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Computer Center

News Letter

NAVAL POSTGRADUATE SCHOOL
MONTEREY, CALIFORNIA



9 March 1977

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CMS BASIC REVISED

The BASIC interpreter available under CMS has been modified to fix known errors and relax certain limitations on program size, statement numbers, etc. It will now accept much larger programs with up to 500 statement numbers. Also the use of 'LET' is completely optional in all but character string assignments.

The new version is described in the Technical Note, TN-0141-12, "User's Guide to the BASIC Language on the IBM360/67." Any bugs encountered by the user should be reported to Bernadette Peavey, In-109.

Note: The OS batch-processing version of BASIC has not been modified yet. BASIC programs running under CMS may not run under OS.

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COMPARING THE BIMEDS

Many users of the Center employ the BMD and BMDP packages to get statistical results without any investment in programming effort. There are 53 programs in the older BMD Series and 26 in the BMDP Series. The two packages have separate manuals (both available in In-146 and In-162) and different input schemes. The P-Series programs are generally preferred, since they are newer, contain improved methods, and are generally easier to use. The old series has some advantages, however, and supplies several abilities not provided by the new programs. These matters are discussed in detail in an article that appeared in the October 1976 issue of Communications of the ACM. Serious users of the BimedS are urged to read this article. Copies of all ACM publications are available in the Center's Library, In-162.

EISPACK2 INSTALLED

EISPACK2 is a new version of EISPACK which is a package of subroutines designed to simplify the solution of standard matrix eigenproblems. Called from a Fortran program, EISPACK is an easy and fast way to compute some or all of the eigenvalues (with or without eigenvectors) for complex general, complex Hermitian, real general, real symmetric, real symmetric tridiagonal or certain real non-symmetrical tridiagonal matrices.

Users who are interested in using this system can obtain a writeup of the EISPACK documentation by submitting the following job:

```
// (Standard Job Card; see 3.3.2.1 of User's Manual)  
// EXEC EISINFØ  
/*
```

MPS/360 INCOMPATIBLE WITH NEW 3330 DISKS

In our memo, "Introduction to Intel 7330 Disk Storage System," we pointed out that the IBM Sort/Merge package could not use the new disks for input, output or SORTWK files. Users of the Mathematical Programming System (MPS/360) also should not write job control language indicating use of 3330 disks for any files. The standard cataloged procedures for MPS (LINPROG and FORTMPS) avoid usage of the 3330's.

CARD STORAGE SERVICE-DATE YOUR BOXES

In the last Newsletter we explained the storage service for large card decks that we offer in In-139. We ask every user of the service to mark each box with his/her name and the month and year following his/her expected departure from the School. Expired boxes are placed in the recycle bin at the end of each quarter.

INACTIVE CMS USERS

Our records indicate little or no usage of allocated disk space by a few private users of CP/CMS. The need for disk space is growing. If you have no further need for assigned disk space, please release it by advising the Information Services Office, In-147.

ERASING MYTHS ABOUT MAGNETIC MEDIA

Magnetic computer tapes and disks are reliable storage media whose failures are almost always attributable to the physical deterioration of the media rather than to the deterioration of the data. But how does one detect data loss resulting from devices that leave no physical imprint? Airports, for example, pose a variety of potential threats to magnetic recordings. In addition to x-ray devices and walk-through metal detectors, there are handheld metal detectors and even radar.

Subjected to magnets, lasers, microwaves, radar and even nuclear radiation, magnetic media will usually survive, according to Sidney Geller of the National Bureau of Standards (NBS). In his March 1976 Datamation article entitled "Erasing Myths About Magnetic Media," Mr. Geller reports the results of studies performed by the NBS Institute for Computer Sciences and Technology which have found that a magnetic field supplies the only kind of energy that can cause undetected data destruction without any accompanying physical distortion or damage to the magnetic storage media. Normally there is no need to shield the stored data against x-rays, high voltage leads, nuclear radiation, high frequency fields, or light energy. Most important, a spacing of only a few inches is sufficient to protect the recorded media against magnetic fields which are far more intense than are ever found in the normal environment or that can be produced by a concealable magnet. Only direct magnet-to-medium contact can cause serious losses.

(This article appeared in the West Virginia University (WVNET/WVUCC) Newsletter recently and is based on one in the Florida State University Newsletter)

OFFLINE LISTING OF DIRECTORY OF CMS FILES

CMS users with a large number of files and a slow-speed terminal may prefer to list their file directories on the line printer instead of the terminal. The following commands will produce such a listing sorted by filetype and time.

```
listf * * (exec sort time)
o print cms exec
```

Users interested in other options available in the 'listf' command should consult pp 119-122 of the IBM Manual, GH20-0859-3, CP-67/CMS Version 3.2 User's Guide, available in the public collections.

INDEX TO NEWSLETTERS

We pointed out in the last Newsletter that many reference publications (including updates to the User's Manual) have recently been written by the staff and are now waiting for a typist. Some of this material has already appeared in various issues of the Newsletter. Copies of an index to Newsletter articles are available in In-147. We advise regular use of this index at least until the User's Manual can be brought up to date. Copies of old issues of the Newsletter are available in In-146 and at In-162.

BUG IN FORTRAN NAMELIST

Both the G and H compilers produce incorrect results if a user writes (for example):

```
NAMELIST/DAT/AMØNC
READ (5,DAT)
```

with input card:

```
&DAT AMØNC='K' &END
```

Whenever the literal datum is less than 4 characters, a completion code of OC6 will result.

As a temporary expedient, users should always use four-character fields; e.g.

```
&DAT AMØRC='KAAA' &END
```

PLEASE TURN IN TPS AND USER'S MANUALS

Users who have either a TPS or NPS User's Manual and are scheduled to leave the School at the end of the Winter Quarter should return them to the Information Services Office.

CLASS PROJECT NUMBERS

At the close of the Winter Quarter (25 March), class project numbers in the 1400-1499 series become invalid. New class project numbers can be assigned beginning 14 March '77.

CHANGE IN SUBROUTINE LIBRARY

The following routine was added to SYS1.MPSLIB. It may be used by an OS/MVT Fortran programmer without obtaining the deck or special job control language;

F4-DGELB Band-structured System of Linear Equations (REAL*8)

ADDITIONAL LANGUAGES UNDER CP/CMS

The XPL and ALGOLE languages are now supported under CMS. Short guides on their use are available in the Center.

The Newsletter is written by members of the staff, W.R. Church Computer Center (Code 0141), Naval Postgraduate School, Monterey, California 93940. Requests for further information or suggestions on articles for the Newsletter may be addressed to the User Services Manager, Code 0141, (In-133), X2752, (or X2573 for message).

The Center provides batch-processing service under IBM 360/Operating System (OS/MVT/HASP, Release 21.8) and time-sharing service under CP-67/CMS. These services are based on a dual-processor IBM 360, Model 67 system with 2.0 megabytes of core storage.

Distribution

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