

COMPUTATION CENTER  
Massachusetts Institute of Technology  
Cambridge 39, Massachusetts

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B U L L E T I N

SUGGESTION

The Computation Center suggests that you file these Bulletins as supplements to the Procedures Handbook.

COMPUTATION CENTER MEMORANDA

The following CC memos of general interest have been released since the last Bulletin. Copies may be obtained in Room 26-269. X-1104

CC-180-19

Computation Center Version of the FORTRAN/  
FAP Monitor System

An updated list of differences between the manual and the system in use at the Center.

CC-181-5

The Use of MAD in the MIT Version of the  
FMS System

An update of the list of differences between the manual and the Center's version of MAD.

CC-243

Additional CalComp Plotter Subroutines

A description of the CalComp Plotter subprograms on the FMS library tape.

CC-244-2

TYPSET and RUNOFF, Memorandum editor  
and type-out commands

The CTSS command TYPSET is used to create and edit 12-bit BCD line-marked files. This command permits editing and revising by context, rather than by line number. The command RUNOFF will print out a 12-bit BCD line-marked file in manuscript format. RUNOFF contains several features not available with the DITTO command, including type-justification.

CC-245

ED, A Context Editor for Card Image Files

ED is a CTSS command for editing 14 word BCD card image files with CTSS. The command is based on TYPSET (CC-244) and many of the conventions of TYPSET are used in ED. Tabs are automatically interpreted for FAP, MAD, MADTRN and ALGØL programs. Tabs may also be set by the user for other purposes. Although line numbers may be generated by the ED commands, editing is done entirely by context. The ED command is offered as an alternative to the present INPUT, EDIT and FILE commands.

CC-247

MADBUG, A MAD Debugging System for CTSS

MADBUG is a system under which the user can create and debug programs written in the MAD programming language. It allows the user to input and edit symbolic programs and to execute them in a controlled way and to interrogate the derived machine language program.

MAIL REQUESTS

The New England College users who mail their jobs to the Computation Center for running should now send these requests to the following address:

Mr. Kenneth Sargent, Operations Manager  
Computation Center, Room 26-161  
Massachusetts Institute of Technology  
Cambridge, Massachusetts 02139

MANUALS

The IBM manuals, which are available to faculty and staff members, may now be obtained in Room 26-269.

SYSTEM CHANGE

On February 15, 1965, the following changes were made to the FORTRAN Monitor System Library Tape:

1. The CalComp Plotter subprograms described in CC-233 will be removed from the library tape and made available from the open files in Room 26-058.

The following entry names have been deleted:

AXISC, DXDY, LINE, NUMBER, PLOTTC, PLOTS, SCALEC and SYMBL4.

- 2. The CalComp Plotter subprogram described in CC-243 were placed on the library tape for general use.

The following entry names were added:

PLOTS1, PLOT1, WHERE, FACTOR, XLS, XRS. AXIS1, DXDY1, GRAPH, MINMAX, NUMB1, PICTUR, SCALE1, SCLGPH. SYMBL5, GRAPH1, NUMP, PCTEXT and ERNOTE.

- 3. The subprogram (IØH) was decreased in size by 32<sub>g</sub> due to a general clean-up in the coding.

USAGE OF THE NEW CALCOMP ROUTINE

If you are not using all of the routines in the Calcomp package, dummy routines should be inserted in the deck for those not used so that core space is saved and so that only one pass over the library tape is required during loading.

The reason for this is that there is a "circular call" for routines on the library tape. The routine NUMP is in the transfer vector of each one of the routines (SYMBL5, GRAPH, etc.) to check arguments, and NUMP itself has all of the routines in its transfer vector; thus, the circular call.

If one is just using GRAPH, for example, then PICTUR, NUMB1, SCLGPH, AXIS1, DXDY1, and SCALE1 are not needed even though they appear in the transfer vector of NUMP, which is required. A dummy routine for these routines would be:

```

*           FAP
           ENTRY PICTUR           Entry cards for PICTUR, NUMB1,
           :                       SCLGPH, AXIS1, DXDY1, and
           &                       SCALE1
           ENTRY SCALE1

PICTUR     SYN *                   SYN cards for all the
           :                       above names
           :
SCALE1     SYN *
           TRA 1,4
           END

```

A set of dummy routines may be placed on the library tape if this approach is deemed too cumbersome by the users. Please contact Judy Spall at Extension 4114 or 4109 and relay your comments. The Center will take action if these routines are widely used by programmers.

## REMINDERS FOR TIME-SHARING USERS

We strongly recommend that all users try the ED and MADBUG commands. ED allows editing of a file by context and also inputting. The user may also set his own tab convention. MADBUG allows the user to create and edit MAD programs and then execute them in a controlled manner and interrogate the program. ED is described in CC-245 and MADBUG in CC-247.

Madtran users may add (LIST) or (SYMB) as second arguments. These are preserved and sent on to MAD so that a listing file or symbol table file (for MADBUG) may be obtained from the MAD compiler.

CTEST6 is an improved version of FAP incorporating the latest IBM modifications, and providing a vastly improved listing, when requested by (LIST), and better disk procedures that allow the user to recover when his track quota has been exceeded. This will soon be the new FAP command, and we request usage of it for final debugging.

If track space is a problem, try CRUNCH (Mac memo-178) on your FAP decks and SQZBCD on your other symbolic files. CRUNCH is a command, and SQZBCD is in BSS form in the Public files. PADBCD unpacks a squeezed file to the normal card-image format.

Your comments on the system and commands are desired. You can use the REMARK command for this. (See CTSS Bulletin 33).

Complaints about your disk track quota or your non-appearance on the disk should be taken to Art Madden in Room 26-143, Extension 4119.

Complaints about the operation of the 1050's or teletypes assigned from the Computation Center should be taken to Ken Sargent, Room 26-161, Extension 4115.