCTOR:	J. Cosgrove
REFERENCES:	CDC COBOL Reference Manual

CYBER 74 OPERATING HOURS

	12:01AM	2AM	3AM	4AM	8AM	4PM	Midnight
Sunday						‖‖‖‖‖‖‖‖‖	
Monday	········│				///////////////		
Tuesday	·················				///////////////		
Wednesday	·················				///////////////		
Thursday	·················				///////////////		
Friday	·············│				///////////////		
Saturday	····················│				//////		

```
····    (Lauderdale only)
‖‖‖‖‖   (Lauderdale, ExpEng)
////    (Lauderdale, ExpEng, West Bank)
```

MEDIUM SPEED REMOTE TERMINAL SITES

Site			Supervisor
38	ElectE	(East Bank)	J. Guentzel/373-5404
			M. Cook/373-3895
N640	EltH	(East Bank)	J. DeWitt/376-7377
			N. DeWitt/376-7377
S191	KoltH	(East Bank)	T. Faulkner/376-7024
			J. Abdallah/373-2348
321	MinMet	(East Bank)	C. Swanson/373-5475
			R. Oelfke/373-5680
69	Physics	(East Bank)	R. Scarlett/373-0243
			D. Olson/376-7175
167	SocSci	(West Bank)	G. Lutgen/373-3608
257	BioSci	(St. Paul)	R. Comstock/373-0979
			R. Cardellino/376-3407
125G	ClaOff	(St. Paul)	C. Bingham/373-0988
415	CofH	(St. Paul)	D. Nelson/376-7003
			T. Ehlen/376-7003
24	NorH	(St. Paul)	J. Colten/373-0990
			D. Rignell/373-0990
Users' Room (Lauderdale)			Shift Supervisor/373-4940

REFERENCE MANUALS

[Copies are available for reference in 140 ExpEng,
Lauderdale Users' Room, West Bank Computer Center,
all the medium speed terminal sites, and in the
Reference Room (235a ExpEng).]

ALGOL Version 3	BMD Reference (1973)
APL*CYBER	IMSL Library 3, Edition 3
BASIC	MNF Reference Manual
COBOL Version 3	OMNITAB II Programmers' Reference
COMPASS Version 3	SPSS: Statistical Package for
FORTRAN 2.3 (RUN23)	the Social Sciences
FTN Version 3	SPSS Version 5.5
FTN DEBUG Users' Guide	SYSTEM 2000 Reference Manual
KRONOS 2.1 Reference Manual	SYSTEM 2000 Users' Guide
MODIFY	UCC Users' Manual, Part 1
SIMSCRIPT Version 2	UMST Programs Reference Manual
SORT/MERGE Version 4	
T/S USERS' Reference	
TEXT EDITOR (EDIT)	
UPDATE	

TELEPHONE NUMBERS

373-4548	Account Clerk, CYBER 74
376-3963	Educational Services (R. Franta)
373-4596	ExpEng I/O
376-7067	Field Engineering
373-2521	Keypunch Supervisor
373-4940	Lauderdale Shift Supervisor
373-4995	Microfilm Operator
373-4876	Operations (R. Folden)
373-4994	Recorded Message
373-7744	Reference Librarian
376-3963	Remote Job Entry Services (R. Franta)
373-4995	Tape Librarian
373-4360	UCC Main Office
373-4599	User Services (T. Hodge)
373-4921	Users' Room (Lauderdale)
373-3608	West Bank I/O

CONSULTING SCHEDULES

LAUDERDALE USERS ROOM (general)
Mon - Fri	1:30 PM - 3:30 PM
Mon - Thurs	7:30 PM - 9:30 PM

EXP ENG 140 (general)
Mon - Fri	9:00 AM - 5:00 PM
Mon - Thurs	7:00 PM - 9:00 PM
Sat	10:00 AM -12:00 Noon
Sun	7:00 PM - 9:00 PM

EXP ENG 140 (statistical packages)
Mon - Fri	12:00 N - 4:00 PM

SOC SCI 167 (statistical packages)
Mon	11:00 AM - 2:00 PM
Tues	12:30 PM - 2:30 PM
Wed	2:30 PM - 5:30 PM
Thurs	10:00 AM -12:00 Noon

CLA OFF 125
Mon,Wed	8:00 AM - 10:45 AM
	1:00 PM - 8:00 PM
Tues	8:30 AM - 11:30 AM
	1:00 PM - 6:00 PM
Thurs	8:30 AM - 11:30 AM
	1:00 PM - 8:00 PM
Fri	8:00 AM - 10:45 AM
	1:00 PM - 6:00 PM
Sat	9:00 AM - 12:00 Noon

KEYPUNCH LOCATIONS

(number of keypunches is in parentheses)

East Bank		St. Paul	
38 ElectE	(1)	257 BioSci	(1)
N640 EltH	(1)	125G ClaOff	(1)
130 ExpEng	(2)	415 CofH	(1)
131 ExpEng	(1)	24 NorH	(1)
208 ExpEng	(14)*		
S191 KoltH	(1)		
321 MinMet	(1)		
69 Physics	(1)		

West Bank		Lauderdale	
90 BlegH	(1)	Users' Room	(5)*
167 SocSci	(1)		

*includes 1 interpreting card punch

BRIEF NOTES

LAUDERDALE STORAGE SHELVES

The Lauderdale site has many unclaimed storage shelf materials. Any user who has had items removed from the storage shelves by UCC (due to not applying for storage shelf space, etc.) should come in and pick up these items as soon as possible. Storage shelves are available and may be rented for $2.00 per shelf per quarter. See Carol Southward in Room 11 at Lauderdale or call 373-4912.

CORRECT ANOTHER ERROR

The CYBER 74/KRONOS 2.1 Charges (as listed in the September newsletter) should be corrected to read:

Magnetic tape storage at Lauderdale site	$1.00 per tape per quarter
Shelf storage at Lauderdale site	$2.00 per shelf per quarter

RETURN TO:

UNIVERSITY COMPUTER CENTER
227 EXPERIMENTAL ENGINEERING
UNIVERSITY OF MINNESOTA
MINNEAPOLIS, MN 55455

IF YOU WISH TO HAVE YOUR NAME
REMOVED FROM THIS MAILING LIST,
WRITE TO: EDITOR
         UCC NEWSLETTER
AT THE ABOVE ADDRESS, OR CALL
373-7744.