

INTERNATIONAL BUSINESS MACHINES CORPORATION

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May 7, 1957

FORTRAN Letter #2

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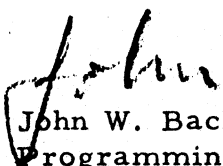
Dear Franz:

We enclose for SHARE distribution

1. The FORTRAN 4-1-4-1 editing deck (FNEDT1, permanent library, and general library);
 2. The FORTRAN 8-1-4-1 editing deck;
- and
3. Write-up of FNEDT1.

These items will permit any installation which has a FORTRAN 4-1-4-1 master tape (a) to create 8-1-4-1 system tapes (see below), and (b) to update their 4-1-4-1 and 8-1-4-1 systems in accordance with the correction memos we shall send out from time to time.

The 8-1-4-1 system is identical to the 4-1-4-1 system, except that it requires a machine with at least 8192 words of core storage. For large FORTRAN programs it will run considerably faster than the 4-1-4-1 system.


John W. Backus
Programming Research

JWB:hs

SHARE

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IBM Applied Science Special Programs Group

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FNEDT1

FORTRAN Editing Program

PURPOSE To produce an up-to-date FORTRAN system tape from an original master tape and an up-to-date correction deck.

NORMAL USE Keep three copies of the original master tape, and keep the FNEDT1 deck safe and up-to-date. Each time you receive a new correction from us, make the specified changes in the FNEDT1 deck. Then mount a master tape as Tape 5, mount the tape which is to be the new system tape as Tape 1, and load FNEDT1. Correct final stop is 77777g. Further copies of the system tape can then be made with FNTCV1.

ERROR STOPS

- 27g Card check sum error in reading FNEDT1, permanent librarian, or FNLIB1.
- 44g FNLIB 1 failed to find correct end of permanent library.
- 54g EOF at card reader. Should not occur.
- 73g Card check sum error. Press START to accept card.
- 107g Illegal card sequence.
- 153g Card check sum error in reading library program. Press START to accept card.

DISCLAIMER

Although this program has been carefully tested by its developer, no warranty is made of its correct functioning under all conditions, and no responsibility is taken by him in case of possible failure.

- 173₈ False EOF in reading 1st record from Tape 5.
- 214₈ Redundancy or check sum error in reading 1st record from Tape 5. Press START to read again.
- 261₈ False EOF in reading general record from Tape 5.
- 277₈ Redundancy or check sum error in reading general record from Tape 5. Press START to read again.

DETAILED DESCRIPTION The complete editing deck consists of

FNEDT1
 Correction and control cards
 Permanent librarian
 Permanent library
 General librarian FNLIB
 General library

FNEDT1, together with the correction and control cards, governs the first two files of the system tape. The third file is the library (permanent followed by general); changes in the general library on a system tape can be made without rewriting what precedes it by using just the portion of the deck which begins with FNLIB1 (see Operator's Manual for details).

FNEDT1 recognizes five types of correction and control cards, punched as follows:

| Type of Card | 9L pref. | 9L decr. | 9L add. | 9R | 8L decr. | 8L addr. | 8R decr. | 8R addr. |
|---------------|----------------------------|-------------|------------|------------|-------------|-------------|-------------|-------------|
| Program | As for loading with B L 1. | | | | | | | |
| Master Record | 1 | 2 | 0 | check sum | entry point | first locn. | 0 | last locn. |
| New Record | 2 | 2 | 0 | check sum | entry point | first locn. | 0 | last locn. |
| End File | 4 | 0 | 0 | check sum | 0 | 0 | 0 | 0 |
| End | 7 | 0 | 0 | check sum. | 0 | 0 | 0 | 0 |

**TO CHANGE A RECORD
WHICH EXISTS ON THE
MASTER TAPE**

There is a Master Record card for each record in the first two files of the master tape. If the contemplated change does not involve changing the first or last location which the record is to occupy in core storage, or the entry point to which control is to be transferred, it is sufficient to insert the desired program cards after the Master Record card. If a change in entry point or first or last location is required, then the Master Record card itself must be changed appropriately.

**TO DELETE A RECORD
WHICH EXISTS ON THE
MASTER TAPE**

On the corresponding Master Record card, make the first location higher than the last location.

TO INSERT A RECORD
proper place in the deck.

Insert a New Record card, followed by the desired Program cards, in the

**TO INSERT OR DELETE
A FILE MARK**

Insert or delete the corresponding End File card.

NOTE 1

The record written on the system tape will be 0's, overwritten by the record on the master tape (if any), overwritten by the Program cards (if any), bounded by the control information on the record card, and preceded by a check sum and the $\$L$ word on the record card.

NOTE 2

The following card sequences are illegal and will cause a 107g stop in FNEDT1:

End - anything
End File - End File
End File - Program
New Record - anything except program

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