

A P L

--by W. Sackett

APL (A Programming Language) is essentially a large set of predefined functions for manipulating and performing computations on data. The notation used is very compact. The implementation of APL on the Cyber 74 which is available through MIRJE is an interactive interpreter designed for timesharing terminal operation. APL expressions keyed on the terminal are evaluated and the results are displayed immediately. APL may also be used through a Batch terminal.

The command for entering the APL subsystem is described below, along with instructions for getting more information from the system, and a few general cautions. For complete information on the APL subsystem, see the CDC publication #19980400C, APL*CYBER Reference Manual.

The APL command is:

APL,terminaltype,file

where terminaltype is one of these:

ASC : This is a non-APL terminal with full ASCII coding.
 CRT : This is a non-APL CRT with full ASCII coding (backspace erases previous characters).
 BIT : This is a terminal conforming to the APL/ASCII standard for bit-pairing terminals; for example, CDI 1030.
 TYP : This is a terminal conforming to the APL/ASCII standard for typewriter-pairing terminals; for example, Tektronix 4013.
 T38 : This terminal is a teletype model 38 with keyboard arrangement 3.
 713 : This terminal is a CDC 713 display unit (the backspace erases, otherwise it is the same as ASC).
 TEK : This is a Tektronix 4013 APL terminal.
 TTY : This terminal is a teletype model 33, 35, or 37 (the back arrow erases).
 MEM : This is a Memorex 1240 with APL print.
 2741 : This is an IBM 2741 compatible terminal; for example, NOVAR 5-41 or DATEL 30.
 BAT : This is a Batch terminal; for example, Univac 1004.

and file is the name of a local file from which APL overlays are to be loaded. If the file parameter is absent, the APL overlays are loaded from the system library. A word of warning if local files are to be used: the local file is returned on termination of the APL session and the file must be re-attached for further work sessions.

For help while in the APL subsystem, enter the commands:

)LOAD *APLLIBS HELP
)FNS

which will list the functions in the HELP workspace. Select the one of interest and type its name to get more information. Of special interest is the function CHARACTERS which will list the APL characters as they appear for the terminal specified on log-in.

For a list of the APL workspaces available on APLLIBS, enter the command:

)LIB *APLLIBS

To exit from APL and return to the system, enter this command:

)SYSTEM

To exit from APL and immediately log-off, enter this command:

)OFF

If the wrong terminaltype was entered on the APL command, it may be necessary to hang up the phone (or wait for the system to time out) to exit from APL.

A POST PROCESSOR PROGRAM FOR THE STATOS 31

--by M.J. Frisch

A first version of a program that has shown improvements in speed of up to 10 to 1 over the present Statos 31 plotting package, GPR31, is now available. It is a post processor program which translates a CALCOM file that is output from the Calcomp plotter software package PLOTPAC into a Varian Statos 31 electrostatic plotter file PLOTS. As a result of the speed improvement, GPR31 will be phased out within six months and users should plan on converting to use PLOTPAC as soon as possible.

The post processor program is called PSTPRC and its use can best be shown by a deck example:

```
Jobcard
ACCOUNT card
MNF(B) [or FTN.]
LGO.
PSTPRC.
Δ (7-8-9 card)
[FORTRAN program including calls to PLOTPAC routines PLOTS, PLOT, SYMBOL, NUMBER, etc.]
Δ (7-8-9 card)
[Data cards, if any]
□ (6-7-8-9 card)
```

There are two deficiencies in PSTPRC at present. It does not have any facility to do thick lines as does GPR31, and PLOTPAC plots can only be 20 inches long for translating. Both of these deficiencies will be eliminated in the near future but it is expected that plots of 20 inches or less in length will be much more efficient than plots longer than 20 inches.

If you have any questions on PSTPRC or PLOTPAC, or would like help in converting from GPR31, call or see Mike Frisch, 235d Experimental Engineering, 612/373-5907.

PLOT OF THE MONTH

--Winner of this month's plotting contest is Fred Zeman of Minnesota Analysis and Planning (MAPS) in St. Paul.



ZIGGY

TO ALL TAPE USERS

--by W. Elliott

A new utility program, EXAMINE, is now available under KRONOS 2.1 which will eliminate much of the initial uncertainty when first attempting to read a new and unfamiliar tape. EXAMINE will:

- (1) Determine a readable density if none is declared.
- (2) Indicate the parity (even/odd) for each record.
- (3) Check for labels.
- (4) Suggest probable read formats.
- (5) Produce a CATALOG of the file.
- (6) Summarize the content of the file.
- (7) Provide extensive control over the limits of examination.

No boon is gained without some sacrifice. In this case, the simplicity of using EXAMINE depends upon a rather complex form of the LABEL card:

```
LABEL(filename,VSN=myvsn,LB=KU,ID=$mysecret$,F=F,FC=5200,NS=1)
```

The first four parameters are the familiar ones. The tape is requested as an unlabeled tape (even though it may really be labeled). The last three parameters are:

```
F=F      The tape format is "foreign."
FC=5200  This specifies the maximum number of characters in the longest physical record.
          For most tapes FC < 5200. In many cases it can be smaller but be sure to
          allow a small margin to avoid fatal BLOCK TOO LARGE errors. Consult the
          EXAMINE documentation if FC > 5200.
NS=1     The size of the noise block is reduced to the minimum possible value to avoid
          skipping any data which might be written on the tape.
```

Processing of the tape continues until any one of the user-defined limits is exceeded. These limits include file, page, error, and record limits.

A typical calling sequence may be:

```
LABEL(TAPE,VSN=SN9999,LB=KU,ID=$IWONTTELL$,F=F,FC=5200,NS=1)
EXAMINE(TAPE,D=density) [Specify the density if known.]
```

Complete documentation can be obtained with the control card

```
WRITEUP,EXAMINE.
```

User comments and suggestions for future revisions will be welcomed and should be addressed to Bill Elliott, UCC-Lauderdale.

TO REMOTE JOB ENTRY USERS

--by R. Dykstra

As 1004 users have probably already noticed, a new feature has been added to further your information during Cyber 74 downtime. Whenever the Cyber 74 is down and the PDP-11 is still up, the message

```
CYBER SYSTEM NOT AVAILABLE UNTIL ****
```

will be sent out. Normally, the **** will be replaced by the operator's best guess at the time the Cyber goes down. If, at a later time, a better estimate is available, the operator will update the message.

The **** will not be replaced if the operator feels that the Cyber will be down for less than 10 minutes. Please remember that these times are only best guesses on the part of the operator and should not be interpreted to be the exact time that the Cyber will be back up.

UCC hopes to be able to send a similar message to UT200 users in the near future.

LIBRARY CHANGES & ADDITIONS

--by M.J. Frisch

March 25, 1975:	GPR31	(Statos 31 plotter package) changed to call ICPA routine to read control point area to get BIN information.
March 28, 1975:	ISIS	(Interactive statistics) changed information routines, changed to get usage statistics, MULTREG (multiple regression) routine added.
April 1, 1975:	TEKLIB	(Tektronix library) recompiled with MNF to eliminate parameter passing problem.
April 7, 1975:	GPR31	OPN31 changed to not put out slew command initially, and to internally call FTNBIN making the two files used by GPR31 be unblocked.
April 10, 1975:	GPM	(Non-linear optimization) linear section changed.
May 2, 1975:	PLOTPAC	(Calcomp plotter package) corrected error traceback printout.
May 9, 1975:	EMULATE	(CDC 3200 emulator) changed to not ask for more field length than students were allowed.
May 17, 1975:	SAVE, REPLACE, DEFINE, GET, ATTACH, PURGE, APPEND	(FORTRAN permanent file routines) latest MERITSS versions put up.
May 19, 1975:	SPSS 5.8,5.5	

THE DIVISION OF HEALTH COMPUTER SCIENCES

--by Lynda Ellis, Director of Education, Division of Health Computer Sciences

The Division of Health Computer Sciences, a part of the Department of Laboratory Medicine and Pathology in the Medical School, is charged with coordinating applications of computers in health-related fields. The Division is divided into four major sections: Operations and Services, Education, Research, and Laboratory Data. This research resource represents a special facility for the Health Sciences within University Computer Services.

OPERATIONS & SERVICES: A CDC 3300 computer is located, with its main I/O room, in M39 in the basement of Masonic Hospital. This general-purpose medium size machine is available for research, development, training, and production work in the health sciences. Languages available include MS FORTRAN, ANSI FORTRAN, COBOL, BASIC COMPASS, SORT/MERGE, the Minnesota Interactive Modeling Language (MIMO), and a computer-aided instruction author language (BRANCHIT). The computer system can be accessed in a batch mode at M39, from RJE stations, or interactively through an eight port dial-up network. Increased access for UCC users in the health sciences will be offered when a U1004 remote job entry terminal to the Cyber 74 is installed this summer in M39. Mr. Lee Croatt (373-7714), the Operations Supervisor, can provide assistance with system access, schedules, etc.

A PDP-12 general-purpose laboratory computer can be scheduled for analog data collection and processing as well as 9- to 7-track magnetic tape and paper tape conversions. Mr. Warren Johnson (373-0315) can help with questions about PDP-12 procedures.

An experienced programming staff is available to help with health related projects on a fee-for-service basis. Dr. Jay Hamann (373-0330) can provide further information regarding consultation, design, and development for studies involving either the CDC 3300 or other University computers.

EDUCATION: Formal courses, short non-credit courses or individual lectures on many aspects of biomedical computing have been given for the Medical School, the School of Public Health, the College of Pharmacy and the Institute of Technology. Dr. Lynda Ellis (373-0331) will be glad to answer questions about the various opportunities in education and the development of computer-aided instruction materials in the health sciences.

RESEARCH: The faculty consult for a wide variety of special interests, including digital signal processing, health information systems, and biomedical simulation. Dr. Claus Liedtke (373-0327) will provide additional information.

LABORATORY DATA: A new PATHLAB computer system for data acquisition and reporting in the University Hospital Clinical Laboratories is being installed using a CDC System 17 computer. Dr. Don Connelly (373-0333) is the Director of the Laboratory Data Section.

MORE ABOUT PERMANENT FILE CONTROL STATEMENTS

--by W. Elliott

In the April issue of the newsletter, the articles titled "New Control Cards for Manipulating Permanent Files" and "New KRONOS System Features" contained descriptions of some new control cards. In a rare fit of hindsight, these new control cards were almost immediately repudiated in a SYSNOTE. To avoid confusion, however, the abandoned control cards will remain in effect until after Spring Quarter. At that time, another SYSNOTE will be issued to announce the implementation of the following replacement control cards:

RETAIN	Retains a file as either a direct or indirect access permanent file depending on size. If the file is too long to be kept as an indirect access file, it will be converted to a direct access file and an appropriate dayfile message will be given. It can be used to convert short direct access files to indirect access files. (Use RETAIN rather than FSAVE.)
DEFINE	A new parameter, PG, has been added to the DEFINE card which will purge away the old direct access file before redefining it. (Replaces the FDEFINE card.)
ACQUIRE A	ACQUIRE will attach direct access files in READ mode only. All other specifications remain unchanged.
DENSITY(fname,d)	This new version of the DENSITY control card has a parameter change. Rather than specifying the density as a number (1-4), specify as the standard mnemonic, that is:
	LO or 200 for 200 bpi
	HI or 556 for 556 bpi
	HY or 800 for 800 bpi
	PE or 1600 for 1600 cpi (9-track only; to be available in July, 1975)

Complete information detailing these changes can be obtained by executing the following control cards:

WRITEUP(PFILES)	for descriptions of RETAIN, ACQUIRE, and DEFINE.
WRITEUP(FILE)	for a description of DENSITY.

DOCUMENTATION / PUBLICATIONS

The writeup, "Plotter Routines for the Statos 31" has been revised, reprinted, and is available in 140 Experimental Engineering.

The writeup, "A Procedure File for Using Indirect Access Files with System 2000" has been printed and is available in 140 Experimental Engineering.

The writeup, "COBOL3 to COBOL4 Conversion Guide" is new and is available from the Reference Room (235a EX, 373-7744).

THE SUGGESTION BOX

[Unsigned cards will be ignored. We reserve the right to re-word questions for clarity. The date when each card was received is printed in parentheses after the question.]

- Q/S *If you close at 4 PM on Saturday, say 4 PM. If you close at 3:30, say 3:30. It does us no good if the Experimental Engineering operator won't accept a job. (April 28)*
- A I must agree with you that our hours have been misrepresented in the past. Please allow me to clear this misunderstanding. The posted hours are the actual hours our operators are working; however, during part of this time, routine dumping of the queues is taking place. Therefore, hours available to users should read:
- | | | |
|--------------------------|--------------------|--------------------------|
| Experimental Engineering | Monday - Friday | 8:15 AM - 11:45 PM |
| | Saturday | 8:15 AM - 3:45 PM |
| | Sunday | 4:15 PM - 11:45 PM |
| Lauderdale | Monday - Wednesday | 8:00 AM - 3:45 AM |
| | Thursday | 8:00 AM - 2:45 AM |
| | Friday | 8:00 AM - 12:00 Midnight |
| | Saturday | 12:00 Mn - 3:45 PM |
| | Sunday | 4:00 PM - 1:45 AM |
- At Experimental Engineering, the operators should take no jobs after the times above. However, if the Cyber 74 is quite full, an earlier time may be designated for that particular day so that we may clear the machine of existing jobs. The earlier time should not exceed 15 - 20 minutes.
- At Lauderdale, the last pickup for reading material in will be on the half hour with output material coming back at quarter to the hour.
- In summary, we are not really changing our hours, merely trying to clarify earlier misinterpretations.
(R. Dykstra)
- Q/S *Some outputs I am getting are too light for photocopying. What do you suggest I should do next time? Send a request for a new ribbon with the deck? (May 1)*
- A A special request slip should be submitted with your job asking that the job be run after a new ribbon has been placed on the printer. This service has been, and will continue to be, offered to users at no additional cost but with the following constraint: the quality of print from any ribbon deteriorates below photocopy quality in about 24 hours of use but we use the ribbons for 2 - 4 days; therefore jobs submitted with these requests may experience delays in turnaround of up to 48 hours. Turnaround should generally be better than this, however, since we have three printers at our disposal.
(J. Larson)
- Q/S *Move the user room phone to the wall near the keypunch room (at Lauderdale) so the person who answers doesn't need to go far to check these rooms for the person being called. (April 11)*
- A This will be investigated. The move will depend on the amount of noise in that area.
(L. Liddiard)
- Q/S *What happened to the door (PUNCH-PUNCH-CLICK) on the keypunch room (CLATTER, CLATTER) at Lauderdale? It's ironic (ZIP-ZIP-BUZZ-BUZZ-DING) how you go to all the expense (REL-REG-FEED) of partitioning off the rooms to make it quieter and then make off with the doors (CLATTER-CLATTER-ZIP-BANG-PUNCHPUNCHPUNCH). (April 11)*
- A We enjoyed your imaginative card. The new door should be in place by the time you read this. The old door was warped and the installer removed it. Also, in response to requests from Lauderdale users, a bulletin board near the phone has been approved and will be installed soon.
(L. Liddiard)
- Q/S *What happened to the nice stand-up one-minute keypunch that used to be at Lauderdale. It would be nice to have it back again. (May 20)*
- A Returned on May 26, 1975.
(L. Liddiard)
- Q/S *Why do jobs requesting Extended Core Storage frequently wait 4 to 5 hours for ECS to become available? In fact, why must there be any wait at all? (There was never a wait under MOMS.) (May 2)*
- A The reason for this is that we were not as knowledgeable about resource limits for multiprogramming when we started with the CDC 6600 and allowed a single user to request all of the available user ECS until his job completed. The cardinal rule of multiprogramming has been shown to be "never let one user have all of any one resource;" especially if you don't charge him for it. Thus, since it costs approximately 10 seconds of disk channel time to swap out user-ECS, we have not done it unless a tape request is pending. We implemented user ECS under KRONOS in a simple manner in anticipation of CDC doing it with all the bells and whistles. However, their implementation has been delayed and we may do this rolling as a summer project.
(L. Liddiard)
- Q/S *Under MOMS I used MODIFY(LO=E) since it gave statistics in the dayfile; with KRONOS I use LO=Es, thus generating an extra page of output. Since you seem to have made a commitment to save paper, how about putting dayfile statistics back? Thanks. (May 10)*
- A Thank you for your concern with paper saving. Many of the features which MODIFY had under MOMS are scheduled to be installed this summer.
(T. Lanzatella)

(continued on page 7)

- Q/S I tried to use a continuation card for the VSN card as explained on page 5-89 of the KRONOS 2.1 manual and found out the hard way that columns 79 and 80 of the first VSN card are lost. Page 5-89 says nothing about using these columns. (April 21)
- A Correct. Unfortunately, knowing this fact probably won't help you much for a while since there seems to be a problem with using multiple-card control cards. CDC is aware of this and we are looking into fixes here also. Until this mystery is solved, VSN or LABEL cards which extend to more than one card will most likely cause an abort for "ARGUMENT ERROR." (W. Elliott)
- Q/S My suggestion is to give all jobs on the ROLLOUT queue at least one access to the CPU every hour. I recently had very poor turnaround on a job which required 60000CM and 60 seconds CPU time. It hung in the ROLLOUT queue for 2 hours, 55 minutes (by the dayfile) without having one access to the CPU during that time. I have been told that all jobs are given 16 seconds to complete before they are rolled out. My complaint is that the job only had 10 seconds of CPU time remaining (it had used 50 of the 60 seconds specified on the job card) and still was left in the ROLLOUT queue for over 2 hours. There are 3600 seconds per hour and I doubt very much that you process more than 200 jobs per hour so I hope you will put my suggestion into effect. At least use the remaining time allocated per job as part of the priority for being chosen from the ROLLOUT queue. (April 15)
- A Recent changes to the job scheduler should improve turnaround time for smaller programs (those with small core requirements). However, the use of "requested CPU time minus used CPU time" is not a reasonable criterion since job time estimates vary so widely. Currently, the user cannot tell from his dayfile when the job is in the rollout queue, when it is at a control point, or when it has the CPU. A 3 hour gap in the dayfile such as you had usually only occurs with the scheduling of tapes. As added information, UCC, at peak periods, is doing approximately 450 jobs per hour. Of these, 50% use less than 1 second CPU time and 85% complete within the 8 second Batch time slice. In addition, there are times when only one disk channel or controller is available; turnaround can be very slow under these restrictions. (A. Johnston/L. Liddiard)
- Q/S It would be nice if the S option would be implemented on MIRJE for CATLIST (suppression of the title heading for file directory). This would be useful for small file directories and would save TTY paper for those who use TTYs. Also, implement an option enabling a person to list out their file directory alphabetically, and possibly a *lot-in*, first-out listing. The latter would be useful for large file directories, for example, FQE--- numbers.
- The writeup for TYPESET which is accessed by the command in Batch "WRITEUP,TYPEINF" is the file which is used by TYPESET to produce the paged output. The present copy on WRITEUP is garbled and of very little use. To get the proper paged listing, use
- ```
GET,TYPEINF/UN=LIBRARY.
GET,TYPESET/UN=LIBRARY.
TYPESET,TYPEINF.
```
- The file TYPEINF should then be on TAPE2. Since TYPESET is a rather useful program, mimeograph and distribute the writeup. (April 15)
- A All of your suggestions about CATLIST were under consideration prior to your suggestion. We will most likely be implementing them by the end of the summer. With regards to TYPESET, thank you for the informative suggestion. A new version of TYPESET documentation has been placed on WRITEUP. UCC feels that TYPESET documentation is widely available through the WRITEUP utility and its current usage does not justify the expense of typing and mimeographing. (T. Lanzatella)
- Q/S It would be very nice to have a MIRJE terminal at the high speed sites so that people could do small jobs and dispose them. (May 1)
- A It would be very nice. However, as more and more people with urgent need for interactive use of the computer acquire access to MIRJE, this system becomes a scarce resource and can no longer serve as a convenient substitute for Batch access. Please look carefully at all your jobs and ask yourself if they are indeed interactive and entitled to interactive access. If they are, you should be working at an interactive terminal. The Lauderdale Users Room was set up for the convenience of Batch users and has an open shop Batch terminal (1004) as well as operator I/O to the Cyber 74. (T. Hodge)
- Q/S The following example of a line of FORTRAN code works just fine in the T/S version of MNF:
- ```
41630 DO 330 I=1,NP $ 330 P(I)=P(I)+DTEMP
```
- Why does it work, should it, and will it always? (May 15)
- A I works under T/S MNF since the statement number is allowed to be in "free format" after the sequence numbers, rather than being restricted to the fixed 1 through 5 column position on the card. We have to admit that we did not know it was there until you brought up the subject, at which time we agreed that you are correct. Actually, MNF doesn't handle the sequence numbers very well for multiple statements on a line in timesharing since all those statements are given the same sequence number (appearing first on the line). For error diagnostics, we would not recommend multiple statements on a line for time-sharing. We are undecided if it will always work since things cast in concrete by individual sites or compilers are very difficult to maintain if a standard is set up. However, look at the "at least one pass through the DO loop" which is an IBM piece of concrete that has survived for many years against the standard "reasonable bypass" approach. (L. Liddiard)

- Q/S *On occasion I submit a job on MIRJE and sometimes (rarely) it vanishes. Most of the time this is undoubtedly due to my error but once in a blue moon you have a crash. I'm unsure of how I should go about determining whether a crash has occurred since I know the operators are busy people, etc. Knowing if there has been a crash in which the input files were lost would help in locating errors. (April 11)*
- A UCC is grappling with the problem of disseminating information about system crashes and queue losses. After a system crash, SUPIO users receive a message indicating that a crash has occurred and an expected time for resumption of service. SUPIO users can then find out if the queues were lost with the H-display command. TELEX users know if the system has crashed if, upon dialing in, no response is returned by the system. Soon the MIRJE introductory message will indicate whether a crash has occurred and whether the queues were lost. Batch users must continue to rely on messages posted at the high speed stations for information regarding system crashes. UCC is working on ways of informing TELEX and Batch users more completely about the status of the job queues. During the week, from 9 AM - 5 PM, the Officer of the Day (376-5592) will have the most complete information on system status.
(T. Lanzatella)
- Q/S *Why aren't recently discovered bugs posted in the I/O room and the user's room? For example, on April 4 I got a BLOCK COUNT IN TRAILER LABEL error, which, I was told, is currently happening to many others and is spurious. It would have saved staff time (not the consultant's because I couldn't find one) if this would have been posted on the wall. (April 10)*
- A BLOCK COUNT ERROR IN TRAILER LABEL is a valid error message, not a bug. In this case, it probably was a parity error in the trailer label or a damaged tape. Recently discovered bugs are posted at the consulting desks as soon as they are identified and all consultants are required to check with the Officer of the Day when the consultant feels that an undiscovered bug or problem arises. Sometimes the communication process does not work as efficiently as we would wish but we keep trying.
(M. Kramer)
- Q/S *The UCC consultant that I had to consult regarding some common control cards (SAVE,COPY,etc.) turned out to be no help at all. He did not know, except vaguely, what the effects of these control cards were. I realize that he may have been a FORTRAN consultant but there are many users who have questions about control cards. Having neither a current manual nor a knowledgeable consultant available is very frustrating, since the only means left is trial and error. Also, please replace the KRONOS reference manual in 140 EX. It is outdated and following its prescriptions is dangerous to the programmer's equanimity. Failing this, attach a warning to the manual. (April 11)*
- A All UCC consultants are trained to be experienced in general consulting. This training includes the use of control cards. If you feel that the consultant on duty is not meeting these expectations, we have no way of checking on the circumstances unless you give us the place, date, time, and name of the consultant on duty. All consultants are required to wear a name tag while on duty. With this information, we can determine what remedial actions may be necessary. The problem with the documentation was that the reference manual was updated before the latest level of KRONOS was installed. We'll try to be more careful in future.
(M. Kramer/A. Koepke)

COMPUTER DOWNTIME SUMMARY

APRIL 28 THROUGH MAY 25, 1975

Total possible scheduled uptime hours	466
Total downtime hours (schedule A)	28.5
Total uptime hours	437.5
Uptime percentage	93.9 %
Average downtime per occurrence	36.97 minutes
Mean time between failures	9.5 hours

Schedule A: breakdown of downtime hours

	number of <u>occurrences</u>	total hours <u>down</u>	average minutes <u>downtime</u>
1) Preventive maintenance over-runs	1	.05	3.
2) Software related problems	16	19.02	71.31
3) Hardware related problems	11	5.51	30.09
4) Indeterminate software/hardware problems	17	4.10	14.47
5) External problems (power failure)	1	.78	47.

NOTES:

16.31 hours of the Cyber 74 downtime were due to our disk crashing problem. The relevance of this is shown in the "software related problems" area. Earlier in the month we were still having problems with ECS but this seems to be cleared up now. (R. Dykstra)

BRIEF NOTES

INSTRUCTIONAL USERS ---- Both MIRJE and Batch instructional user numbers will D I S A P P E A R on June 30, 1975.

FREE PAPER ---- Don Olson at UofM-Duluth has some teletype paper to give away. This is a special type of TTY paper that can be used to make duplicating masters. If interested, call Don at 218/726-8125.

SPRING QUARTER USERS MEETING ---- An open meeting for all Cyber 74 users was held on Thursday, May 22nd and was reasonably well attended (about 50 legitimate users and a goodly number of UCC staff members). Among the items discussed were:

- (1) The expanding size of the PTR list (according to the PTR Coordinator, this is entirely due to increasing vigilance on the part of users and UCC staff members to report discovered bugs).
- (2) Quality control.
- (3) Credit policies on unexpected charges due to unannounced changes. (For the period from May 8 - May 18, funded projects will receive 90% credit of charges from excessive mass storage transfers. This affects SPSS users primarily.)
- (4) MIRJE questions: reasons for the rotary check, the status of new utilities, and problems in the telephone communications system.
- (5) Students and the 1004 terminals: the UCC's policies on student use of the computer were defined.
- (6) Problems with disk stability and file protection.
- (7) New hardware acquisitions, job priority philosophy, the job scheduler, and the priorities of the many queues.
- (8) The problems of getting immediate information to users about system status, changes, etc. were discussed. UCC recognizes the problem areas and is working on them. In response to several questions about the closing times at Lauderdale and Experimental Engineering, a more detailed schedule of operations is printed on page 6 of this newsletter.
- (9) New products (Record Manager, COBOL Version 4, SORT/MERGE Version 4, MNF, PASCAL, and CDC's newest operating system NOS).
- (10) Timesharing plans for next year were very briefly mentioned.
- (11) Opinions on the efficacy of the Officer of the Day HELP-line were solicited.

NEWS FROM SYSTEM NOTES

ALL USERS ---- The Cyber 74 is again running very short of disk space. Users are advised to obtain a CATLIST of their permanent files and purge all unneeded files and dump all files which have not been used for a week or more. More disk drives are expected in mid-summer but, until that time, users must try to be less expansive with their permanent files. (May 5, 1975)

SPSS USERS ---- Beginning May 19, 1975 the FUTURE version of SPSS 5.8 will become the current version and the current version (SPSS 5.5) will be available via these control cards:

PAST(SPSS)
SPSS. (May 6, 1975)

---- The current version (SPSS 5.8) and the past version (SPSS 5.5) are now random access overlay files on the system. This will reduce the disk PRU transfer charge. (May 19, 1975)

ALL USERS ---- All unsecured permanent files belonging to users with user indices ending in 0, 6, or 7 were irrecoverably lost on Friday, May 9. (May 12, 1975)

---- All unsecured permanent files belonging to users with user indices ending in 0, 6, or 7 were irrecoverably lost (again) on Tuesday, May 13. Users are reminded that the best insurance against disk crashes is to dump your permanent files. The control card WRITEUP,DUMPPF. provides the user with all the necessary information for dumping permanent files. (May 14, 1975)

---- Permanent files belonging to users with user indices ending in 0, 6, or 7 were again lost on Thursday, May 15. Because of a parity error on the secured file dump tapes taken on Wednesday, May 14, UCC was forced to reload secured files from dump tapes taken on Tuesday, May 13. UCC systems staff is working feverishly to find the problem with this device. (May 18, 1975)

ALL USERS ---- Users should note that the expense of using several applications packages has risen slightly in the past week. The reason for the increased expense is because UCC has recently begun accounting for disk PRU's transferred during program loading. For most packages, the increase should be nominal. (Under the MOMS operating system, program loading was accounted for as PP time which is analogous to PRU's transferred.) (May 13, 1975)

SUMMER SESSION SHORT COURSES

These are the short courses offered by UCC during Summer Session I and Summer Session II, 1975. Registration is not required and no fees are charged. When a book or manual is recommended, you will find it available in one of the University bookstores. We strongly urge that anyone new to the Computer Center attend the INTRODUCTION TO THE COMPUTER CENTER seminar.

INTRODUCTION TO THE COMPUTER CENTER

A general introduction to the computer center; equipment, terminal locations, account numbers, job submissions, keypunch sites, tape purchase, necessary forms; how to use the center.

DAYS : June 17 (Tuesday)
HOURS : 2:30 - 4:25 PM
ROOM : 225 Aero
INSTRUCTOR: R. Franta
REFERENCES: Materials from instructor.

KRONOS CONTROL CARDS

An introduction to the KRONOS 2.1 operating system and descriptions of control cards.

DAYS : July 7,9,11 (M,W,F)
HOURS : 2:30 - 4:25 PM
ROOM : 225 Aero
INSTRUCTOR: R. Franta
REFERENCES: Materials from instructor.

BEGINNING FORTRAN

A presentation of the basic features of the FORTRAN language. FORTRAN was the first language to be used widely for numeric computations and is also used in other computational areas. We teach a version of FORTRAN IV.

DAYS : June 18,20,23,25,27,30 (M,W,F)
HOURS : 2:30 - 4:25 PM
ROOM : 225 Aero
INSTRUCTOR: R. Franta
REFERENCES: MNF Reference Manual

ADVANCED FORTRAN

ENCODE/DECODE, use of Hollerith characters, ECS, overlays, COMMON, load maps, debugging, dump reading.

DAYS : July 23,25,28,30, Aug. 1,4
HOURS : 2:30 - 4:25 PM
ROOM : 225 Aero
INSTRUCTOR: R. Franta
REFERENCES: MNF Reference Manual

PASCAL

This is a general purpose procedure-oriented language designed as a data structuring successor to ALGOL-60 and intended as a convenient basis to teach programming and well as an efficient tool for writing large programs.

DAYS : June 23,25,27,30, July 2 (M,W,F)
HOURS : 2:30 - 4:00 PM
ROOM : 309 Aero
INSTRUCTOR: A. Mickel
REFERENCES: PASCAL, User Manual & Report (Jensen & Wirth, Springer-Verlag, 1974)

SNOBOL

SNOBOL4 is a string processing and symbol manipulation language used primarily for non-numeric applications. This version of SNOBOL is generalized, possessing datatypes other than those related to handling strings.

DAYS : June 23,25,27,30, July 2 (M,W,F)
HOURS : 9:05 - 10:35 AM
ROOM : 309 Aero
INSTRUCTOR: A. Mickel
REFERENCES: The SNOBOL4 Programming Language (Griswold, et alia, Prentice-Hall, 1971)

STATISTICAL PACKAGES @ UCC WITH EMPHASIS ON SPSS

This course emphasizes the use of SPSS but also offers information on BMD, UMST, and OMNITAB.

DAYS : June 24,26 (T,Th)
HOURS : 2:30 - 4:25 PM
ROOM : 225 Aero
INSTRUCTOR: D. Anderson
REFERENCES: SPSS (Nie, et alia, McGraw-Hill, 1974)

SYSTEM 2000

This course teaches the student how to use System 2000, a generalized data base management system. Techniques for defining data bases, retrieving and updating, and using the data base through FORTRAN and COBOL are discussed.

DAYS : July 1,3,8,10,15,17 (T,Th)
HOURS : 2:30 - 4:25 PM
ROOM : 225 Aero
INSTRUCTOR: J. Cosgrove
REFERENCES: System 2000 Reference Manual
System 2000 Users Guide

SYSTEM 2000 REPORT WRITER & PROGRAMMING LANGUAGE INTERFACE

DAYS : July 14,16,18 (M,W,F)
HOURS : 2:30 - 4:25 PM
ROOM : 225 Aero
INSTRUCTOR: S. Nachtsheim
REFERENCES: System 2000 Reference Manual
System 2000 Users Guide

RECORD MANAGER

Record Manager is the input/output interface for the Level 4 versions of FTN, COBOL, and SORT/MERGE. Record Manager has 5 modes of I/O: sequential, word addressable, indexed sequential, direct access, and actual key.

DAYS : July 8,10,15,17,22,24,29,31 (T,Th)
HOURS : 2:30 - 4:00 PM
ROOM : 309 Aero
INSTRUCTOR: H. Kurs
REFERENCES: CDC Record Manager Reference Manual

GRAPHICS (plotting software and devices)

Descriptions of the plotting software and devices available at UCC; course is FORTRAN oriented.

DAYS : July 14,15,16,17,18 (M-F)
HOURS : 1:25 - 2:15
ROOM : 309 Aero
INSTRUCTOR: M. Frisch
REFERENCES: PLOTPAC and SCLPLT writeups, other materials from instructor.

Summer Session II SPSS (repeat of 1st session)

DAYS : July 29,31 (T,Th)
HOURS : 2:30 - 4:25 PM
ROOM : 225 Aero
INSTRUCTOR: D. Anderson
REFERENCES: SPSS (see above)

NOTE: Courses may also be offered on the West Bank if sufficient interest is shown. Watch for announcements in SYSNOTE and on the West Bank Computer Center bulletin boards.

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 (RJE)

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. Duff/373-2348
321 MinMet (East Bank)	C. Swanson/373-5475 R. Oelfke/373-5680
69 Physics (East Bank)	R. Scarlett/373-0243 D. Olson/378-7802
167 SocSci (West Bank)	J. Shea/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

CONSULTING SITES & HOURS*

LAUDERDALE USERS' ROOM (general consulting)*	
Monday - Friday	1:30 - 3:30 PM
Monday - Thursday	7:30 - 9:30 PM
EXPERIMENTAL ENGINEERING 140 (general consulting)*	
Monday - Friday	9:00 AM - 5:00 PM
Monday - Thursday	7:00 PM - 9:00 PM
Saturday	10:00 AM - 2:00 PM
Sunday	7:00 PM - 9:00 PM

EXPERIMENTAL ENGINEERING 140 (statistics packages)
 See the schedule posted in 140 ExpEng.
 SOCIAL SCIENCES 167 (statistics packages)
 See the schedule posted in 167 SocSci (West Bank)
 CLASSROOM OFFICE BUILDING 125
 See the schedule posted in 125 ClaOff (St. Paul)

*These general consultants can also answer questions about the statistics packages: D. Eggers, B. Hinkley, and S.P. Yen.

† The consulting sites remain the same throughout the year. However, the hours will vary. The Lauderdale and ExpEng general consulting hours will be shortened during the weeks when classes are not in session and during Summer Session. Hours at other sites vary from quarter to quarter, depending on available staff.

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).]

- Revision D ALGOL Version 3 Reference Manual
- Revision C APL*CYBER Reference Manual
- Revision A BASIC Reference Manual
- 1973 BMD Reference Manual
- Revision E COBOL Version 3 Reference Manual
- Revision D COBOL Version 4 Reference Manual
- Revision E COMPASS Version 3 Reference Manual
- Revision F FORTRAN 2.3 (RUN23) Reference Manual
- Revision D FTN Version 3 Reference Manual
- Revision F FTN Version 4 Reference Manual
- Revision B FTN DEBUG User's Guide
- 1973 IMSL Library 3, Edition 3 Reference
- Revision C KRONOS 2.1 Reference Manual
- 1974 MNF Reference Manual
- Revision E MODIFY Reference Manual
- 1974 OMNITAB II Programmer's Reference Manual
- Revision C OMNITAB II, An Introduction to
- Revision C SIMSCRIPT Version 2 Reference Manual
- Revision G SORT/MERGE Version 4 Reference Manual
- 1970 SPSS: Statistical Package for the Social Sciences
- 1974 SPSS Version 5.5
- SYSTEM 2000 Reference Manual
- 1973 SYSTEM 2000 Users' Guide
- Revision C T/S User's Reference Manual
- Revision A Text Editor (EDIT) Reference Manual
- Revision E UPDATE Reference Manual

TELEPHONE NUMBERS

- 373-4548 Account Clerk
- 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)
- 373-7744 Reference Librarian
- 376-3963 RJE Services (R. Franta)
- 373-4995 Tape Librarian
- 373-4360 UCC Main Offices
- 373-4599 User Services (T. Hodge)
- 373-4921 Users' Room (Lauderdale)
- 373-3608 West Bank I/O

REMEMBER THE HELP-LINE: 376-5592

KEYPUNCH LOCATIONS

[The number of keypunches at each site is in parentheses.]

East Bank	St. Paul	West Bank
38 ElectE (1)	257 BioSci (1)	90 BlegH (1)
N640 EltH (1)	125G ClaOff (1)	86 BlegH (11)
130 ExpEng (2)	415 CofH (1)	167 SocSci(1)
131 ExpEng (1)	24 NorH (1)	
208 ExpEng (14)*		
S191 KoltH (1)		
321 MinMet (1)	Lauderdale	
69 Physics(1)	Users' Room (5)*	

*includes 1 interpreting card punch.

S T O R A G E S H E L V E S

note: *Anyone storing materials on the shelves at Lauderdale or Experimental Engineering should take*

- (1) *If you wish to continue storing materials at Lauderdale you must fill out another application form (get one from Carol Southward in room 152). Otherwise, materials must be removed by June 30.*
- (2) *If you wish to continue storing materials at Experimental Engineering you must fill out another application form (get one from Pat Gerlach in room 227). Otherwise, materials must be removed by June 30th.*

Storage charges are \$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.

UNIVERSITY ARCHIVES
ROOM 11 WA LIB
MINNEAPOLIS CAMPUS