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Computer Center BULLETIN

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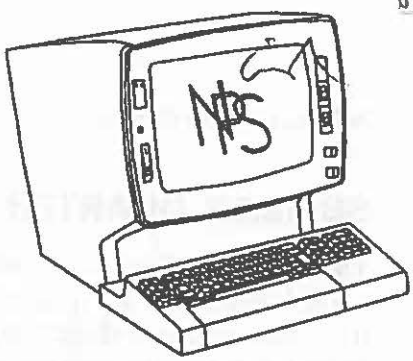

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SUMMER QUARTER TALKS

The Computer Center staff will give thirty-four talks at the beginning of this quarter to acquaint users with the various facilities of the VM/CMS timesharing and MVS batch systems available on the mainframe and with the services available in the Center's Microcomputer Lab. In addition, Prof. P. A. W. Lewis (OR) will present two introductory talks about interactive statistical/graphical services using APL.

The following five talks will be given in Spanagel Hall and Ingersoll Hall. *Signup is not required for these sessions, but space is limited by the size of the rooms. The room size is enclosed in parentheses following the room number.*

Introduction to VM/CMS: Sp-421 (78), In-271 (46)

1510 Wednesday	**11 July**	**Roger Hilleary**	**Sp-421**
1510 Monday	**16 July**	**Roger Hilleary**	**In-271**

This talk is given twice; it assumes no prior knowledge of the Center's computer. Topics to be covered include the use of the 3278 terminal, how to logon and logoff, use of the function keys, the HELP facility, and various general-purpose commands. It is strongly recommended for all new users of the Center and covers information which may not be provided in an introductory programming class. Be sure to bring a copy of Technical Note VM-01, *User's Guide to VM/CMS at NPS*. A copy of this publication is usually provided when a new user registers in In-147. (Those without computer experience may wish to consider instead the Center talk *Hands-on Mainframe*.)

Introduction to XEDIT: Sp-231 (62), In-365 (32)

1610 Wednesday	**11 July**	**Helen Davis**	**Sp-231**
1510 Wednesday	**18 July**	**Helen Davis**	**In-365**

This talk is presented twice. It provides elementary information about the XEDIT full screen editor. The main emphasis is on methods for creating and changing programs and other files. Use of the PF keys and HELP facility in XEDIT are mentioned. The talk assumes little or no familiarity with XEDIT, but prior attendance at *Introduction to VM/CMS* is recommended. (Those without computer experience may wish to consider instead the Center talk *Hands-on Mainframe*.)

Introduction to E-Mail: In-119 (35)

1510 Monday	**23 July**	**Caroline Miller**	**In-119**

Every IBM mainframe user at NPS has two electronic mail addresses. This talk provides information on the electronic mail services supported by the Computer Center on the IBM mainframe. Two data networks will be introduced: the academic BITNET (Because It's Time NETwork) and the DDN (Department of Defense Network). Topics to be discussed include procedures for sending a short note to a local or remote computer, how to transfer files between different computers, and what information is available to assist in finding the network addresses for persons who may be contacted via the networks.

All other talks, described below, will be given in In-119, In-151, In-364-E, Ro-260, or Ro-262. *Signup for these sessions is required. Those interested in attending should sign up in the Consulting Office, In-146 to reserve a seat.*

APL and Related Programs on Microcomputers: Ro-260

1410 Monday	**9 July**	**Prof. P.A.W. Lewis**	**Ro-260**

This talk discusses the versions of APL and APL2 which are available for micro computers. These include STSC's APL*PLUS version 9, STSC's APL*PLUS II Version 2, and IBM's APL2/PC and APL232/PC. These programs all feature full screen editors and session managers. The statistics package STATGRAPHICS, which is based on APL*PLUS, will be demonstrated and storage problems of the package will be discussed. Mainframe to micro communication, graphics and hardcopy output will also be covered.

Intro to Desk Top Publishing: In-151

1510 Thursday	12 July	Tony Coloma	In-151
1610 Wednesday	18 July	Horning/Grady	In-151
1510 Wednesday	25 July	Horning/Grady	In-151

This combined talk and lab session lasts 75 minutes, and introduces desk top publishing using the Xerox workstation. Features covered include illustrations and graphics, tables, mathematical formulas, data driven graphics, transparencies for demonstrations, manipulating scanned images, and converting WordPerfect or ASCII files to Xerox and vice versa. This talk will be given three times.

Introduction to GML: In-119

1510 Thursday	12 July	Larry Frazier	In-119

Generalized Markup Language (GML) provides a set of commands that simplifies the task of using the DCF document composition facility of ScriptVS to prepare papers and other research publications on the mainframe. It takes care of footnotes, figures, tables, and mathematical formulas and will also generate a Table of Contents for your paper. Graphics from Disspla and Grafstat may be printed directly with GML laser printer output. *Attendees should be familiar with the timesharing system.*

WordPerfect Fundamentals: Ro-262

First Series:			
1510 Thursday	12 July	Naren Tayal	Ro-262
1510 Monday	16 July	Naren Tayal	Ro-262
Second Series:			
1510 Wednesday	18 July	Kathy Strutynski	Ro-262
1510 Thursday	19 July	Kathy Strutynski	Ro-262
Third Series:			
1510 Monday	6 August	Kathy Strutynski	Ro-262
1510 Wednesday	8 August	Kathy Strutynski	Ro-262

Enrollment for these talks is open only to students and faculty. Attendees must have a prior knowledge of fundamental MS-DOS commands either through attendance at a Computer Center talk or by training or practice elsewhere. Class space is limited. Sign up for one pair of talks only. The talk is given in two different classes. Each class takes 90 minutes and requires attendance at both parts. This series of two talks will be given three times this quarter. These talks are hands-on tutorials about WordPerfect in general; see elsewhere in this list of talks for a talk on the use of WordPerfect to produce a thesis in NPS-approved format.

WordPerfect is the most widely used word processor in the world. These talks will introduce you to most of its fundamental capabilities. You will also be shown how to use one of its special features — the spelling checker.

Introduction to GRAFSTAT: Ro-260

1410 Thursday	12 July	Prof. P.A.W. Lewis	Ro-260

This talk will give a brief introduction to GRAFSTAT, an APL package for interactive scientific-engineering plotting, graphics output development, applied statistics, and data analysis. The program features a full-screen interface, complete on-line help, color graphics capability and effectively combines computation and graphics. Complete routines for least squares fitting, fitting of probability distributions, design and implementation of quality control charts, regression and time series analysis are available.

Introduction to Minitab: In-119

1610 Thursday	12 July	Dennis Mar	In-119

Minitab is an interactive statistical computing system available on VM/CMS. It is designed for moderate-size data sets which can be stored on a CMS A-disk. Minitab is quick and especially useful for exploring data, plotting, and regression analysis. *Attendees should be familiar with the timesharing system.*

Introduction to MS-DOS: Ro-262

1640 Monday	16 July	Jim Horning	Ro-262
1510 Thursday	2 August	Kathy Strutynski	Ro-262

Enrollment for these talks is open only to students and faculty. This is a combination 75-minute talk and lab session; it will be given twice. It is designed for beginners who are interested in learning how to use the operating system of any IBM or IBM-compatible microcomputer. Various elementary IBM Disk Operating System commands will be discussed. Use of, and naming conventions for, DOS files and other basic concepts will also be covered. In addition, participants

will be given information on using the Micro Lab's Ungermann-Bass/Novell network.

Introduction to GThesis: In-119

1510 Monday 16 July Larry Frazier In-119

GThesis is an addition to the IBM Script (DCF) document composition system that simplifies producing a thesis to NPS standards. The talk will be useful only to those with some familiarity with Script (GML). *Attendees should read the first three chapters of TN VM-14, the GThesis documentation, (available in In-146), and bring this reference to the talk.* See the related GML talk.

Introduction to SAS: In-119

1610 Monday 16 July Dennis Mar In-119

SAS, the Statistical Analysis System, is a flexible program for handling all phases of data analysis: retrieval, data management, statistical analysis, and report writing. It has excellent features for merging and subsetting data sets. The speaker will describe the required data format and SAS control statements for a simple problem. Both the batch and timesharing modes of execution will be demonstrated.

Intro to the Formula Formatter: In-119

1610 Wednesday 18 July Larry Frazier In-119

Those using GML and GThesis on the mainframe to prepare theses or other documents, and requiring the formatting of mathematical formulas, should attend this new presentation. Many find it possible to learn IBM's formula formatter using only printed documentation, but many will find the learning process simpler with this talk. Square roots, multi-line brackets, matrices, complex sub- and super-scripts, and much more are all formatted automatically by this package. *Attendees should be familiar with GML (Script) and the timesharing system.*

Those using WordPerfect may wish to attend one of the Center talks on new WordPerfect 5.1 features, which include its version of formula formatting.

Managing MVS Data Sets: In-119

1510 Wednesday 18 July Dennis Mar In-119

This talk will cover the creation and use of data sets on the MVS disks. Topics discussed will include storage policies, the hierarchial storage manager, writing utility programs with MVSHELP, and copying CMS files with MVSDISK. Job Control Language and the SUBMIT command will not be explained.

WordPerfect Thesis Styles: In-151

1610 Thursday 19 July Larry Frazier In-151
1510 Monday 23 July Larry Frazier In-151
1510 Thursday 26 July Larry Frazier In-151

This talk will be given three times. It covers the use of WordPerfect to produce a thesis in NPS-approved format. ***Those attending this talk must be familiar with WordPerfect, and have a prior knowledge of fundamental MS-DOS commands*** either through attendance at a Computer Center talk or by training or practice elsewhere. Topics covered include specific formatting requirements for theses, and Style Sheets developed at NPS to simplify the production of theses. On-line and printed documentation in the form of a sample thesis will be provided; this and the style sheet can be copied for use with WordPerfect 5.0 and 5.1 elsewhere.

Hands-on Mainframe: In-364-E

1510 Thursday 19 July Helen Davis In-364-E

This session is designed for those who find the thought of learning to use the mainframe computer a bit intimidating; it combines the information from two separate lectures, *Introduction to VM/CMS* and *Introduction to XEDIT*. This will be a single 90 minute class in a terminal room so that you can work with CMS, FILELIST, RDRLIST, and XEDIT during the session. Class size is limited to 14 due to the number of terminals.

Introduction to REXX: In-119

1510 Thursday 19 July Dennis Mar In-119

REXX is a CMS command programming language. It is the successor to EXEC2. REXX is especially useful for creating personal execs and XEDIT macros.

This introductory talk covers REXX input/output, variable manipulation, structured programming features, and embedding CP and CMS commands.

Micro Lab Network: In-151

1610 Monday	23 July	Jim Horning	In-151
1510 Monday	30 July	Jim Horning	In-151

The Micro Lab is offering a class about using Novell networks, in particular the Micro Lab's network. This class assumes you are familiar with DOS commands, and DOS disk and file organization. During this class, you will be exposed to several network utilities that help you monitor printing, ask for extended file and directory information, list user information, list available network fileservers, etc.

Introduction to DISSPLA: In-119

1510 Wednesday	25 July	Helen Davis	In-119

DISSPLA, a library of Fortran subroutines, allows the user to create a wide variety of graphics. This talk will focus on getting started with DISSPLA using the DISSPLA exec, the basic features of DISSPLA, and the required structure of the DISSPLA program to create graphs. Some knowledge of Fortran is helpful, but not required.

VS Fortran V2 Features: In-119

1510 Thursday	26 July	Roger Hilleary	In-119

This talk is 90 minutes in length. It is designed to encourage VS FORTRAN programmers to use the new features of the language which have become available with the installation of Version 2. These include program sampling which can be used to find the areas of code that most merit optimization efforts, use of the Intercompilation Analyzer to debug problems concerning program arguments, the new convenient way of using INCLUDE, using OPEN to avoid filedefs, utilization of the new built-in timing routines, the DO WHILE and DO/ENDDO constructions, and much more.

WordPerfect Tables, Equations & Graphics: In-151, Ro-262

1510 Wednesday	1 August	Naren Tayal	In-151
1510 Thursday	9 August	Kathy Strutynski	Ro-262

Enrollment for these talks is open only to students and faculty. This class takes 90 minutes, and will be given twice this quarter. Class space is limited. *Sign up is required. Attendees must have a prior knowledge of fundamental MS-DOS commands and WordPerfect 5.0* either through attendance at a Computer Center talk or by training or practice elsewhere. These talks are hands-on tutorials on the WordPerfect features of tables, equations and graphics.

Advanced MS-DOS: Ro-262

1510 Monday	13 August	Kathy Strutynski	Ro-262

Enrollment for this talk is open only to students and faculty. Attendees must have a strong familiarity with fundamental MS-DOS commands . This is a combination lecture and lab session designed to increase your knowledge of the DOS operating system and help you become a more efficient user of your PC. You will learn how to use tree-structured directories to organize your files, how to create batch files to save time and keystrokes, and you will be introduced to the sophisticated commands and command filters of DOS 3.1 — ASSIGN, ATTRIB, BACKUP, FIND, MORE, SORT, etc.

Neil Harvey

SOFTWARE CHANGES

VS FORTRAN 2 Has Replaced 1

In the last two issues of the *Bulletin* we served notice that Version 2 would become the standard version of the compiler at the end of the spring quarter. That event has now taken place.

On MVS, VSF1 is now completely unavailable. On CMS the older version is not available except after consultation with the programming staff. The following information is to assist casual users of VS Fortran who may have postponed conversion to VSF2 until this late date.

VM/CMS Considerations

On the timesharing system, users must alter their GLOBAL TXTLIB and GLOBAL LOADLIB statements to use VSF2. The correct forms of these statements will become:

```
GLOBAL TXTLIB VSF2FORT CMSLIB ... (etc., e.g., IMSLSP)
GLOBAL LOADLIB VSF2LOAD
```

Normally most users place these statements in their PROFILE EXEC files.

To invoke the new compiler issue:

```
FORTVS2 <fn> (options
```

where the options are the same as under VSF1, except for some additional features, some of which have been discussed in previous issues of the *Bulletin.*

In addition, the RUN exec has been altered to use the VSF2 compiler when the second argument is FORTRAN. (This indicates to the RUN exec that compilation is required prior to loading and execution.)

MVS Considerations

On the batch system users must edit the files of job control language which they SUBMIT for processing. In most cases the only change required will be in the name of the cataloged procedure to be invoked. The new names are shown below:

VSF2CLG	Compile, linkedit, execute
VSF2C	Compile only
VSF2CL	Compile and linkedit
VSF2CG	Compile and run with loader program
VSF2G	Load previously compiled/linkedited program and go
VSF2CLGD	Compile, linkedit, and run with DISSPLA output
VSF2CLD	Compile and linkedit with DISSPLA libraries

Previous names are similar, except "FORTV" or "FRTV" appears in place of "VSF2". The old cataloged procedures are no longer available. Use the GETPROC exec to see the exact form of any procedure.

Compatibility Notes

All source programs that compiled under VSF1 will compile properly under VSF2. Also, in general, VSF1 TEXT (object program) files may be mixed with such files compiled by VSF2, **provided the Version 2 libraries (VSF2FORT and VSF2LOAD) are used.** If for some obscure reason previously compiled programs stop working properly, the easiest solution will be to recompile using VSF2.

For further information or assistance contact Dennis Mar, In-102A, x2672, userid 2001P; Neil Harvey, In-108, x2088, userid 1770P; or Roger Hilleary, In-133, x2752, userid 0002P.

Roger Hilleary

BMDP 90 Package Installed

The 1990 version of BMDP is now installed on the MVS batch processing system. This release of BMDP has replaced the 1988 version.

BMDP 90 contains two newly developed programs:

Maximum Likelihood Estimation

This estimates the parameters that maximize the likelihood function, using the iterative Newton-Raphson algorithm. Given a collection of observations, the program computes the analytically exact first and second derivatives to estimate the gradient vector and the Hessian matrix. Computation of first and second derivatives is in double precision.

Stepwise Polychotomous Logistic Regression

This computes the maximum likelihood estimates of parameters of logistic models for multinomial data. Multinomial data are data in a discrete distribution associated with events which might have more than two outcomes. The dependent or response variable may be either nominal or ordinal, takes values 1,2,...,j according to the category of the response. The independent variables may be either categorical or continuous. Copies of the new manuals have been placed in In-146. To buy new manuals (it's a two volume set) write to:

BMDP Statistical Software
1440 Sepulveda Blvd.
Suite 316
Los Angeles, CA 90025

There is a way to use BMDP procedures on your SAS files for those of you who are tried and true SAS users. An example follows to use BMDP's regression procedure through SAS. First, use the EXEC SASBMDP statement rather than the EXEC SAS statement. Then use PROC BMDP, followed by the necessary BMDP statements.

```
//   ..... standard job card
//*MAIN    SYSTEM=SY2
//  EXEC SASBMDP
//DATAIN DD DISP=SHR,DSN=MSS.S1234.TEST
//SYSIN     DD *
DATA ONE;
  SET DATAIN.TEST:
PROC BMDP PROG=BMDP1R DATA=ONE UNIT=3;
PARMCARDS;
  /PROBLEM TITLE='BMDP MULTIPLE REGRESSION EXAMPLE'.
  /INPUT   UNIT=3.
           CODE='ONE'.
  /REGRESS DEPENDENT=Z.
           Independent=X,Y.
  /END
  /FINISH
  ;
/*
//
```

In this example, BMDP's regression procedure will be performed on the SAS file TEST.

Helen Davis

NETWORK NEWS

New Connection to BARRNET/NSFNET

On 15 June, 1990 the School was attached directly to BARRNET (Bay Area Regional Research Network). The connection is through a T-1 link (1.2 Mbits/second) to the Monterey Bay Aquarium Research Institute (MBARI), Pacific Grove. MBARI is connected to the rest of the BARRNET via a 56Kbits/second link to Stanford University. This link to Stanford will soon be upgraded to T-1 speed.

Users accessing BARRNET or NSFNET hosts by logging in to CMS on the IBM 3033 should contact Caroline Miller (x3313, userid 0126P) with the names of the hosts that they frequently access so that the Center can modify the VM TCP/IP host tables to ensure the most direct access to these hosts.

Users accessing BARRNET or NSFNET hosts via departmental LANs or the campus backbone should contact their network administrators to ensure that correct BARRNET routing has been installed in their gateway routing tables.

Dave Norman

GRAPHICS ANNOUNCEMENTS

SAS/Graph Installed on MVS

The SAS/Graph facility has been added to the SAS base product on the mainframe batch processing system. SAS/Graph is a computer graphics system for displaying data in the form of plots, charts, and maps. Map areas include U.S. states and counties and Canadian provinces and census divisions. SAS/Graph will simplify creation of graphics for those already processing their data with SAS.

New SAS procedures include GOPTIONS, GCHART, GPLOT, GMAP, and GCONTOUR. The reference documentation is *SAS/Graph User's Guide, Version 5 Edition* available from the SAS Institute, SAS Circle Box 8000, Cary NC 27513-8000. Local information is included in the Computer Center technical memo "SAS/Graph on MVS" and is available in the Consulting Office, In-146. For further information about SAS/Graph, contact Dennis Mar, In-102A, x2672, userid 2001P.

SAS/Graph output may be directed to four devices:

- Versatec plotter
- IBM3800 printer
- ADMGDF file routed to CMS
- ADMGDF file stored as a member in an MVS partitioned data set (PDS).

Each output device uses its own cataloged procedure.

Device	Procedure
Versatec	SASGV
IBM3800	SASG3
ADMGDF CMS	SASGA
ADMGDF PDS	SASGPDS

All the usual SAS procedures such as PROC REG or PROC MEANS are available in the four new cataloged procedures. The procedures were created to simplify attachment of MVS modules specific to each output device.

The following sample code would plot on the IBM3800 printer. Plot dimensions are controlled by the HSIZE (horizontal size in inches) and the VSIZE (vertical size in inches). The BORDER/NOBORDER option turns the border on or off. A ROTATE command can be added to the GOPTIONS statement to turn the plot 90 degrees on the page.

```
//job statement
//*MAIN SYSTEM=SY2
//  EXEC SASG3
//DD1 DD DISP=SHR,DSN=sas.data
//SYSIN DD *
%SASG3;
GOPTIONS NOBORDER
         HSIZE    =  9.0
         VSIZE    =  6.5 ;
PROC GPLOT DATA=DD1.sasname;
     PLOT X*Y;
//
```

In the above example, %SASG3 is a SAS macro which supplies the device-specific GOPTIONS statements for the IBM3800 printer. Each output device has its own macro. The macro names are the same as the cataloged procedure names.

XEDIT Command MVSJOB

To simplify writing the basic SAS/Graph JCL and GOPTIONS, use the XEDIT command MVSJOB and the SAS/Graph cataloged procedure name as an option.

For example, open a file with XEDIT. From the command line, type:

```
====> MVSJOB (SASG3
```

Use the editor to insert the following lines at the top of the file.

```
//filename JOB (userid,9999),'comment',CLASS=B
//*MAIN SYSTEM=SY2
//  EXEC SASG3
//SYSIN DD *
%SASG3;
GOPTIONS NOBORDER
         HSIZE    =  9.0
         VSIZE    =  6.5 ;
```

SAS ADMGDF files

The SASGA procedure returns a plot to the CMS virtual reader as an ADMGDF file whose 400-character lines have been divided into five 80-character lines each. The 80-character line file is required to return the file via the RSCS network.

Using these 80-character line files is a two-step process.

- Reformat the 80-character line file with the CMS exec:

  ```
  SASGAFIX filename filetype
  ```

  SASGAFIX re-assembles the 400-character line file and assigns the name: filename ADMGDF.

- Use the PSEG exec to process the ADMGDF file. The user has the choice of sending the plot directly to the IBM3800 printer or creating a PSEG38PP file for inclusion in a SCRIPT document.

Dennis Mar

DISSPLA 11.0 Is Here

DISSPLA 11.0 was recently installed on the VM/CMS system. The summer quarter will be an opportunity for professors, students, and staff to test the new release and the revised EXEC and to update their existing code, both FORTRAN and EXEC language.

The test name of the DISSPLA 11.0 exec is **D2**. It is available on the Y-disk, so no special linking procedures are required. At some future date DISSPLA 11.0 will become the default version of that package on the mainframe. At that time, the D2 exec will be renamed DISSPLA, and the old version, DISSPLA 10.5, will no longer be available.

Watch for articles on the improvements and new features of DISSPLA 11.0. The first appears immediately below this announcement, and others will appear in future issues of the Bulletin. A certain proportion of users of D2 will find that 2Mbytes of virtual storage are not enough to accommodate DISSPLA 11.0. They should apply to the Accounting Office, In-147, to increase their virtual storage limit to at least 2.5M.

Modifications have been made to the DISSPLA exec (DISSPLA 10.5) so that it uses the default VS Fortran compiler, Version 2, and IMSL Release 10.

User-maintained exec files that invoke DISSPLA will require modifications in order to work correctly with DISSPLA 11.0:

- Replace references to DISSPLA 10.5 txtlibs with the DISSPLA 11.0 textlibs.

- Replace references to VS FORTRAN V1.4 txtlibs and loadlibs with the VS FORTRAN V2.3 txtlibs and loadlibs.

```
GLOBAL TXTLIB D110MOD DIS110A DIS110B INTLIB
EXEC ATXTLIB VSF2FORT VSF2LINK ADMNLIB
EXEC ATXTLIB IMSL1 IMSL2 NONIMSL CMSLIB
GLOBAL LOADLIB DYNLIB VSF2LOAD
LOAD fnme (START
```

- Please note the change on the D2 menu panel in the area of adding txtlibs.
- VS FORTRAN 2 at language level 66 will not accept the Hollerith method of specifying a character string as an argument. Consequently, for example, one must use **'FRAME'** instead of **5HFRAME.** This is the only known change required in users' source code as a consequence of the change to DISSPLA 11.0
- Note that DISSPLA 11.0 is not yet available on the MVS batch processing system.

Please refer questions on updating to DISSPLA 11.0 to June Favorite (In-110, x3432) or Helen Davis (In-112, x2446).

What's New in DISSPLA 11.0

DISSPLA 11.0 utilizes the full capabilities of color terminals and color hardcopy devices including 16 or more simultaneous colors. Solid-filled color contours, mapping, and object rendering are just some of the clarity-enhancing effects that can be generated. Demonstrations of what can be done are posted on the bulletin board in In-148. Future articles will cover many other improvements and new features in more detail.

The following is a brief summary of new graphics capabilities and other features offered by DISSPLA 11.0:

- A much improved set of manuals (blue bindings),

  1. *Basic Graphics System,* Volume 1
  2. *Options,* Volume 2
  3. *Graphics Device Guide*

  The Computer Center has only two copies of this set, so please remember to use the set only in the Consulting Office (In-146) so everyone will have access to it. If you find you need to copy pages for further study, please see June Favorite (In-110).

- Newly added routines are available for drawing circles, arcs, ellipses, and elliptical arcs.
- Three-dimensional environments can be defined more exactly with additional subroutines for specifying focal points and angles of visibility.
- There is now the capability to zoom in on a three-dimensional workbox and clip at various points by removing all plot elements in front of or behind clipping planes.
- Contour lines may be superimposed on a surface plot. The contour lines may reflect the height of the surface itself or represent another value entirely. Contours may be shaded (color filled).
- The new **object rendering** feature allows defining one or more three- dimensional wire frame or solid objects, each as a set of polygons in three-dimensional space. The realism of the objects depends upon the hardware capabilities, such as number of simultaneous colors. Positioning of the objects is by shifting/rotating them or by changing their scale.
- Dynamic loading of device drivers now allows them to be added at run time, reducing the amount of disk space required. New calls are available to interactively prompt for the device to be used. It is no longer necessary to recompile and link the program each time a device is changed. This eliminates the need for the extra step of creating a metafile and using the DISSPOP EXEC, except when using the Versatec plotter. Statically loaded drivers may still be used as an option.

  To try out the new interactive feature, use the following CALL instead of your standard device nomination, and you will be prompted for the device name.

```
CALL PDEV(' ',ISTATR)
```

  To use the dynamically loaded device drivers without prompting, use the DEV subroutine call:

```
CALL DEV ('name of drive',IRC)
```

  Examples for the more common device drivers used on campus include:

```
CALL DEV ('TEKTRONIX_CX4107',IRC)

CALL DEV ('IBM_3179',IRC)
```

or to get the standard DISSPLA metafile

```
CALL DEV ('METAFILE_DISP',IRC)
```

- In addition to the standard DISSPLA metafile, DISSPLA 11.0 can now produce and support all three types of CGM metafiles. CGM metafiles are most popular on personal computers and in personal computer software, *e.g.*, WordPerfect 5.0 and 5.1. To dynamically load the binary encoded CGM device driver used to create the CGM metafile used to imbed graphics in Wordperfect, use the following statement:

  ```
  CALL DEV ('METAFILE_CGMB',IRC)
  ```

  Then download the CGM binary encoded metafile to a personal computer.

Please refer questions about DISSPLA 11.0 to June Favorite (In-110, x3432) or Helen Davis (In-112, x2446). We ask you to remember that this release has brought a large number of new features, so we will be learning along with you.

June Favorite

Replacing the TEK618s

The Computer Center is planning to replace the TEK 618/IBM 3277GA tandem graphical units located in In-148, Sp-311, Hal-126A, Hal-201C and Bul-100 sometime during the next fiscal year. The current plan is to replace these units with color graphics units with 19" monitors. Whether workstations, X-terminals, or other terminals should be selected is a matter under consideration at this time. Students and professors using these units should direct suggestions and comments to June Favorite (Code 0141, x3432, In-110).

June Favorite

MVS NOTE

Improve MVS/Batch Turn-around Time

Operations has been getting complaints about the turn-around time on batch jobs: mainly classes C, G, and J. The majority of the time, these jobs are waiting their turn to run in SYSTEM=SY2. Only those jobs that use the SAS compiler must specify SYSTEM=SY2. All other jobs should have no system specification. Check your MAIN card and remove the SYSTEM specifier. Turn-around time for your batch jobs will improve considerably.

Cindy Biggers

MISCELLANEOUS MATTERS

Bulletin Online

Back issues of the Computer Center *Bulletin* are now available online on the mainframe. Log on to VM/CMS and type **Bulletin.** You will be browsing, in a single file, issues dating back to December 1987. This issue is included.

At the beginning of the file is a brief description of how to use Browse's string search facility. Browse is quick; the 14,000 or more lines of the file can be searched for a word of interest in a very few seconds, and the search can be repeated with a single keystroke. Due to the limitations of NPS's mainframe terminals, graphics are not included. See Larry Frazier, In-113, x2671, userid 0084p, with any questions.

Larry Frazier

Staff Profile-Dennis Mar

Liberia has been in the news lately. To understand events, we need to talk to someone who's been there. To put together an article on the subject, we ought to try to locate someone with journalistic experience. To better grasp the military events going on in the country, it would be useful to talk to someone with combat training. Where are we going to find resources like this at the Computer Center? Interestingly enough, the above qualifications, and many more, are found in one Center staffer, Dennis Mar.

This article is the second in an occasional series on Computer Center staff members.

Dennis has indeed spent some time in Liberia, visiting friends who teach at the local university. He says that Liberia is a country of heat, humidity, and endless palaver. You do not tell the clerk, "I want two of these." You must begin with a conversation about the weather, the relatives, the local gossip. Anything less is impolite.

Dennis reported for the *Daily Cal* at UC Berkeley (1966-68) during the "interesting" times of the Stop-

the-Draft Week demonstrations and the demonstrations against business recruiters on campus (Dow Chemical, specifically). (He had to learn that "protester" is spelled "-er" and "demonstrator" is an "-or" word.) Like many young men of a certain age, he was trained for combat duty in Viet Nam; however, the war wound down just before he shipped out.

We should also mention his activity in MIRA (the local society for the development of community interest and support for astronomy and MIRA's observatory) and his position on a committee advising librarians state-wide on matters pertaining to ethics and first amendment rights.

Dennis has a host of friends on several continents and family members in Central America. We can't leave out mention of his boggle, Amiga, and volleyball interests. How about his chairing the recent North American meeting of the IMSL users group?

This writer couldn't work all these accomplishments and interests into a smooth, cohesive article; suffice it to say that he's an interesting person to work with.

Dennis receives questions on statistics, Watfor 77, Script, magnetic tape, IMSL, etc., etc.

Larry Frazier

New Cosmic Catalog

The Computer Center Library, In-162, has recently received the latest COSMIC Software Catalog. COSMIC is the NASA Computer Software Management and Information Center, a central office established to distribute software developed with NASA funding. Since its beginning in 1966, COSMIC has been operated by the University of Georgia.

Its role as part of the NASA Technology Transfer Network is to ensure that industry, other government agencies, and academic institutions will have access to the advanced computer software which is produced for NASA projects. The current edition of the COSMIC Software Catalog contains synopses of 1151 computer programs available for use within the United States as of 1 January 1990.

You must purchase an item in order to receive the source code. This method of distribution permits modification or reuse within the purchaser's application and particular computer environment. Program documentation is sold separately to allow each user to review software capabilities in detail before making an expensive purchase decision.

Note that the main catalog and auxiliary catalogs on specialized subjects are available on the shelf at your immediate right when you enter the Computer Center Reference Room in In-162. Look in the "C" area (for "COSMIC").

Roger Hilleary

Personnel

The Computer Center welcomes Rick Skibinski to the Operations Group. Rick is working as an operator weekdays during the daytime shift. He was hired under the special summer aide program. This is his first data processing job. Rick will be a junior at Salinas High School this fall; he'll be trying out for their football team as fullback. Welcome, Rick.

Returning for the summer, to the Micro Lab, are Eric Sincoff and Jeff Lewis. Both will be juniors this fall at UC San Diego where they are studying computer science and mathematics. Welcome back, gentlemen.

Dennis Mar

OPERATIONS INFORMATION

CONSULTING HOURS

Mon-Fri 0900-1130 and 1315-1545 in In-146

Reference materials in the Consulting Office must not be removed from that room without special permission of the Consultant on duty or a Computer Operations Shift Supervisor.

HOURS OF OPERATION

VM/CMS and MVS are available 24 hours a day, 7 days a week. Preventive maintenance is normally performed 0700-1400 hours, first Sunday of each month. Systems work may occasionally be performed between 0700 and 1200 on Saturdays; advance notice is given in the VM/CMS log message.

Call 646-2713 for recorded system status.

MICRO LAB CONSULTING HOURS

1000-1200 and 1330-1700 Monday - Friday

MICRO LAB OPEN HOURS

0900-2000 Monday-Thursday
0900-1630 Friday
0900-1700 Sunday

See Micro Lab assistants during consulting hours for combination to access Lab when it is closed.

MVS Job Queue Restrictions

No more than 3 MVS (Batch) jobs per individual may be executing and/or waiting execution. This policy allows each individual a fair share of batch processing capacity, and prevents spooling overload problems. Excess jobs will be cancelled.

Information on Printed Output

The Computer Center has an IBM 3800 non-impact printer and a 3262 impact printer in In-140. These printers are available around the clock, 7 days a week. (See "HOURS OF OPERATION"). If you want a printer unloaded, expect to wait until an operator is available. However, if you have received instruction from a computer operator, you may remove printout from either printer. If you do, please leave separated output on the counter-top, or file it by distribution code. Please observe these rules:

- Press the READY button after removing output.
- Make sure output is folding correctly in the output hopper.
- Separate all jobs in the batch of output removed from the printer.

Avoid unnecessary printing. Return output to your terminal for review and editing prior to printing. Use the default output class, SYSOUT=A, for general output from MVS. This produces two output pages per sheet of paper on the 3800 page printer.

Budget restrictions and good computing practice dictate that only one final copy of a thesis be produced on any of the Center's printers. If more than one copy is required, use of duplication facilities on campus is recommended. But please note that the NPS printshop will not cut or bind more than one personal copy.

Please put unwanted printout in any trash container in In-140, In-141, or In-151, for recycling.

This publication is published as required and is written by members of the staff, W. R. Church Computer Center (Code 0141), Naval Postgraduate School, Monterey, CA 93943. Send requests for information or suggestions for articles to the User Services Manager, Code 0141 (In-133), 646-2752 (messages: x2573). Bitnet: 0002P@NAVPGS

The Center operates an IBM 3033 Attached Processor System (16 megabytes) loosely coupled with an IBM 3033 Model U (16 megabytes) and an IBM 4381 Model P13 (16 megabytes). Interactive computing is provided under VM/SP CMS, batch-processing under MVS with JES3 networking.

Distribution: List 3, plus: 350-B3, 3-B4, 10-F3, 3-F4, 1-F6, 1-F7, 12-PERSEREC