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UNIVERSITY COMPUTER CENTER newsletter

Director: Peter C. Patton

227 EXPERIMENTAL ENGINEERING
UNIVERSITY OF MINNESOTA
MINNEAPOLIS, MN 55455
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THE UCC NEWSLETTER IS NOW BEING MAILED 'BULK RATE' RATHER THAN AS FIRST CLASS MAIL. THIS MEANS THAT IT IS PROCESSED MORE SLOWLY BY THE POSTAL SERVICE. IF THIS CAUSES ANY INCONVENIENCE TO A USER OF THE UCC COMPUTER SYSTEMS, CALL 612/373-7744, OR WRITE TO THE UCC PUBLICATIONS GROUP AND ASK FOR FIRST CLASS HANDLING.

PUBLICATIONS
227 EXPERIMENTAL ENGINEERING
UNIVERSITY COMPUTER CENTER
UNIVERSITY OF MINNESOTA
208 UNION STREET S.E.
MINNEAPOLIS, MINNESOTA 55455

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DECEMBER HOLIDAY HOURS

	<u>down</u>	<u>up</u>
Lauderdale	24DEC 0400	27DEC 1800
ExpEng	23DEC 2400	28DEC 0800
Lauderdale	31DEC 1800	02JAN 1545
ExpEng	31DEC 1600	03JAN 0800

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SYSTEMS REPORT

DEAD START DUMP ANALYSIS EXPANDED

The Systems Group of UCC was determined to improve the percentage uptime and mean time to failure of the Cyber 74 as one of the major summer projects. Thus, since July, additional effort has been spent in analyzing dead start dumps in a manner similar to that used on the 6400 to achieve fewer repetitive failures. We think that users experience better computer availability now, since this method enabled us to find and eliminate several of the software 'bugs' that had been causing system crashes. However, as with any large complex system, there have been system failures that we have been unable to attribute to a specific hardware or software failure.

MERITSS RESPONSE TIME IMPROVEMENT

Another major summer project had been to change from the very stable Level 7 of KRONOS on the 6400 to a common Level 12 on both machines. This change provided many enhanced features of KRONOS and the timesharing compilers to MERITSS users. Many changes that we had added to the Level 7 system to provide enhanced system security and efficiency were also put into the Level 12 system. In combining the systems, some timesharing related UCC improvements were inadvertently omitted and that, combined with our failure to recognize the renaming (by Control Data) of some timesharing related routines (resulting in their residing on slower system devices), and enlargement (by CDC) of some programs, caused the response time on MERITSS to be poorer than it was with Level 7. In all, 12 different areas were corrected and the response time for 100 simultaneous users is now at an acceptable level. We are currently doing performance measurements on both systems to further improve response time.

COST CONTROL STATEMENT

In the past month, we have received just criticism from users about the COST control statement. It did not tell all and the movement of large files to the named pack, PF01, could cause unknown charges to accrue to user numbers. In the case of the COST control statement, mass storage transfers are kept in a 19 bit field with no allowance for overflow. In order to charge users correctly when this field overflows, an accounting message, 524.288 KPRUS, was sent to the user dayfile and the accounting dayfile, where it was not accessible to the COST control statement. For batch operations, this was a reasonable solution since users could see the messages in their dayfile. However, timesharing users could be burned by the unseen charges. COST has now been changed to use an overflow field that allows the COST control statement to accurately reflect the actual user charges for the job.

PF01 FILE MOVEMENT

Before the three additional double density drives were added in August, the systems group would move large files from user disks to PF01 when a particular user disk was filled, to enable the system to keep running. The systems staff would

inform the owner of the 'moved' file but this often proved confusing. In addition, since the CATLIST command does not search named disk files, it was easy for the owner of the large file stored on PF01 (that was costing real money) to be unaware of this cost. The new UCC policy will be that large files will be dumped to magnetic tape if such a file fills a user disk. The owner will then have to call 376-5605 (permanent file recovery) and will be charged the cost of reloading that file to PF01 or some other user disk. Thus, this policy is similar that that used in archiving unused files.

THE DELAY QUEUE

The DELAY parameter for the batch job control statement was installed on a trial basis for at least six months. It enabled users to obtain lower processing costs for their batch jobs. In addition, the spreading of the job load over a greater portion of the operational period enabled the users to obtain better turnaround for normal jobs entered during peak daytime hours. Usage of central processor time for the first four months of this fiscal year has shown a 30 percent increase over the same four months of last year. From the systems point of view, the spreading out of the load may enable the Cyber 74 to have additional months added to its expected lifetime for servicing University users.

Note that the DELAY rate does not apply to MIRJE jobs; MIRJE central processor cost is always the same. In addition, the following rules apply to DELAY queue jobs: (1) Those DELAY jobs not finished at the end of operations are re-run at the next DELAY period with UCC holding any deck submitted to a central site. Users of DELAY are encouraged to submit long DELAY jobs on Friday since the long DELAY period through 4 PM Saturday will usually ensure that such jobs will finish. (2) We are continuing to work on a useable checkpoint-restart that will be required for all long running jobs; we plan to implement a cutoff value of the total amount refundable for jobs that are dropped due to end of operations or any abnormal termination.

I. Liddiard, 373-5239

TIME LIMITS

Associated with each user number is a validation time limit, called VTL in this article. The validation time limit is listed in the output from the LIMITS control statement as follows:

CP TIME LIMIT (TL) = 2000B.

This means that the user number in question has a VTL of 2000 octal (= 1024) seconds of central processor time. How the VTL is used depends on whether the user submits a batch type job or is engaged in a timesharing session.

For a batch type job, the VTL is simply the maximum amount of CPU time that the job may use for the job time limit. The job time limit can be specified as a decimal number on the job card:

MYJOB,CM32000,I10

Specifies a 10 second time limit. The time limit

on the job card cannot exceed the VTL for the job. (If no T parameter appears on the job card, the smaller of 16 seconds and the VTL is used for the time limit.) The time limit can be changed during the course of the job by using the SETTL control statement but the new time limit may still not exceed the VTL. These rules apply to all jobs for which a job card is required.

For MIRJE or MERITSS timesharing sessions, the interpretation of the time limit is slightly different. The VTL now specifies the absolute maximum time limit that may be used per run. By a run, we mean a RUN or RNH command or perhaps an XEDIT session. A call to a procedure file or a batch control card also counts as one run. Thus, the following are examples of what we mean by timesharing runs:

```
RNH          (run program)
X,WRITEUP,NOTE (one batch run)
-XYZ        (execute procedure file XYZ)
```

The initial time that can be used per run is specified by the timesharing time limit. When a user logs in, the time limit is the minimum of 16 seconds or the VTL. Since most user numbers have a VTL greater than 16 seconds, 16 is usually the initial time limit per run. The time limit may be changed, using the SETTL control statement, to any value not greater than the VTL.

Timesharing users can ask for more time when a time limit occurs during a run. For example, if the message, *TIME LIMIT*, occurs during a long run, the user can respond with T,10, which continues the job for 10 (octal) or 8 (decimal) seconds more. The total time for a single run, including all the "T" requests, cannot exceed the VTL.

For example: A user has a VTL of 30 seconds. In response to an RNH, a time limit occurs after 16 CPU seconds. The user enters T,10 to ask for 10 more seconds. (This gives 8 more decimal seconds.) This is fine, since the total run time after 8 more seconds is only 24 seconds. If the user gets a second time limit, however, only a T,5 at most could be entered. A larger value would cause the run to be aborted with the message:

ILLEGAL USER ACCESS

Why is T,5 the largest the user can enter, rather than T,6? This happens because the system time limits can only be specified in whole seconds, whereas the elapsed CPU time used is accounted for in milliseconds. In response to the T,5 command, the job is re-entered in the system with a new value of the CPU time limit. This could give the user between 5 and 6 seconds more of running, depending on the number of milliseconds that had previously been used. One can only trust time limits with an accuracy of one second.

Note that there is no limit on the total time that can be used in a timesharing session. While each run is subject to the VTL, very many runs may be made each session, which could accumulate a large amount of CPU time.

Finally, remember that time limits are octal numbers by default on the T command and on the SETTL statement; the T parameter on a batch job card specifies a decimal time limit. Decimal numbers can be used on SETTL and T by appending a

D suffix. For example, T,10D or SETTL,10D.

K. Matthews, 376-5605

T COMMAND

MIRJE and MERITSS users are sure to have noticed that T command processing has not been consistent over the last several months. The inconsistencies started when Control Data released Level 10 of KRONOS; they changed the way that the T command is treated. The requested time on the T,nnn command was added to the job session time rather than the job step time. If the requested time plus job session time exceeded the user's validated time limit, then the T command aborted and the job step was terminated. Users never noticed this change at first because a bug in some local UCC code erroneously multiplied job session time by a factor of 108 before adding in the requested time. Not until this bug was discovered and corrected did we realize that Control Data had changed T command processing. We then advised users to enter a SETTL command prior to executing a long program to avoid difficulties with the T command. On November 4, we installed a correction which restores the old T command processing in that the requested time is added to the job step time rather than the job session time. Users no longer need to enter a SETTL before running a long program from MIRJE or MERITSS.

T. Lanzatella, 376-5606

SYSNOTE

On December 2, we will install a new utility on the Cyber 74. The utility is NOTICE/NOTIFY and will be used to distribute messages and SYSNOTES to users. The BIN utility which is currently used to output SYSNOTES will be changed; the effect to users with the installation of NOTICE/NOTIFY will be the following:

1. Due to complaints from medium speed terminal users about the time and paper consumed by SYSNOTES, they will receive only a dayfile message indicating when the SYSNOTE last changed. NOTICE/NOTIFY does have the capability to output a text file to the medium speed banner page but this feature will only be used for extreme situations.
2. Time sharing users will notice only a slight change in the format of the MIRJE introductory message.
3. High speed terminal users (Lauderdale, Experimental Engineering and West Bank) will notice no change except for an additional message in the user's dayfile indicating when the SYSNOTE file last changed.

T. Lanzatella, 376-5606

V 3 products

The old versions (Version 3) of COBOL, SORT/MERGE, SCOPE Indexed Sequential (SIS), and System 2000 (Version 2.30) products will be removed from the systems by the beginning of Winter Quarter. Users

are asked to make necessary preparations for this changeover. Documentation is available in the UCC Reference Room to aid in COBOL and SORT/MERGE conversions. If further assistance is needed, please call either John Cosgrove at 373-2522 or Howard Kurs.

H. Kurs, 373-5754

SYSTEM 2000

System 2000 Version 2.40 has been updated to Level P from Level L on both the Cyber 74 and the 6400 computer systems. This new update provides the following corrections and features:

(1) The REPORT FILE IS OUTPUT command incorrectly caused the FET to be changed, resulting in the loss of all data in the output buffer. This has been corrected.

(2) Disjoint data sets in an ORDER BY clause in PLI were not rejected. This has been corrected.

(3) Random application of MODIFY/REMOVE commands may occur against the same data set during a single PLI Q/T session.

H. Kurs, 373-5754

ISIS

A new version of ISIS has been put on MIRJE and MERITSS which is compatible with the new MNF compiler and common decks. The main program changes are: (1) Fixing a bug in NORDIS, (2) Revising FACEXP so that 1-way ANOVA is treated separately; calculation of the ANOVA table is done in the "standard" way using weighted cell means.

The old version of ISIS is still available on MIRJE and MERITSS as PAST,ISIS.

B. Hinkley, 373-2522

T/S

There are many instances when a user with a CRT terminal will want to have hard copy printouts. There are a number of methods for accomplishing this; some more convenient than others. The UCC System Engineering group has prepared a "tip" sheet (Terminal Information Publication) describing some of the possible methods and is willing to send a copy to any interested user. For information and assistance in this area, call Dan Whealdon at 373-4877.

D. Whealdon, 373-4877

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THE STUDENT I/O ROOM IN 130 EXP ENG NOW HAS MORE KEYPUNCHES. I WAS WONDERING WHAT YOU PLAN TO DO ABOUT THE INCREASED HEAT OUTPUT AFFECTING THE ALREADY "OVERHEATABLE" 1004 IN THIS ROOM? THERE IS POOR VENTILATION AND NO AIR CONDITIONING. HAVE YOU THOUGHT ABOUT SUMMER? B.S.: 02NOV76

Installation of air conditioning for the entire room will be completed before next summer.

R. Fleagle

HOW ABOUT ANNOUNCING SHORT COURSES A MONTH EARLIER? I GET MY NEWSLETTER ABOUT THE 20TH OF THE MONTH AND WOULD HAVE MISSED THE LISP SHORT COURSE IF AN INSTRUCTOR HADN'T ANNOUNCED IT. D.W.DeH.: 2NOV76

THE UCC Short Courses are announced in the UCC newsletter in the month preceding each quarter (that is, September, December, April, June.) In addition, we announce them: (1) In the Official Daily Bulletin the first week of each quarter. (2) In the Daily's seminar notices. (3) In a SYSNOTE the week before each course begins. (4) On posters at each RJE site, timesharing lab, and consulting area. Have we missed anything?

L. Fetcher

THE NEW INFORMATIVE MESSAGES ON THE BANNER PAGE ARE VERY NICE. HOWEVER, I WAS A LITTLE SHOCKED TO SEE THE NEW PAGE APPEAR AT 9:53 PM, SUNDAY OCTOBER 31 WHEN IT WASN'T THERE ON A JOB RUN AT 9:46 PM. WASN'T THERE SUPPOSED TO BE MORE CONTROL OVER CHANGES TO THE SYSTEM? WHAT HAPPENED? D.W.DeH.: 02NOV76

Sunday afternoons are sometimes used to test software which is ready for the production system but we normally first warn users. This was the case on past Sundays with TELEX and EXPORT. We erred with the AUTODIVERT test. Sorry about that.

T. Lanzatella

WHEN WRITEUP,NOTE IS RUN ON A STANDARD TTY, THE LISTING OFTEN GOES BEYOND COLUMN 72, PILING UP THE CHARACTERS AT THE END OF THE LINE. PLEASE CORRECT THIS! W.M.: 29OCT76

Many staff members make entries to the NOTE files. Some people were not aware of the requirements that NOTE file entries should be restricted to columns 2 through 70. This has been corrected.

T. Lanzatella

HOW ABOUT MAKING MORE TELETYPES, CRTS, AND KEYPUNCHES AVAILABLE TO STUDENTS. IT IS NEARLY IMPOSSIBLE TO GET WORK DONE DURING THE DAY! ALSO, MERITSS IS IRREGULAR IN IT'S SERVICE. CAN THIS BE IMPROVED? M.T.:29OCT76

Each of the timesharing labs has one to twelve terminals, each 1004 site has one or more keypunches. We have tried to distribute equipment in proportion to observed usage on the East Bank, West Bank, and St. Paul campuses. The UCC student guides will give you locations of the keypunches and timesharing labs. You may also find a list of the sites on the Operations page of this newsletter.

T. Hodge

The conversion to identical KRONOS operating systems has produced some problems relative to response time. These are being corrected and response time should improve. We do notice, however, that the resource utilization is higher than it was last year. We will soon be gathering online statistics on utilization in order to deal with both of these causes of low and fluctuating response time.

M. Skow

{CONTINUED ON PAGE B}

GRAPHICS

CNTOUR is a general-purpose plotter contouring subroutine, written in FORTRAN. For each subroutine call, it plots all the level-lines for a single contour level and optionally labels the level-lines. The output can be sent to any of the Cyber 74 plotters; electrostatic, pen-and-ink, or microfilm.

USING PUNCHED CARDS

```
jobcard.  
ACCOUNT card  
MNF.  
PSTPRC.  
(7-8-9 card)  
  REAL G(11,11),P(3)  
  DATA P(1),P(2),P(3)/3*0.0/  
  DO 10 J=1,11  
  DO 10 I=1,11  
 10 G(I,J)=SIN(FLOAT(I))*COS(FLOAT(J))  
  CALL PLOTS(1,1,11H           ,12.0,1H )  
  CALL PLOT(0.5,0.5,-3)  
  Z=0.0  
  DO 20 I=1,3  
  CALL CNTOUR(G,11,11,11,Z,4HF5.1,Z,  
+ 10.0,10.0,P,T)  
 20 Z=Z+0.3  
  CALL PLOTS(-1,I,I,X,I)  
  STOP  
  END  
(6-7-8-9 card)
```

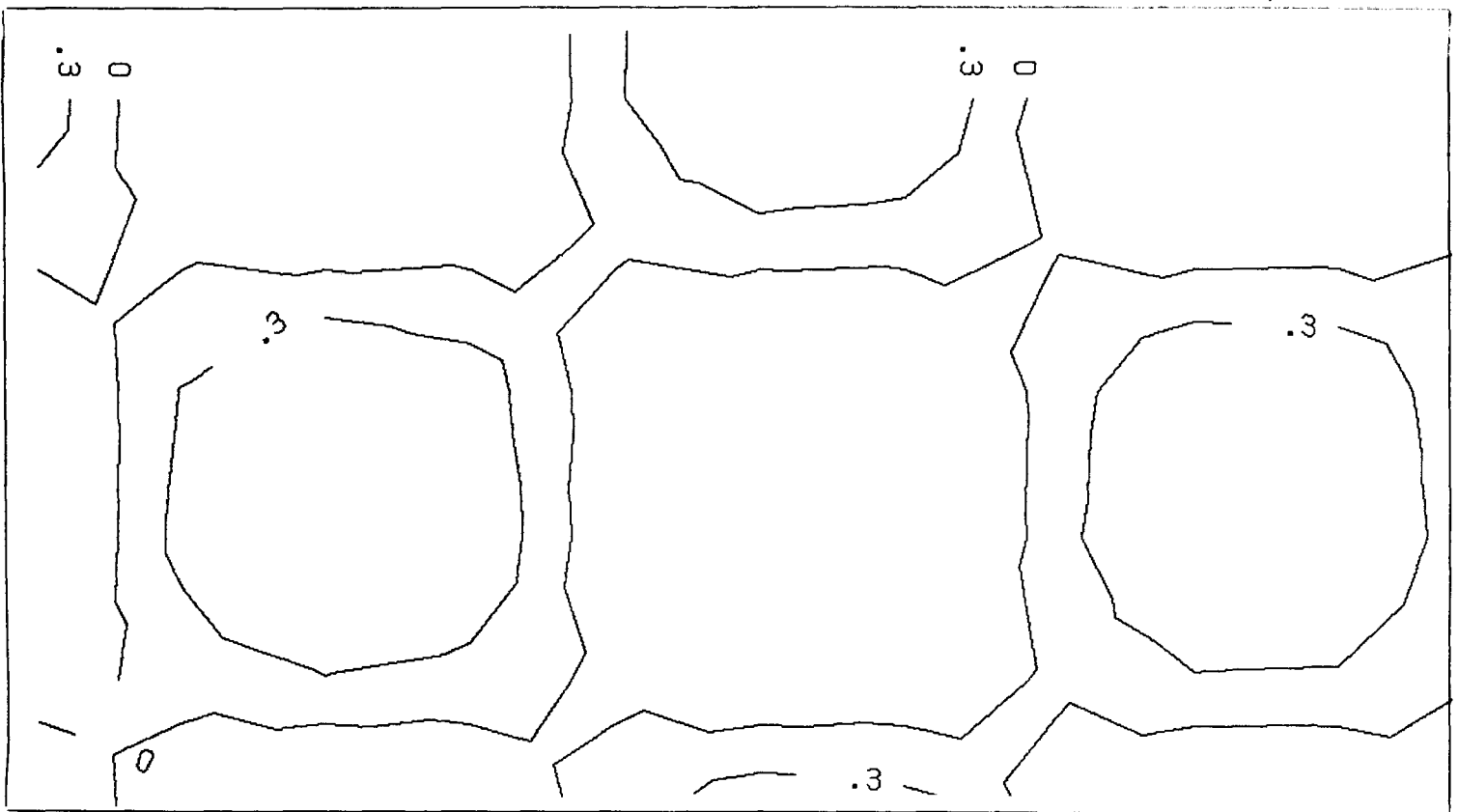
A writeup is available in 140 ExpEng or from the UCC Reference Room, 235a ExpEng, or you may call 612/373-7744. A simple example using the electrostatic plotter follows. Try it -- you'll like it!

USING TIMESHARING (Cyber 74:MIRJE only)

```
NEW,filename  
MNF  
AUTO  
00100 REAL G(11,11),P(3)  
00120 DATA P(1),P(2),P(3)/3*0.0/  
00130 DO 10 J=1,11  
00140 DO 10 I=1,11  
00150 10 G(I,J)=SIN(FLOAT(I))*COS(FLOAT(J))  
00160 CALL PLOTS(1,1,11H           ,12.0,1H )  
00170 CALL PLOT(0.5,0.5,-3)  
00180 Z=0.0  
00190 DO 20 I=1,3  
00200 CALL CNTOUR(G,11,11,11,Z,4HF5.1,Z,  
00210 + 10.0,10.0,P,T)  
00220 20 Z=Z+0.3  
00230 CALL PLOTS(-1,I,I,X,I)  
00240 STOP  
00250 END  
RNH  
X,PSTPRC  
X,DISPOSE,PLOTS=PL/S=site
```

("site" is EA for Experimental, EB for West Bank, or BC for Lauderdale; that is, the site where plot output is to be sent.)

M. Frisch, 376-1636



PRODUCTION USAGE SUMMARIES

CDC Cyber 74

	<u>October, 1976</u>	<u>October, 1975</u>
Number of jobs run & MIRJE sessions	69,377 (80,736)	68,268 (80,298)
Central processor hours	133 (171)	101 (144)
Mass storage transfers (KPR)	198,228 (237,371)	
Magnetic tape transfers (KPR)	4,943 (6,839)	
Pages printed	665,617 (758,009)	705,531 (836,197)
Cards punched	380,478 (408,222)	426,515 (503,746)
Microfilm frames produced	16,824 (218,063)	91,233 (227,752)
Tapes mounted	7,953	7,887
Average file storage	800.3 million char	587.8 million char
Mean time between failures	43.0 hours	7.5 hours
Percentage available during scheduled hours	99.8 percent	96.0 percent

CDC 6400

Number of jobs run	150,298	119,037
Central processor hours	110	77
Terminal hours	20,175	21,069
Number of terminal sessions	43,588	50,478
Maximum number of simultaneous users	105	111
Average file storage	228.6 million char	163.3 million char
Mean time between failures	69.4 hours	48.9 hours
Percentage available during scheduled hours	99.0 percent	99.2 percent

(total, including staff development, accounting, and maintenance runs)

CYBER 74 DOWNTIME SUMMARY -- October 27 - November 30, 1976

	<u>Monday-Friday</u> <u>0800 - 1800</u>	<u>other</u>	<u>total</u>
Total possible scheduled uptime hours	230	346	576
Total downtime hours (see Schedule A)	8.2	2.1	10.3
Total uptime hours	221.8	343.9	565.7
Uptime percentage	96.4 percent	99.4 percent	98.2 percent
Average downtime per occurrence	32.8 minutes	6.4 minutes	17.7 minutes
Mean time between failures	14.8 hours	17.2 hours	16.2 hours

Subsystem failures

SUPIO
TELEX
EXPORT

Schedule A: downtime hours

	<u>occurrences</u>	<u>total hours</u>	<u>average minutes</u>
1) Preventive maintenance over-runs	0	0	0
2) Software related problems	10	5.6	33.5
3) Hardware related problems	7	3.2	27.4
4) Indeterminate software/hardware problems	18	1.5	5.2
5) External problems	0	0	0

SUBMISSION SITE USAGE SUMMARY (TELEX EXCLUDED): November, 1976

submitted from	total jobs	% of jobs	pages printed	% of pages	cards read	% of cards
Lauderdale	3,421	4.7	268,215	23.8	1,492,389	13.1
ExpEng I/O	7,893	10.9	210,364	18.6	2,010,331	17.6
West Bank	10,258	14.2	141,675	12.6	1,817,846	15.9
6400	1,013	1.4				
TOTALS	72,442		1,128,447		11,404,907	

The following non-credit short courses will be offered by the University Computer Center during Winter Quarter, 1977. No registration is required. We suggest that some preliminary reading be done before attending a course. The references listed are recommended but attendees are not required to purchase a text.

INTRODUCTION TO THE COMPUTER CENTER

A general introduction; equipment, terminal locations, account numbers, job submission, keypunches, tape purchase, necessary forms; how to use the center.

DAYS : January 6 (Thursday)
HOURS : 2:15 - 4:00 PM
ROOM : MechE 212
INSTRUCTOR: R. Franta
REFERENCES: 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 used in many other computational areas. We teach a version of FORTRAN IV.

DAYS : Jan. 11,13,18,20,25,27, Feb. 1,3 (T,Th)
HOURS : 2:15 - 4:00 PM
ROOM : LindH 315
INSTRUCTOR: R. Franta
REFERENCES: MNF Reference Manual

INTERMEDIATE FORTRAN

Additional features of the FORTRAN language; presumes a beginning level knowledge of the language.

DAYS : Feb. 8,10,15,17,22,24 (TTh)
HOURS : 2:15 - 4:00 PM
ROOM : LindH 315
INSTRUCTOR: R. Franta
REFERENCES: MNF Reference Manual

COBOL

An introduction to the COBOL language. COBOL is an English-like language suitable for business data processing problems. Areas covered are mass storage, program libraries, other facilities.

DAYS : Feb. 14,16,18,23,25,28, Mar. 2,4 (MWF)
HOURS : 2:15 - 4:00 PM
ROOM : Aero 215
INSTRUCTOR: J. Cosgrove
REFERENCES: COBOL Version 4 Reference Manual

LISP

LISP 1.5 is a programming language based on Church's lambda calculus featuring list structures and list processing.

DAYS : Jan. 24,26,28,31, Feb. 2,4 (MWF)
HOURS : 3:15 - 5:00 PM
ROOM : Aero 21
INSTRUCTOR: A. Mickel
REFERENCES: the Little LISPer

PASCAL

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

DAYS : Jan. 10,12,14,17,19,21 (MWF)
HOURS : 3:15 - 5:00 PM
ROOM : Aero 21
INSTRUCTOR: A. Mickel
REFERENCES: PASCAL: User Manual & Report

KRONOS

An introduction to the KRONOS operating system and descriptions of the available control statements.

DAYS : Jan. 17,19,21,24,26,28 (MWF)
HOURS : 2:15 - 4:00 PM
ROOM : Aero 215
INSTRUCTOR: R. Franta
REFERENCES: From instructor

BEGINNING COMPASS

COMPASS is the assembly language for the CDC 6000/Cyber series machines; CPU instructions, pseudo instructions, macros, hardware organization, interfacing with FORTRAN, CPU common decks, timing. Should have some familiarity with assembly languages.

DAYS : Jan. 31, Feb. 2,4,7,9,11 (MWF)
HOURS : 2:15 - 4:00 PM
ROOM : Aero 215
INSTRUCTOR: K. Matthews
REFERENCES: COMPASS Version 3 Reference Manual

BMDP

This course introduces and explains the uses and methods of the BMDP package of programs.

DAYS : Feb. 8 & 10 (TTh)
HOURS : 2:15 - 4:00 PM
ROOM : FordH 115
INSTRUCTOR: S.P. Yen
REFERENCES: BMDP Reference Manual

SPSS & SPSS/ONLINE

This course introduces and explains the uses and methods of SPSS (Statistical Package for the Social Sciences).

DAYS : Jan. 25,27, Feb. 1 (TTh)
HOURS : 2:15 - 4:00 PM
ROOM : FordH 115
INSTRUCTOR: S.P. Yen
REFERENCES: SPSS Reference Manual

INTRODUCTION TO SYSTEM 2000

A beginning level of System 2000: teaching how to use a generalized data base management system.

DAYS : Jan. 17,19,21,24,26,28 (MWF)
HOURS : 2:15 - 4:00 PM
ROOM : Aero 321
INSTRUCTOR: J. Cosgrove
REFERENCES: System 2000 Reference Manual

SYSTEM 2000 PROGRAMMING LANGUAGE INTERFACE

Covers the FORTRAN and COBOL programming language interface portions of System 2000.

DAYS : Jan. 31, Feb. 2,4 (MWF)
HOURS : 2:15 - 4:00 PM
ROOM : Aero 321
INSTRUCTOR: J. Cosgrove
REFERENCES: System 2000 Reference Manual

SYSTEM 2000 REPORT WRITER

Covers the Report Writer feature of System 2000.

DAYS : Feb. 7,9,11 (MWF)
HOURS : 2:15 - 4:00 PM
ROOM : Aero 321
INSTRUCTOR: J. Cosgrove
REFERENCES: System 2000 Reference Manual

ADVANCED SYSTEM 2000

Covers the advanced features of System 2000.
DAYS : Feb. 14,16,18 (MWF)
HOURS : 2:15 - 4:00 PM
ROOM : Aero 321
INSTRUCTOR: S. Nachtsheim
REFERENCES: System 2000 Reference Manual

SORT/MERGE

An introduction to SORT/MERGE, a processor used in the sorting and combining of data records.
DAYS : Feb. 15,17 (TTh)
HOURS : 2:15 - 4:00 PM
ROOM : FordH 115
INSTRUCTOR: H. Kurs
REFERENCES: SORT/MERGE Version 4 Reference Manual

RECORD MANAGER

An introduction to Record Manager, the input/output interface for the Level 4 versions of COBOL, FTN, and SORT/MERGE.
DAYS : Mar. 1,3,8 (TTh)
HOURS : 2:15 - 4:00 PM
ROOM : LindH 315
INSTRUCTOR: H. Kurs
REFERENCES: Record Manager User's Guide

MODIFY

MODIFY is a utility program used to create and edit user libraries.
DAYS : Feb. 8,10,15,17,22,24 (TTh)
HOURS : 6:15 - 8:00 PM
ROOM : LindH 325
INSTRUCTOR: to be arranged
REFERENCES: MODIFY Reference Manual

INTERMEDIATE COMPASS

COMPASS input/output, stand-alone COMPASS programs, common decks, macro usage.
DAYS : Jan. 12,19,26, Feb. 2,9,16,23, Mar. 2,9
HOURS : 7:00 - 9:00 PM
ROOM : ChemE 154
INSTRUCTOR: J. Drummond
REFERENCES: COMPASS Version 3 Reference Manual

NOTES:

Our evening sessions have been well received; we will continue to offer selected courses in the evening. The selection will depend on the availability of instructors and the demand for courses.

Any questions about the content of these short courses should be directed to R. Franta at 376-3963 or L. Fetcher at 376-1637.

{CONTINUED FROM PAGE 4}

I AM SURPRISED TO SEE THAT THERE IS NO FAST FOURIER TRANSFORM SUBROUTINE IN THE USER LIBRARY. THIS SUBROUTINE IS A WIDELY USED TOOL FOR COMPUTING A FOURIER TRANSFORM AND IS WIDELY APPLICABLE. T.A.:27OCT76

The IMSL (International Mathematical and Statistical Library) package has some fast fourier transform routines. See the "Index to UCC Software" writeup in 140 ExpEng for details on accessing IMSL.

M. Frisch

HOW ABOUT A HARD COPY APL TERMINAL FOR STUDENT USE? S.R.:04NOV76

At the moment we have no plans for this due to costs. We will keep your request in mind.

T. Hodge

MORE COMPETENT ADVISORS SHOULD BE HIRED BECAUSE I WENT TO THE SAME ADVISOR SEVERAL TIMES AND RECEIVED POOR ADVICE EACH TIME I APPROACHED HIM. EVENTUALLY, A FRESHMAN TAKING CICS 1-001 HELPED ME WITH MY PROBLEM. D.U.: 2NOV76

The consultants we provide may be found in 140 ExpEng and at Lauderdale. They are expected to wear ID badges. If you receive inadequate or inconsiderate assistance, please call and give the name and the date and time when this occurred. Call S.T. Lin at 373-4886 or T.D. Hodge at 373-4599.

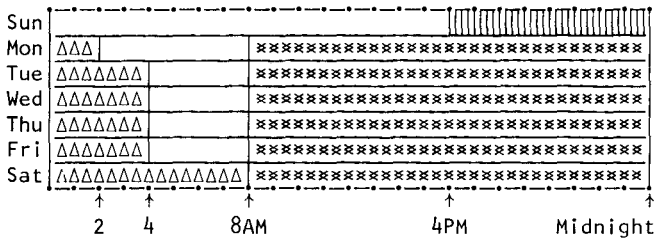
T. Hodge

WHY DOESN'T ANYONE AROUND HERE KNOW HOW TO FIX THINGS, LIKE CYBERS WITH JAMMED CARDS; AT LEAST, COULDN'T WE KNOW WHO TO CONTACT TO HAVE IT DONE? L.K.:27OCT76

I assume you are referring to the Univac 1004 card reader and listing terminals. Each 1004 site has a supervisor whose office is in the same building. The supervisor's name and location are posted in the 1004 room. You should call him or her for assistance. You may also find a list of the supervisors on the Operations page of this newsletter.

T. Hodge

CYBER 74 OPERATING HOURS



▲▲▲▲▲ Lauderdale only
 ||||| Lauderdale, ExpEng
 * * * * * Lauderdale, ExpEng, West Bank
 [] standard rates

These are machine hours. UCC operators stop accepting jobs about 15 minutes before operations end to enable the queues to clear on time.

SUPIO (RJE medium speed terminals) comes up 1/2 hour after operation begins and closes down 1/2 hour before operation ends.

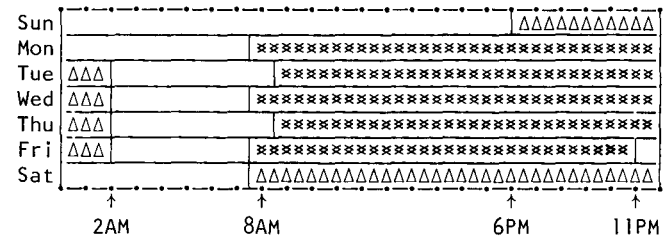
TELEX (MIRJE terminals): the operator will issue a 10 minute warning before TELEX is dropped.

UOFM-TWIN CITIES RJE SITES

site	ID	supervisor(s)	keypunch ⁺
<i>East Bank</i>			
ElectE 38	4V	J. Guentzel 373-5404 M. Cook 373-3895	2
Elth N640	4W	D. Anderson 373-5456	2
ExpEng 130	4B	Shift Supervisor 373-4596	7
Kolth S191	4Z	G. Jensen 373-5754	4
HS-A 1-752	4C	L. Ellis 373-0331	1
MinMet 321	4I	R. Brown 373-2308	3
Physics 69	44	R. Scarlett 373-0243 D. Olson 373-5320	3
SpaSci 134	43	R. Weinberg 373-7881	1
TerrH W106	4I	R. Baker 373-3567	1
Zoology 314	4J	K. Zinzel 373-1879 D. Siniff 373-1879	1
<i>West Bank</i>			
SocSci 167	4X	J. Shea 373-3608 B. Shattuck 373-3608	2
SocSci 1009	4K	R. Anderson 373-0177	1
<i>St. Paul</i>			
BioSci 257A	47	R. Comstock 373-0979 P. Kaufman 373-0927	1
ClaOff 125G	48	C. Bingham 373-0988 S. Weisberg 373-1068 Consultant 373-0829 Consultant 376-3846	3
CofH 415	2I	D. Nelson 376-7003 T. Ehlen 376-7003	1
NorH 24	40	J. Colten 373-0990	2
<i>Lauderdale</i>			
User's Room	49	Shift Coordinator 373-4940	5

*additional keypunches:
 131 ExpEng (1)
 86 BlegH (11)
 90 BlegH (1)

CDC 6400 OPERATING HOURS



* * * * * up, attended
 ▲▲▲▲▲ up, not attended

UOFM-TWIN CITIES INSTRUCTIONAL LABS

East Bank

CentH Computer Room	R. Richgarn 373-2289
TTY (1)	
Elth 121 & 124	D. Anderson 373-5456
TTY (6)	
CRT (5)	
Printer (1)	
ExpEng 140	T. Hodge 373-4599
CRT (3)	
HealthSciA 1-752	L. Ellis 373-0331
TTY (6)	
CRT (2)	
LindH 136A	G. Schneider 373-7582
CRT (6)	
DECwriter (2)	
Printer (1)	
MechE 308*	A. Erdman 373-2977
TTY (10)	
CRT (2)	
TerrH Computer Room	R. Baker 373-3567
TTY (1)	
Vincent H 4	W. Stenberg 376-7529
TTY (11)	
CRT (2)	
WaLib 204**	R. Estelle 373-5195
DECwriter (10)	
CRT (4)	

West Bank

MdbH Computer Room	N. Bakkenist 373-9818
TTY (1)	
SocSci 167	J. Shea 373-3608
TTY (3)	
CRT (2)	
SocSci 1009	R. Anderson 373-0168
TTY (3)	
CRT (2)	
<i>St. Paul</i>	
ClaOff 125	S. Weisberg 373-1068
TTY (9; 2 are off-line)	
CRT (3)	
DECwriter (2)	
DI/AN (1)	

*by appointment
 ** CAI only

WRITEUP documents

ABCLIST 13OCT75 Extended CATLIST utility (1p)
 AMEND 03MAR75 Unit record manager (4p)
 → APLUM 03AUG76 APL interpreter (2p)
 → ARCHIVE 04SEP76 PF dump/load utility (21p)
 → BKP 16AUG76 Breakpoint CP program (8 p)
 BLANK 12NOV75 Initial label writing (2p)
 BLOCKER 05JAN76 Write blocked stranger tape (3p)
 → CALLPFM 23SEP76 FTN4 PF routines (7p)
 → CALLPRG 14SEP76 Library search extension (7p)
 CATALOG 19JAN75 Catalog a file (2p)
 CATLIST 01MAR75 Catalog a permanent file (3p)
 CATLSYS 10MAR76 Extended CATLIST utility (1p)
 CHANGER 13OCT75 Extended CHANGE utility (1p)
 → CHANGES 21AUG76 Merged system changes
 CIMSPL 16OCT75 PL/1 User Guide (34p)
 CKSPSS 07MAY76 SPSS utility (5p)
 CONTROL 26MAY76 Control card descriptions (indexed)
 COPYU 11DEC75 Copy unit record (6p)
 COST 18JAN75 Calculate job cost (1p)
 → DELAY 26JUL76 Delayed input description (1p)
 DISPOSE 16JUN75 DISPOSE control card (9p)
 DMPCOR 13MAR75 CM dump routine (1p)
 DMPECS 01MAR75 ECS dump routine (1p)
 DRESS 01MAR75 Prepare MODIFY/UPDATE source (13p)
 DUMPPF 27SEP75 PF dump/load utility (7p)
 → EISPACK 14SEP76 Description of EISPACK routines (indexed)
 EXAMINE 26FEB76 Determine mag tape contents (5p)
 FILES 30MAR76 Local file manipulator (4p)
 → FMT 08JUL76 Text formatting program (27p)
 → FORSUBS 27AUG76 Description of FORTRAN subprograms (indexed)
 → FUNPACK 14SEP76 Description of FUNPACK programs (indexed)
 GETSAVE 13OCT75 PF transfer utility (1p)
 HASH 26MAR76 User index/job name scrambler (1p)
 ISIS 30MAR75 Interactive statistics (45p)
 → KCL 08AUG76 Control card processor (9p)
 LIBEDIT 18JAN75 Library editing program (3p)
 → LISP 09AUG76 LISP information (19p)
 → LIBRARY 27AUG76 Descriptions of library files (indexed)
 → LIBLIST 27AUG76 Descriptions of library files (5p)
 MODIFY 18JAN75 Source library editing (11p)
 MODUP 14APR76 MODIFY/UPDATE conversion (1p)
 PACKMS 03MAR75 Pack random file (1p)
 PASCAL 22SEP75 PASCAL information (26p)
 → PASCLIB 26SEP76 PASCAL library information (indexed)
 PFGUIDE 28SEP75 PF User's Guide (60p)
 PFILES 21MAY76 PF request processor (7p)
 PREVIEW 01MAR75 Preview display dump (1p)
 → PROCPAC 24JUL76 System routines
 PURGER 13OCT75 Extended PURGE utility (1p)
 REBLOCK 19NOV75 Tape converter (6p)
 REFORM 18DEC75 manipulate t/s source (1p)
 RJECON 26JUN75 RJE commands (4p)
 SEND 14APR76 Send files to 6400 (2p)
 SNOINFO 15APR75 SNOBOL information (24p)
 SNPSHOT 09APR75 Write/restore registers (5p)
 → SQUEEZ 15SEP76 Squeeze COMPASS listing (1p)
 STRATEN 09SEP75 Straighten COMPASS listing (4p)
 SYSLIB 01APR75 SYSLIB documentation (3p)
 → TAPES 15JUL76 Tape library manager (10p)
 TAPEUSE 05JAN76 Tape user's guide (70p)
 TDUMP 30MAR76 File dump (1p)
 → TEKLIB 30JUN76 Tektronix library description
 TESTCR 03JUL75 Card reader test (1p)
 TESTLP 16JUN75 Line printer test (2p)
 TIDY 01MAR75 Tidy FORTRAN source (7p)
 TYPESET 23JUN74 Text reform program (12p)
 UNPAGE 12MAR75 Carriage control editor (6p)
 → XEDIT 10JUN76 Text editor (14p)
 1004INS 26DEC75 U1004 operating instructions (3p)
 1004SET 03JUL75 U1004 character set conversion (4p)

WRITEUP files with routinely changing information

AFmmyy Lists of archived files; mmm=month, yy=year.
 CONSULT Consulting sites and hours
 DOCLIST List of UCC documentation; publications source
 NOTE T/S system notes
 PTRFORT List of FORTRAN bugs
 PTRKR List of operating system bugs
 PTRMISC List of miscellaneous software bugs
 PTRSTAT List of statistics packages bugs
 PTRS2K List of bugs in System 2000
 RJDSTAT Daily SUPIO statistics
 RJEOTOT Monthly SUPIO statistics
 RJMSTAT Cumulative SUPIO statistics
 SITEBIN Output shelf locations
 SYSMODS Latest system changes
 TSTATS Tape mounting statistics

Get copies of the WRITEUP documents with a deck like this:

Jobcard with T1 and CM10000
 ACCOUNT card
 WRITEUP,name
 (6-7-8-9 card)

or enter the command

X,WRITEUP,name

UCC Publications: free

Beginner's Guide to Timesharing Computing (1975)
 Student Guide to Batch Computing (1975)
 Instructor's Guide to Batch Computing (1976)
 Index to Cyber 74 User Software (1975)
 Univac 1004 Operating Instructions (1975)
 System 2000 User Aids (1,2,3,4)
 →UCC Instant
 MINN subprogram writeups (see "INDEX")
 ISIS User's Manual (1976)
 IMP - An OMNITAB Mimic (1976)
 SNOBOL4 at the University of Minnesota (1976)
 RPG at the University of Minnesota (1974)
 SLIP at the University of Minnesota (1974)
 UWM BASIC at the University of Minnesota (1975)
 LISP at the University of Minnesota (1974)
 MIX at the University of Minnesota (1972)
 CAL 6000 SNOBOL (1975)
 MNF Reference Manual (1976)

Notes:

The new version of the MNF Reference Manual (blue cover) is now available at the Engineering Bookstore; price is \$6.75.