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Brief 71-10448

NASA TECH BRIEF
Manned Spacecraft Center

FORTRAN IV Digital Program Changer

The problem:

To devise a non-manual method for rearranging and incrementing statement numbers, identifying and sequencing cards, and inserting and/or removing end-of-batch symbols. Such operations are often necessary for debugging or checking out a program or for preparing a program for documentation. Manual performance of the tasks results in compilation errors, loss of turn-around time, and loss of computation time.

The solution:

A computer program which modifies other FORTRAN IV source language programs, as an aid in their debugging, checkout and final documentation. The program performs three modifications: (1) rearrangement and incrementation of statement numbers; (2) insertion of card identification and sequence; and (3) insertion and/or removal of end-of-batch symbols.

How it's done:

The program rearranges and reincrements the FORTRAN statement numbers as well as the corresponding statement number references which occur in CALL, IF, DO, GO, TO, READ, WRITE, ASSIGN, and PUNCH statements in the FORTRAN text.

All programs are given numerical sequence numbers in card columns 77 to 80 and alphanumeric identification (at the option of the user) in columns 73 to 76.

End-of-batch symbols are commonly used to speed up the input in FORTRAN programs which are run on teleprocessing equipment. Considerable machine time can be saved by using end-of-batch symbols instead of reading all 80 card columns. This program places an end-of-batch symbol after the last non-blank symbol in columns 1-72 of each card.

Notes:

1. This program is written in FORTRAN IV (25%) and ASSEMBLER (75%) languages for use on the IBM-360 computer.
2. Requests for further information may be directed to:

   COSMIC
   112 Barrow Hall
   University of Georgia
   Athens, Georgia 30601
   Reference: B71-10448

Patent status:

No patent action is contemplated by NASA.

Source: M.F. Madden of
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