

## IX. UPDATING THE CRITERION TREE FILE

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### 1. Introduction

This section describes the methods available for updating the criterion tree dictionary. Updating of the library tape of criterion trees is done by forming a new library tape from the old tape. Criterion trees may be copied from the old tape onto the new tape or deleted (that is, not copied onto the new tape after being read from the old one). Trees may also be added to the new tape.

### 2. Use of the Updating Routines

Updating of the criterion tree file is done by the subroutine UPCRIT. This subroutine creates a new file of trees from an old file on tape A6. This new file of trees created by UPCRIT is written on tape B5.

UPCRIT recognizes five control cards to be found on the input tape, A2. These cards specify the type of updating processes to be performed and are "/COPY," "/SKIP," "/EDIT," "/ADDL," and "/WEOF." These operations are punched in columns 1-5 of each control card. Cards punched with "/COPY," "/SKIP," or "/EDIT" may have an integer number, left-justified to column 7, punched on them also. This number specifies the number of trees which are to be updated by the processing run. If this number is not present the process will be performed upon all the trees remaining in the file on A6.

"/COPY" causes the specified number of trees to be read from tape A6 and copied onto B5. If no number is specified all the trees remaining in the file on A6 will be copied onto B5.

"/SKIP" causes the specified number of trees to be read from A6 but not copied onto B5. If no number is specified all the trees remaining in the file on A6 will be read over. Thus "/SKIP" causes trees to be deleted from the library of criterion trees.

"/ADDL" causes new trees to be added to the trees on B5. This is accomplished by the subroutine TRECND. The format of the cards which follow "/ADDL" and describe the trees to be added is explained as part of the description of TRECND by A. Lemmon elsewhere in this report.

"/WEOF" causes an end of file to be written on B5. This terminates processing. UPCRIT then positions A6 to the next file and returns to the main program.

### 3. Use of the "/EDIT" Control Card

Following a "/EDIT" card, UPCRIT expects to find from one to 30 deletion specification cards. These cards specify which trees are to be deleted from the new file. These cards are identified by two right parentheses in columns 1 and 2 and have a left-justified integer serial number in columns 7-12 and/or a BCD index left-justified in columns 13-18.

The "/EDIT" card causes the specified number of trees to be read from A6. Each tree is copied onto B5 unless it meets the deletion specification of one of the ")))" cards, in which case it is simply passed over.

A tree is considered to meet a deletion specification and will be deleted in any of the following cases:

- (1) Both the serial number and index of the tree match the serial number and index found on one of the ")))" cards,
- (2) The index of the tree matches the index found on a ")))" card which leaves the serial number field (column 7-12) blank,
- (3) The serial number of the tree matches the serial number found on a ")))" card which leaves the index field (columns 13-18) blank.
- (4) The tree has no serial number (that is, its serial number is zero) and its index matches an index found on any ")))" card.

In any other case but the above four the tree read from A6 will be copied onto B5. Note that the absence of one of the specifications on a ")))" card (case 2 and 3 above) causes deletion to be performed solely on the criterion of the remaining specification. For example a ")))" card with a blank serial number field is considered to match every tree in the file with respect to serial number, and any tree in the file which has an index matching the one on the card would meet the deletion criterion regardless of its serial number. Note also that the absence of a number specifying the number of trees to be edited on a "/EDIT" card will cause the remainder of the file to be processed.

#### 4. Termination of Processing by UPCRIT

As mentioned above, a "/WEOF" card terminates processing by UPCRIT. There is one other normal condition which causes UPCRIT to return to the main program. If UPCRIT hits an end of file on A6 while attempting to carry out updating, it will read control cards from A2 until it finds a "/WEOF" card or a card that it does not recognize. It will ignore all its control cards except a "/WEOF," which is executed normally. If UPCRIT finds a card that is not recognized before a "/WEOF" card is found, it will position tape A6 to the next file and return to the main program.

Before exciting UPCRIT always positions A6 to the next file and writes a description of its processing on the output tape, A3. This description includes a count of the number of trees copied, trees skipped, trees copied in response to a "/EDIT card. In addition any unusual circumstances, such as a read or write error, are also signalled.

In addition to the above two normal terminations of updating, UPCRIT also returns to the main program in any of the following cases:

- (1) if an error is made in writing B5;
- (2) if an error is signaled by TRECND;
- (3) if an error is made in reading A2;
- (4) if a card is read from A2 that UPCRIT does not recognize;
- (5) if an end of file is hit while reading A2;
- (6) if an error is made in reading A6.

In cases (4) and (5) above UPCRIT backspaces A2 one record before exciting. In all cases listed above, except case (6), A6 is left positioned at the next file.

## 5. An Example of Criterion Tree Updating

<u>Control Cards on A2</u>			<u>Old File of Trees on A6</u>	
column: 1-5	7-12	13-18	<u>Serial number</u>	<u>index</u>
/SKIP	1		10	ZERO
/COPY	1		2	ZERO
/EDIT	6		0	ONE
))	1	ONE	1	ONE
))	2	TWO	25	TWO
))		THREE	3	THREE
))	4		35	THREE
/COPY			4	FOUR
/SKIP	2		6	SIX
/WEOF				SEVEN

END OF FILE

Resulting Processing

The first tree is read from A6 and passed over. The second tree read from A6 is written out onto B5. The next six trees come under the jurisdiction of the "/EDIT" and ")))" cards. All of these trees except the "25 TWO" tree is read from A6 and passed over. The "25 TWO" tree is read from A6 and copied onto B5. The "/COPY" card causes the last two trees to be read from A6 and copied onto B5. Then UPCRIT hits the end of file on A6, positions A6 to the next file, ignores the "/SKIP" card, writes an end of file on B5, writes a record of its processing on A3, and returns to the main program.

New File of Trees on B5

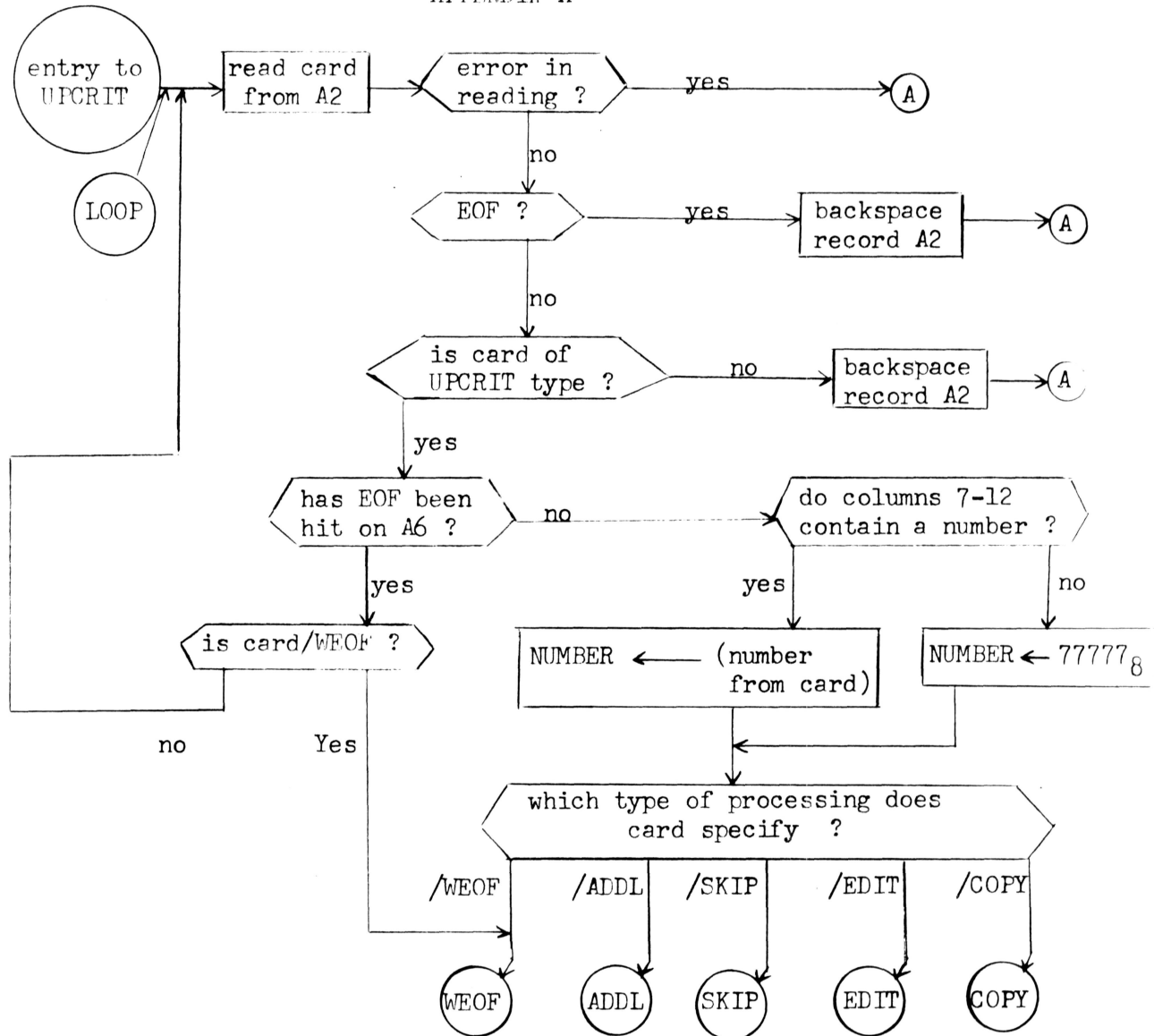
<u>serial number</u>	<u>index</u>
2	ZERO
25	TWO
6	SIX
	SEVEN

END OF FILE

## 6. Miscellaneous Data about UPCRIT

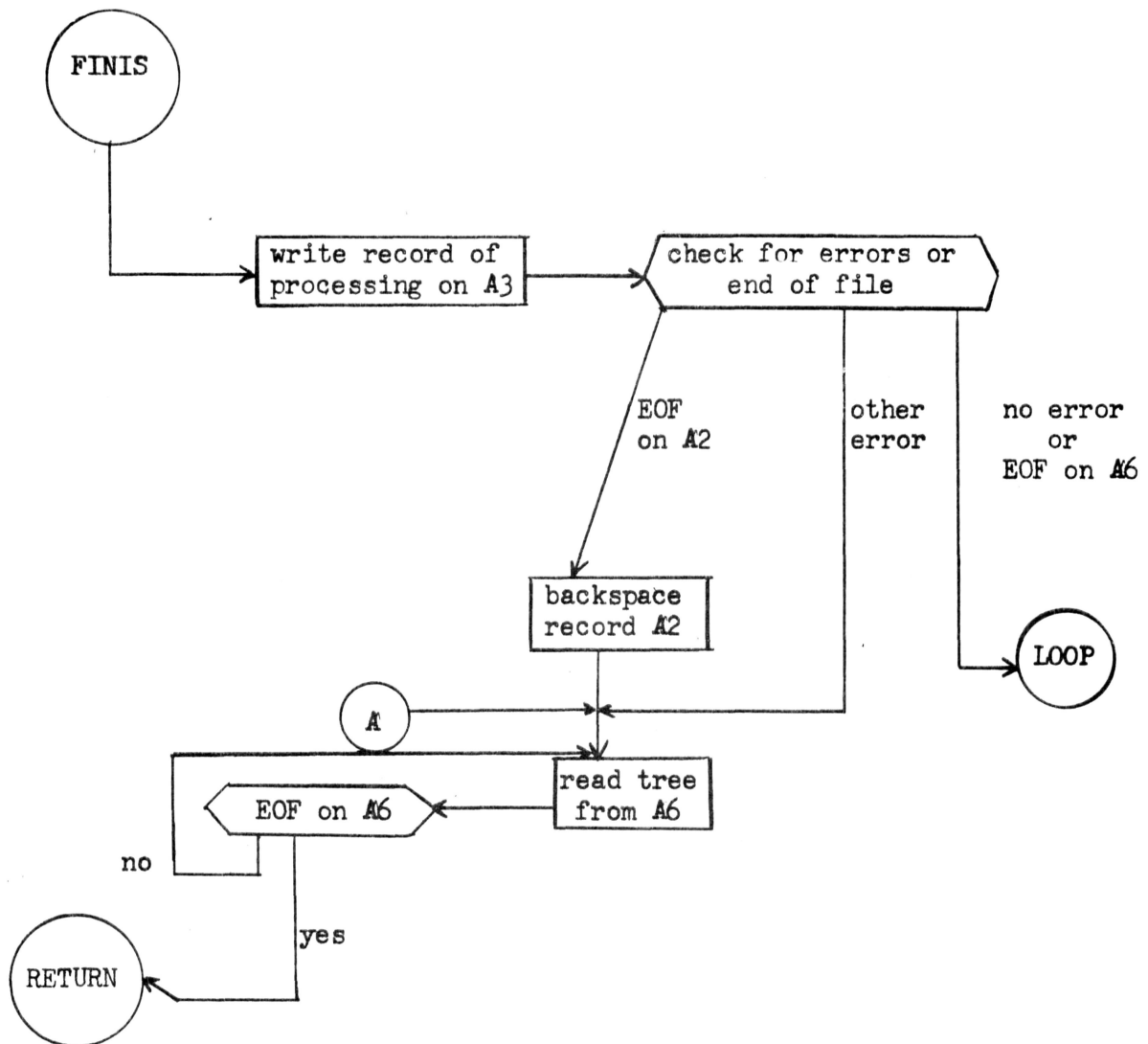
UPCRIT uses the subroutine TRECND, REDTRE, WRITRE, INOUT, BCDADD, BCDDEC, AND BCDBIN. It expects to find the logical number of the old tape of criterion trees (usually A6) expressed as a FORTRAN integer in the fifth location of COMMON storage. It preserves only the index registers and sense lights for the calling program, and returns to 1,4. A flowchart of UPCRIT is appended.

## APPENDIX A



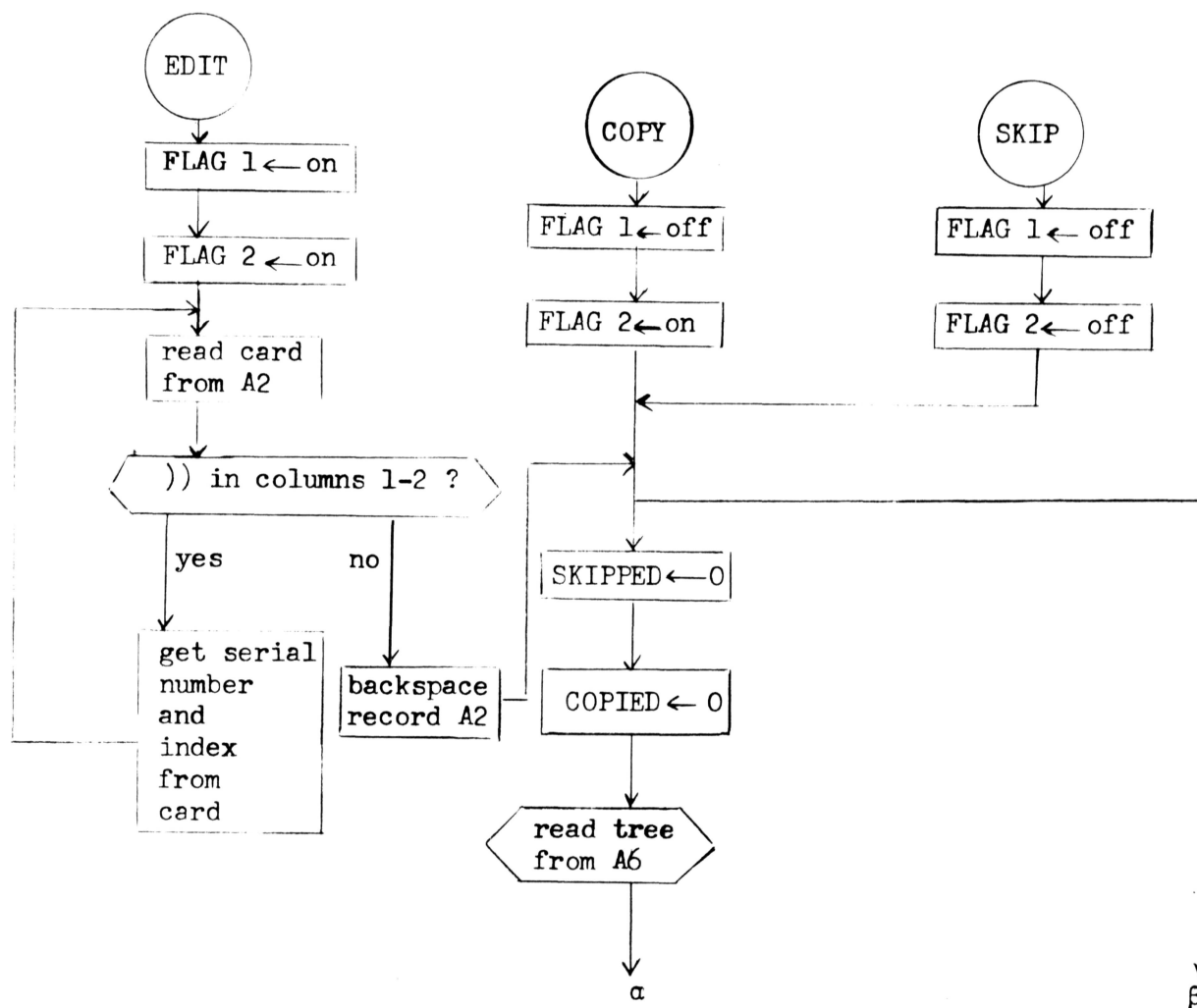
UPCRIT

Flowchart 1

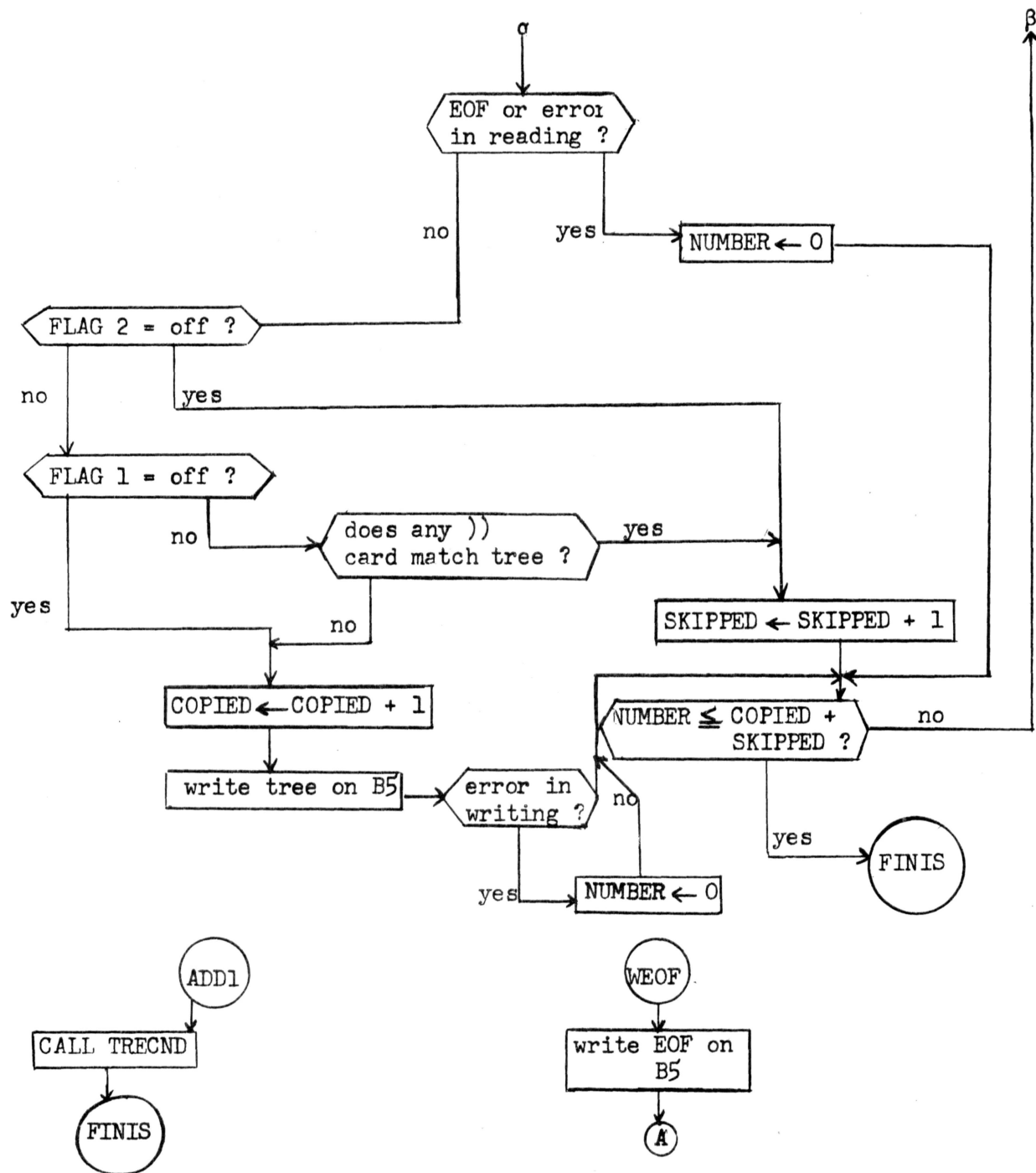


Flowchart 1 (continued)





Flowchart 1 (continued)



Flowchart 1 (continued)