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BULLETINS

USER'S MEETINGS:

1. The Winter Quarter meeting was poorly attended; so poorly, in fact, that we felt it was a waste of space to report the topics discussed.
2. The SPRING QUARTER user's meeting will be held on May 19 in room 225 Aero from 2:15 - 5:00 PM (Thursday). Why not come?

SHORT COURSES:

Find the schedule of Spring short courses on page 29.

ALL YOU PASCALERS! ➔

Professor Niklaus Wirth, the designer of the programming language, Pascal, will give a short talk on Thursday, March 31 at 3:05 PM in the Murphy Hall Auditorium (East Bank).

This is a colloquium sponsored jointly by the Computer Science Department and the University Computer Center.

VIM MEETING COMING UP

VIM, an organization of users of CDC 6000/7000/ Cyber series machines, will be holding its VIM-26 conference in Minneapolis during the week of April 4th. A number of UCC staff members will be actively participating in this conference and will be presenting reports on UCC activities.

UCC newsletter

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Director: Peter C. Patton
Editor : A. Koepke

Comments about the content of this newsletter, or suggestions for changes may be directed to the editor, 235a Experimental Engineering, 373-7744.

The University of Minnesota adheres to the principle that all persons shall have equal opportunity and access to facilities in any phase of University activity without regard to race, creed, color, sex, age, or national origin.

M E R I T S S

M I R J E

TIMESHARING USERS

Several control cards which require the presence of a password have been modified to permit the secure entry of passwords; thus reducing the probability of accidentally disclosing account or permanent file passwords to other users. Securely entered passwords must be alphanumeric. Secure password entry is available for:

```
ACCOUNT
PASSWOR
SUBMIT
USER
Permanent file commands (GET, SAVE, CHANGE,
DEFINE, etc.)
```

The secure entry feature is selected by merely omitting the password argument(s) from the control card. Examples are given below:

ACCOUNT/USER

```
ACCOUNT(ABC1234,passwd) (Standard)

ACCOUNT(ABC1234) (Secure)
  PASSWORD
  ? *****
blacked-out area for
password
```

PASSWOR

```
PASSWOR(oldpw,newpw) (Standard)

(Passwor(oldpw)
NEW PASSWORD
? *****
(Secure entry of new
password only)

(Passwor(oldpw)
NEW PASSWORD
? *****
(Secure entry of both
passwords)
```

```
PASSWOR.
  OLD PASSWORD
  ? *****
  NEW PASSWORD
  ? *****
```

SUBMIT

The SUBMIT control card now processes a new editing directive: /USER. The USER directive is expanded into a USER (ACCOUNT) control card. The account password is requested after an area has been blacked out to provide for the secure entry of the password. The USER directive is ignored and copied intact to the submit file if the resulting control card would have a line number associated with it. A line number (as opposed to statement label) is not legal for control cards. Consult WRITEUP(SUBMIT) for details.

```
/job
JOB CARD,CM50000,T20.
/user,ABC1234
ATTACH(LGO,DATA)
LGO.
OOPS.
EXIT.
DAYFILE,DAY.
RETAIN(DAY)
DISPOSE(OUTPUT=PR/S=BC)
/eor
(data for program)
/eor
```

Using the above submit deck with editing selected (/job), the following will be typed when the /user edit directive is processed:

```
PASSWORD (ABC1234)
? *****
```

The /user directive is then expanded to:

```
JOB CARD,CM50000,T20.
USER(ABC1234,passwd) (Where passwd was
supplied by user.)
```

Batch users can approximate the USER directive by using the READ directive to retrieve an account card image from a permanent file.

```
/job
JOB CARD,CM50000,T20.
/read,tape1
GET(BINARY)
BINARY.
```

If the content of TAPE1 is an ACCOUNT or USER card to be used with the deck, the resulting edited SUBMIT file would be:

```
JOB CARD,CM50000,T20.
USER(ABC1234,SECRET) (Text from TAPE1)
GET(BINARY)
BINARY.
```

This method requires that the account password be left on a permanent file. Using this method, however, makes it necessary to change the account password in only one place. This makes it easier to change passwords for users of many SUBMIT decks.

{CONTINUED, PAGE 23}

Permanent File Commands

Secure entry of permanent file passwords is selected by specifying the PW parameter with no password equivalenced to it:

```
GET(filenam/PW)
```

When this control card is executed, an area is blanked out and the file password is requested:

```
GET(filenam/PW)
FILE PASSWORD
? *****
```

The given password must be 1 to 7 alphanumeric characters. If this form of the PW parameter is used from other than an interactive job, the PW parameter is ignored.

It is hoped that the secure password entry option for these control cards will help users to maintain their password security. Use of this feature should be encouraged by instructors utilizing the MIRJE or MERITSS computer systems.

W. Elliott, 376-5605

meritss

A Note to Classroom Instructors

If you have students who run jobs on the 6400, many students may be running under a single user number. When class assignments require saving of permanent files, it becomes necessary to protect one student from another's maliciousness. This protection is provided by an option which requires a password when accessing or changing a permanent file. Such files are called "protected" permanent files. To save a file as protected, the student should type:

```
SAVE,file/FP=ON,PW=password
```

To access this file, type:

```
OLD,file/PW=password
```

or

```
GET,file/PW=password
```

To change the password, type:

```
CHANGE,file/FP=OFF,PW=oldpassword
```

and then

```
CHANGE,file/FP=ON,PW=newpassword
```

If the student should forget this password, it will show up under a CATLIST of that file by the department's master user number.

A user number must be validated to have this capability. Departmental timesharing coordinators may call me to set up this validation for any or all of their user numbers.

M. Skow, 373-7745

basic

BASIC LEVEL 12

A new version of CDC BASIC (level 12) will be available in the first week of April as FUTURE,BASIC. This new version differs from the current version primarily in the maximum number of characters allowed on the input line. This new version allows only 72 characters rather than the 80 characters permitted with the current version of BASIC.

The new version will eventually replace current BASIC on the systems so users should start converting their programs to fit the new input line restriction before the compiler change takes place. Compiling your BASIC programs with the new version will help you detect the oversized strings of characters.

To use this new version, obtain the compiler with the

```
X,FUTURE,BASIC
```

command before compiling any programs. Also, be careful not to drop the local file called BASIC when obtaining primary files. Primary files should be obtained before acquiring the FUTURE,BASIC compiler, or the ND parameter should be used when defining them with the OLD or NEW commands.

M. Riviere, 376-5606

isis

ISIS

A new version of ISIS has been placed on MERITSS and MIRJE as of February, 1977. This version can be accessed on both systems by issuing the BATCH command:

```
ISIS
```

The previous version is still available on both systems via the BATCH commands:

```
PAST,ISIS
ISIS
```

The new version corrects errors in the programs POLREG and SCADIA.

The program SELDAT has been revised to be more efficient and also to write continued records on the output file; the maximum number of input files has been reduced from 9 to 5.

The program COMDAT contains a new option, CONCAT, which joins the *ith* record of all input files to form a new *ith* record (on the output file) containing all the variables on the corresponding records on the input files.

A new program, CTAB, has been added to the package. This program fits log-linear models to multidimensional contingency tables; input to the program is similar to that for the SPSS Batch version of CTAB. Call me if you need further instructions on using CTAB.

All the programs now have larger central memory requirements, but the package now does dynamic memory allocation, so the current field

length requested by the user will be increased if necessary.

As of Spring quarter break, ISIS will be removed from special user number LIBRARY. This means that ISIS will no longer be available via the BATCH command:

```
ATTACH,ISIS/UN=LIBRARY
```

Both MERITSS and MIRJE users will have to access ISIS through the command:

```
ISIS
```

or, for the PAST version:

```
PAST,ISIS  
ISIS
```

B. Hinkley, 373-2522

version of MNF, to compile programs in BATCH and in procedure files. TSF uses smaller buffers and less memory as a result of the removal of some little used features such as BUFFER IN.

Keep in mind the fact that field length increases degrade response time more than decreases and should be avoided whenever possible. Another good practice is to minimize the number of control statements used (for example, GET several files on a single statement).

In short, core memory is a valuable commodity which should be managed properly to improve system performance. Here are some suggestions:

| | |
|------------------|------------------|
| DON'T | DO |
| RFL,50000 | GET,XX |
| FETCH,TEKLIB | FETCH,TEKLIB |
| GET,XX | RFL,50000 |
| MNF,K,I=XX,B=BIN | TSF,K,I=XX,B=BIN |
| LDSET,LIB=TEKLIB | RFL,42000 |
| BIN | LDSET,LIB=TEKLIB |
| | BIN |

R. Williams, 373-4573

TIMESHARING FIELD LENGTH CONTROL

Last month, we discussed some simple ways to ensure that memory is used efficiently. This month we will continue our discussion of memory management techniques in procedure files and in the BATCH subsystem.

In our previous discussion, we alluded to the fact that there are two basic ways the system determines field length to be used in BATCH. These methods may be termed "system controlled" and "user controlled". The one used depends on the nature of the control statement. Those statements where memory needs are fixed may be automatically loaded with the proper amount while statements which require core amounts that vary by task must be loaded with differing field lengths. Routines with static memory needs, such as CBF, GET, and REWIND, make up this fixed field length category (in general, these routines have small field length needs), and packages that build tables, such as GTR, LIBEDIT, and LINK, and the compilers (MNF, TSF, PASCAL) use a field length specified by the user, presumably one chosen to fit the task being performed, on the most recent RFL statement.

This points up several things that should be kept in mind. Since you are in control of the field length for many BATCH control statements, it is wise to determine efficient amounts to use, particularly for procedures which are run frequently.

For example, it is a common practice to enter an RFL of 55000 octal words (the maximum allowed) at the start of a session or procedure and leave it at that for the remainder of the job. On each statement that lacks a system defined field length, 55000 words are requested. On MERITSS, this amounts to over half the machine's available field length and almost certainly will not be available for some time after the statement is encountered. It is wiser to evaluate the likely needs for the statement based on the nature of the task and past experience (e.g., the shorter the program, and arrays, the less core needed to compile) and reduce the field length request.

One way FORTRAN users can reduce their field length needs is by using TSF, the timesharing

P L O T T I N G

STATOS POST-PROCESSOR PROGRAM

A new version of the Varian STATOS 31 electrostatic plotter post-processor has been placed on the system. The new post-processor is called as follows:

```
Jobcard  
ACCOUNT (or USER) card  
    (control cards to generate PLOTPAC file  
    CALCOM)  
PLOT31.  
DISPOSE, PLOTS=PL/S=site,B=bin.  
(DISPOSE needed only for timesharing runs)
```

PLOT31 runs faster than the current post-processor, PSTPRC, and can also be used by timesharing jobs that have DISPOSE permission. PLOT31 also supports a new routine to generate shaded or textured areas on the STATOS plotter. See the writeup on POLYGN for details.

PLOT31 and PSTPRC will both be available until the end of Spring quarter. At that time, PSTPRC will be removed and only PLOT31 will be available. PLOT31 is a descendent of the experimental post-processor, CHEAP31. CHEAP31 will also be removed at the end of Spring quarter.

D. Messer, 736-5262
M. Frisch, 376-1636

NEW PLOTTING RATES

As mentioned in the February newsletter, we are looking at our charges for use of the electrostatic plotter. We have decided that as of July 1, 1977, the new rates will be:

\$.25 setup plus \$.20/foot

{CONTINUED, PAGE 25}

as comparison, the present rate is \$.75 setup plus \$.10/foot. This rate will help pay for the new plotter proposed for early in the next fiscal year. It will also cover our operational costs.

Short plots will benefit in this change as the following table shows:

| Feet | Old rate | New rate |
|------|----------|----------|
| 1 | \$0.85 | \$0.45 |
| 2 | 0.95 | 0.65 |
| 3 | 1.05 | 0.85 |
| 4 | 1.15 | 1.05 |
| 5 | 1.25 | 1.25 |
| 6 | 1.35 | 1.45 |

M. Frisch, 376-1636

sicl

GRAPHICS LAB

The new Dicomed color image recorder at the Graphics Lab may now be used as a plotting output device. Plots generated for the electrostatic or pen-and-ink plotters may be converted to black-and-white or color recorder images by a control card callable program. The user specifies the dimensions of the image and assigns a gray level or color to both the background and the lines. The image may be recorded on 35 mm slides, polaroid, or 4x5 sheet film. Documentation, color charts, and sample slides and polaroids are available at the Graphics Lab. For more information, call

J. Parker, 376-1306

Languages

NEW PASCAL MEMORY OPTIONS

At the beginning of Spring Quarter 1977, two new compiler options will become available in Pascal. These options, which control the memory allocated to a Pascal program when it is run, are being added to improve response time by reducing execution field length. These new options will provide a method of setting field length that is independent of operating system idiosyncracies. For most simple programs, the default option settings will be adequate; the only change you will notice is the improved response. However, more sophisticated programs that use recursion or dynamic allocation may require different option settings.

There are three basic memory elements in a Pascal program.

1. The executable code of the program and all library routines that it calls.
2. The variables used by the program and all procedures (in the run-time stack).
3. Memory dynamically allocated (in the run-time heap) by using the standard procedure NEW.

The memory used for code is called the Code Space (CS), and that used for variables and dynamic allocation is called the Work Space (WS). The dayfile message

- LOAD FL nnnnnn RUN FL nnnnnn

reflects the values of the CS and the WS. LOAD FL is the CS size, and RUN FL is the sum of CS and WS (both are octal numbers).

The new W compiler option controls the calculation of the WS value. Wn (where n is a string of digits with an optional post radix "B") sets the number of words to be used for the WS. W0 requests the Pascal compiler itself to calculate an appropriate WS size. Pascal sums the lengths of all variables declared in the program, and adds a safety factor of 2000B (octal) words.

The new R option controls what is done with the WS value. R+ requests that the user program be given the right amount of memory for both the CS and WS, even if this is a reduction. R- requests that the memory be increased only if necessary to satisfy the sum of the CS and WS. In other words, the memory allocation will never be decreased if R- is set. Thus, the R option has an effect which is analogous to the REDUCE control statement.

The default settings are W0,R+. This causes Pascal to calculate the WS value, and requests that the memory allocation be set to reflect this, regardless of whether this requires an increase or decrease. These option settings will always allocate enough memory for programs which do not use recursion or dynamic allocation, and so should suffice for most programs. For some programs however, the defaults may not be appropriate. The following examples illustrate other settings.

W0,R- The Pascal compiler will calculate a minimum workspace value, but an RFL control statement may be used prior to running the user program to increase the memory allocation. This should be used if you are not sure of the minimum WS your program requires, and the maximum amount varies based on data.

W7500,R+ The program will always receive 7500 (decimal) words of WS. You should use Wn,R+ if you know how much WS your program requires, and this requirement is a constant.

W660B,R- The program will receive at least 660B (octal) words of WS, but may need more. The R- setting allows the use of an RFL statement to set the memory allocation higher. Use Wn,R- if you want to set the minimum WS manually, but the maximum depends on the data.

When setting the Work Space value explicitly (as in the last two examples), it is important to note that there are "hidden" variables created by Pascal itself. You should increase your WS estimate to provide a margin of error. A good rule of thumb is to add about 10 words per procedure, and several hundred words as a safety factor.

J. Strait, 376-7290

MNF

Users of = (or ') constants that are read in by format-free read statements should remember that the remaining part of the computer word involved in such a constant is set to zero. Thus, to check for comparison, an nLxxx constant must be used. For example

```
READ,I
IF(I.EQ.3LYES) STOP 100
STOP 200
```

and data:

'YES'

M. Frisch, 375-1636

RUN COMPILER TO BE DROPPED

A while ago we ended support of RUN and its related routines because of our limited manpower and because CDC had ended its support. Also, we found that the code generated by RUN is slower than the code for MNF or FTN. Since RUN is slower and is taking valuable disk space, we have decided to drop it from the operating system. We plan to do this after the end of the second summer session in 1977 so you have plenty of time to convert any RUN programs you have to MNF or FTN.

We will be removing the RUN library routines; this means that relocatable binary decks from RUN will not be usable. While absolute overlays could be made from the relocatable binary, we do not recommend this. Start conversion now so that any problems that arise can be taken care of before it is too late.

L. Liddiard, 373-5239

C O S T

COST CONTROL STATEMENT

COST prints the current job cost in the job dayfile. COST will now create or append information to a local file containing job identification parameters and cost. This information may be accumulated to provide data on the number and cost of jobs run over a given period.

Control Statement:

```
COST(P1,...,PN)
```

Where PN can be the following:

U Select University rate calculation (default).

C Select commercial rate calculation.

CS Declare a 1 to 7 character comment string (CS) qualifier to be included with the information written if the L parameter is selected. Qualifier should contain alphanumerics only.

L File name to which a 70-character line of cost information will be written. COST positions this file at "end-of-information" before writing to it.

COST information is written as follows to "filenam":

Columns Description

- 1 - 10 Date (yy/mm/dd.)
- 11 - 20 Time (hh.mm.ss.)
- 23 - 29 Qualifier (left adjusted)
- 31 - 37 User number
- 39 Non-blank if commercial rate charged
- 40 Non-blank if low-rate charges apply
- 42 - 48 Job name
- 51 - 60 SRUs accumulated (xxxxxxx.y)
- 61 - 70 dollar cost (\$\$\$\$\$\$.cc)

It is left to the user to further process this data. In most cases, it will be appended to a permanent file. The following set of control cards is suggested:

```
COST(L=JOBCOST,C)
APPEND(MONEY,JOBCOST)
or
GET(MONEY)
COST(L=MONEY,CS=MAPDIV)
PACK(MONEY)
REPLACE(MONEY)
```

The first method appears the simplest, however the file MONEY will become larger faster since a sector is added to its length for each APPEND performed. Before being processed, it will have to be PACKed anyway.

The second method uses disk space more efficiently which would result in lower permanent file charges. However, since the permanent file MONEY is not interlocked, the risk is run of missing an update if several jobs are running in the system concurrently. Using the APPEND method, only one job can operate on MONEY at a time while the others must momentarily wait for the APPEND to complete.

Thus, if you anticipate many jobs in the system, the first method should be used with a periodic PACK to compress information being saved. i.e.,

```
GET(MONEY)
PACK(MONEY)
REPLACE(MONEY)
```

W. Elliott, 376-5605

PRODUCTION USAGE SUMMARIES

| | <u>January, 1977</u> | <u>January, 1976</u> |
|---|--|----------------------|
| CDC Cyber 74 | | |
| Number of jobs run plus MIRJE sessions | 68,789 (81,087) | 59,726 (70,087) |
| Central processor hours | 130 (169) | 128 (164) |
| Mass storage transfers (KPR) | 200,592 (246,177) | 124,534 (197,423) |
| Magnetic tape transfers (KPR) | 6,237 (8,066) | 5,157 (8,573) |
| Pages printed | 688,732 (790,705) | 666,637 (785,917) |
| Cards punched | 428,137 (457,881) | 475,101 (500,132) |
| Microfilm frames produced | 18,427 (232,533) | 13,144 (217,957) |
| Tapes mounted | 8,263 | 8,153 |
| Average file storage (1547M available) | 847.6 million char | 596.0 million char |
| Mean time between failures | 24.2 hours | 14.2 hours |
| Percentage available during scheduled hours | 98.7 percent | 95.1 percent |
| SUPIO availability during scheduled hours | 96.8 percent | - |
| | (totals include staff development, accounting, and maintenance runs) | |
| CDC 6400 | | |
| Number of jobs run | 126,638 | 156,816 |
| Central processor hours | 83 | 75 |
| Terminal hours | 19,097 | 22,755 |
| Number of terminal sessions | 39,591 | 48,732 |
| Maximum number of simultaneous users | 105 | 117 |
| Average file storage | 217.2 million char | 164.5 million char |
| Mean time between failures | 39.7 hours | 35.6 hours |
| Percentage available during scheduled hours | 98.9 percent | 98.0 percent |

CYBER 74 DOWNTIME SUMMARY : February, 1977

| | <u>Monday-Friday 0800-1800</u> | <u>other</u> | <u>total</u> |
|---------------------------------------|------------------------------------|--------------|--------------|
| Total possible scheduled uptime hours | 200. | 284. | 484. |
| Total downtime hours (see Schedule A) | 3.4 | 5.9 | 9.3 |
| Total uptime hours | 196.6 | 278.1 | 474.7 |
| Uptime percentage | 98.3 percent | 97.9 percent | 98.1 percent |
| Average downtime per occurrence | 16.8 minutes | 29.3 minutes | 23.0 minutes |
| Mean time between failures | 16.4 hours | 23.2 hours | 19.8 hours |
| Subsystem failures | | | |
| SUPIO | 15 | 9 | 24 |
| TELEX | 0 | 0 | 0 |
| EXPORT | 7 | 2 | 9 |

Schedule A: downtime hours

| | <u>Number</u> | <u>Total hours</u> | <u>Average minutes</u> |
|--|---------------|--------------------|------------------------|
| (1) Preventive maintenance over-runs | 0 | 0.0 | 0.0 |
| (2) Software related problems | 3 | 1.1 | 22.3 |
| (3) Hardware related problems | 4 | 5.2 | 78.8 |
| (4) Indeterminate software/hardware problems | 17 | 2.9 | 10.0 |
| (5) External Problems | 0 | 0.0 | 0.0 |

SUBMISSION SITE USAGE SUMMARY: TELEX EXCLUDED : February, 1977

| submitted from | total jobs | % | pages printed | % | cards read | % |
|----------------|------------|------|---------------|------|------------|------|
| Lauderdale | 3,024 | 4.5 | 239,981 | 21.9 | 1,211,823 | 11.8 |
| ExpEng | 7,870 | 11.6 | 225,590 | 20.6 | 2,323,039 | 22.6 |
| West Bank | 9,353 | 13.8 | 141,584 | 12.9 | 1,451,208 | 14.1 |
| 6400 | 1,108 | 1.6 | | | | |
| SUPIO | 46,287 | 68.4 | 489,301 | 44.6 | 5,293,451 | 51.5 |
| TOTALS | 67,642 | | 1,096,456 | | 10,279,521 | |

WRITEUP DOCUMENTS (* = new writeup)

26JAN77 ABCLIST Extended CATLIST utility.
 26JAN77 AMEND Unit record manager.
 26JAN77 APLUM APL interpreter.
 26JAN77 ARCHIVE PF dump/load utility.
 26JAN77 BKP Breakpoint CP program.
 26JAN77 BLANK Write initial label.
 26JAN77 BLOCKER Write blocked stranger tapes.
 26JAN77 CALLPFM FORTRAN permanent file routines.
 26JAN77 CALLPRG Library search extension.
 26JAN77 CATALOG Catalog a file.
 26JAN77 CATLIST Catalog a permanent file.
 26JAN77 CATLSYS Extended CATLIST utility.
 26JAN77 CHANGER Extended CHANGE utility.
 26JAN77 CHANGES Merged system changes.
 26JAN77 CIMSP11 CIMS PL/1 user guide.
 26JAN77 CKSPSS SPSS utility program.
 11FEB77 CONTROL Descriptions of control cards (indexed).
 26JAN77 COPYL Cyber common utility; LIBEDIT.
 26JAN77 COPYU Copy unit records.
 22FEB77 COST Calculate job cost.
 01FEB77 COUNTU Count unit records.
 26JAN77 DELAY DELAY queue feature.
 26JAN77 DISPOSE DISPOSE control card.
 26JAN77 DIVERT Re-route large output files.
 26JAN77 DMPCOR CM dump routine.
 26JAN77 DMPECS Dump ECS.
 26JAN77 DRESS Prepare source file for MODIFY and UPDATE.
 26JAN77 DUMPPF Permanent file dump and load utility.
 26JAN77 EISPACK Descriptions of EISPACK programs (indexed).
 26JAN77 ERRMESS Dayfile error messages.
 22FEB77 EXAMINE Determine magnetic tape contents.
 26JAN77 FILES Manipulate local files.
 26JAN77 FMT Text formating program.
 22FEB77 FOCAL FORTRAN calculator.
 26JAN77 FORSUBS Description of FORTRAN sub-programs (indexed).
 26JAN77 FUNPACK Description of FUNPACK programs (indexed).
 26JAN77 GETSAVE PF utility.
 26JAN77 HASH Change user index to job name and vice-versa.
 26JAN77 ISIS Interactive statistics system.
 26JAN77 ITEMIZE Cyber common utility; CATALOG.
 26JAN77 KCL Control card processor.
 26JAN77 LIBEDIT Library editing program.
 26JAN77 LIBLIST Short descriptions of library files.
 26JAN77 LIBRARY Description of library files (indexed).
 01FEB77 LISP LISP information.
 26JAN77 LIST80 LIST80 documentation.
 26JAN77 L072 L072 documentation.
 26JAN77 LPKODE LP/IP/MIP package.
 26JAN77 MODIFY Source library editing program.
 26JAN77 MODUP MODIFY to UPDATE conversion program.
 04FEB77 MP Microplanner language.
 26JAN77 PACKMS Pack random file.
 26JAN77 PASCAL PASCAL information file.
 26JAN77 PASCLIB PASCAL library information.
 01FEB77 PFCOST Estimate PF costs.
 26JAN77 PFGUIDE Permanent files user's guide.
 26JAN77 PFILES Permanent files request processor.
 26JAN77 POLISH Edit ANSI FORTRAN modules.
 26JAN77 PREVIEW Preview display dump.
 27JAN77 PROCPAC Reference for calling system routines.
 26JAN77 PURGER Extended PURGE utility.
 26JAN77 REBLOCK Converts "S" AND "L" tapes to internal.

26JAN77 REFORM Sequence/desequence T/S source lines.
 26JAN77 RIGHTUP How to use WRITEUP.
 26JAN77 RJECON Remote job entry commands.
 26JAN77 SEND Send files to the 6400.
 26JAN77 SNOINFO CAL 6000 SNOBOL.
 26JAN77 SNPSHOT Write/restore registers and dump.
 23FEB77 SORTOPL MODIFY sorter.
 26JAN77 SQUEEZ Squeeze COMPASS listings.
 26JAN77 STRATEN Straighten COMPASS source lines.
 26JAN77 SYSLIB SYSLIB documentation.
 26JAN77 TAPES Tape library manager.
 22FEB77 TAPEUSE Tape user's guide.
 26JAN77 TDUMP Dump a file.
 26JAN77 TEKLIB Library for TEKTRONIX terminals.
 26JAN77 TESTCR Card reader testing routine.
 26JAN77 TESTLP Printer and line test program.
 26JAN77 TIDY Tidy FORTRAN source lines.
 26JAN77 TYPESET Text reformatting program.
 26JAN77 UNPAGE Edit carriage control characters.
 26JAN77 XEDIT Extended interactive text editor.
 26JAN77 1004INT 1004 operating instructions.
 26JAN77 1004SET 1004 character set conversion.

WRITEUP FILES WITH ROUTINELY CHANGING INFORMATION

AFmmyy Lists of archived files: mmm=month, yy=year.
 CONSULT Consulting sites and hours.
 DOCLIST List of documentation and publications sources.
 HOURS Operating hours.
 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 System 2000 bugs.
 RJDSTAT Daily SUPI0 statistics.
 RJEMTOT Monthly SUPI0 statistics.
 RJMSTAT Cumulative SUPI0 statistics.
 SITEBIN Output shelf locations.
 SYSMODS Latest system changes.
 TSTATS Tape mounting statistics.

UCC PUBLICATIONS

BMDP : local modifications (1976)
 CAL 6000 SNOBOL (1975)
 FOR THE NEW USER: A Complete Guide (1976)
 IMP - An OMNITAB Mimic (1976)
 Index to Cyber 74 User Software (1975)
 Instructor's Guide to Batch Computing (1976)
 Introduction to OMNITAB II (1974)
 ISIS User's Manual (1976)
 LISP at the University of Minnesota (1974)
 MF501 : a microfilm printing routine (1977)
 MINN subprogram writeups (see "Index")
 MIX at the University of Minnesota (1974)
 MNF Reference Manual (1976)
 PRNTPLT : a PASCAL plotting routine (1976)
 SNOBOL4 at the University of Minnesota (1976)
 SPSS 6.0: local implementation and extensions (1975)
 SPSS/ONLINE (1976)
 Student Guide to Batch Computing (1976)
 System 2000 User Aids (1,2,3,4)
 S2KIND (S2K procedure file) (1975)
 Timesharing Guide to Computing (1975)
 UCC Instant (1976)
 UMTIMER (1975)
 Univac 1004 Operating Instructions (1975)
 UNPAGE (1975)
 UWM BASIC at the University of Minnesota (1975)
 VIEW : TEKTRONICS graphics (1976)
 XEDIT 2.1.6: an extended text editor (1976)

| MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|--|--|--|--|--|
| 28 March (Winter Quarter begins) | 29 March | 30 March | 31 March Introduction to UCC | 1 April |
| 4 April Beginning COMPASS | 5 April Advanced FORTRAN | 6 April Beginning COMPASS | 7 April Advanced FORTRAN | 8 April Beginning COMPASS |
| 11 April Beginning COMPASS SNOBOL Introduction to S2000 | 12 April Advanced FORTRAN | 13 April Beginning COMPASS SNOBOL Introduction to S2000 | 14 April Advanced FORTRAN | 15 April Beginning COMPASS SNOBOL Introduction to S2000 |
| 18 April SNOBOL Introduction to S2000 KRONOS Control Cards COBOL | 19 April Advanced FORTRAN LISP | 20 April SNOBOL Introduction to S2000 KRONOS Control Cards COBOL | 21 April Advanced FORTRAN LISP | 22 April SNOBOL Introduction to S2000 KRONOS Control Cards COBOL |
| 25 April KRONOS Control Cards COBOL | 26 April Advanced FORTRAN LISP | 27 April KRONOS Control Cards COBOL | 28 April Advanced FORTRAN LISP | 29 April KRONOS Control Cards COBOL |
| 2 May KRONOS Control Cards COBOL | 3 May LISP SPSS Beginning FORTRAN (n) | 4 May KRONOS Control Cards COBOL | 5 May LISP SPSS Beginning FORTRAN (n) | 6 May KRONOS Control Cards COBOL |
| 9 May S2000/PLI Intermediate COMPASS Programming Style | 10 May SPSS Beginning FORTRAN (n) | 11 May S2000/PLI Intermediate COMPASS Programming Style | 12 May Beginning FORTRAN (n) | 13 May S2000/PLI Intermediate COMPASS Programming Style |
| 16 May Advanced S2000 Intermediate COMPASS | 17 May Sort/Merge Beginning FORTRAN (n) | 18 May Advanced S2000 Intermediate COMPASS | 19 May Sort/Merge ** USERS MEETING ** Beginning FORTRAN (n) | 20 May Advanced S2000 Intermediate COMPASS |
| 23 May Record Manager S2000/RW | 24 May Beginning FORTRAN (n) | 25 May Record Manager S2000/RW | 26 May Beginning FORTRAN (n) | 27 May Record Manager S2000/RW |
| | | | | |

Introduction to UCC : th, 2:15-4pm, 31 March, Mech. Eng. 18, RTF
 Beginning COMPASS : mwf, 2:15-4pm, 4-15 April, Aero 215, JD
 Advanced FORTRAN : tth, 2:15-4pm, 5-28 April, MinMet 104, RTF
 Introduction to S2000 : mwf, 2:15-4pm, 11-22 April, ChEng 240, SPN
 SNOBOL : mwf, 3:15-5pm, 11-22 April, Exp. Eng. 193, JPS
 KRONOS Control Cards : mwf, 2:15-4pm, 18 Apr-6 May, Mech 18, RTF
 COBOL : mwf, 2:15-4pm, 18 Apr-6 May, ChEng 154, JC
 LISP : tth, 2:15-4pm, 19 Apr-5 May, VH 314, JH
 SPSS : tth, 2:15-4pm, 3-10 May, Aero 321, SPY
 Beginning FORTRAN : tth, 6-8pm, 3-26 May, Exp. Eng. 193, RTF
 Programming Style : mwf, 2:15-4pm, 9-13 May, Aero 215, RTF
 S2000/PLI : mwf, 2:15-4pm, 9-13 May, VH 314, JC
 Intermediate COMPASS : mwf, 2:15-4pm, 9-20 May, Ford Hall 40, KCM
 Advanced S2000 : mwf, 2:15-4pm, 16-20 May, Aero 321, SPN
 Spring Users Meeting : th, 2:15-5pm, 19 May, Aero 225
 Sort/Merge : tth, 2:15-4pm, 17-19 May, Lind H. 305, HK
 Record Manager : mwf, 2:15-4pm, 23-27 May, MinMet 124, HK
 S2000/RW : mwf, 2:15-4pm, 23-27 May, ChEng 50, JC

E D I T O R I A L

We normally try to keep the pages of this newsletter very dry; that is, the news herein concerns the machines, software, and services of UCC: editorial content is very rare.

However, a situation has been brought to our attention that we think deserves comment.

Jeane Buslovich, a new immigrant to the United States, is a young computer professional who holds a diploma in mathematics and worked for five years in developing computer programs for various engineering applications. Before she emigrated, she was fired from her job and then was refused other employment for reasons that we, historically, call persecution. Her husband, an architect, was treated in the same way by his employers.

Both these young people are intelligent, competent professionals. They were unable to find employment because of political and religious persecution. They had difficulty in getting visas to leave their homeland. When they were granted permission to leave, they were only able to take their children and a few possessions.

Now, of course, they are having problems finding employment in this country; no references and some language barriers.

This is, of course, not an unusual situation. The United States has never put a great deal of effort into acclimating new immigrants. However, this case hits close to home since Ms. Buslovich is a computer professional and, painfully, we are unable to offer her employment.

We will, therefore, list here the personnel information provided to us and we invite anyone with a position open to call:

Name : Jeane Buslovich
Telephone : 612/545-2057
Education : Diploma in Mathematics
Leningrad Teachers' Institute
Experience : Engineer (5 years)
Developed equations and compiled programs for
computers for various engineering problems
Recipient of award for innovation in mining
industry conveyor system