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ABSTRACT

Miami-Dade Community College has conducted an annual survey of its graduates for nearly a decade. In the past, the processing and tabulation of results were essentially manual operations. This paper describes a recently-developed computerized system which carries out most of the processing of this survey up through the tabulation of results. The entire system is shown in a series of five flow diagrams included in the appendix. Accompanying narrative descriptions of the flow charts further explain the specific operations necessary to key off an operational student records system, collect additional data, and tabulate the results. Diagram 1 shows the method of creating a work tape, which is then edited for errors and tailored to the specific needs of the graduate followup study. Diagram 2 shows the method of punching a deck of finder cards consisting of student identification numbers; this deck of cards ultimately becomes the reference list for the printing of mailing labels. Diagram 3 describes the mailout, remainder followup, and coding of returned questionnaires. Diagram 4 describes the updating of the Grad Bank tape, which contains data from all previous graduate followups conducted since the installment of the computerized system. Diagram 5 shows how the Grad Bank is utilized. (Author/DC)

A COMPUTERIZED SYSTEM FOR FOLLOW-UP OF GRADUATES

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Introduction

Follow-up studies and graduate surveys are so common in community colleges today that it is doubtful that there is any college, particularly in Florida, that does not conduct at least a periodic survey of its graduates.

At Miami-Dade, an annual survey of the graduates has been conducted by the Office of Institutional Research for nearly a decade. Over this period, the number of graduates has increased from one thousand to five thousand, and the process for conducting this survey has evolved to adjust to changes in the organizational structure of the college as well as in the student records system. However, until the current study, the processing and tabulation of the results of this survey were essentially manual operations. In the first few years of this survey, assistance was provided by machine records equipment and later by computer, but this assistance was limited to the production of mailing labels and listings of graduates. After these initial steps, the tabulation of the questionnaire returns had been performed manually.

The purpose of this paper is to describe a computer system that has recently been developed to carry out most of the processing of this survey up through the tabulation of results. Since a separate report on the results of the survey

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is available for the interested reader, this paper will focus on a description of the computer system rather than on the results per se.

If one were designing a completely independent follow-up system from the very beginning, it certainly could be done in a more straightforward manner than the system described here. However, since all research involving student records must, to some degree, key off of data generated by other systems such as registration, the use of data from these systems creates problems for research. In order to handle these data problems, a more elaborate system such as that described here was necessary. This may be contrasted with the relative simplicity of typical educational or psychological research where the procedures for data collection are initially developed as a part of the experimental design and are, therefore, more straightforward.

Background

Before describing the computer system, it is appropriate to relate something about the current college setting in which this system was developed. First, Miami-Dade is a public, state-supported community college offering programs of up to two years in length, and it is authorized to offer associate degrees and other awards.

The facilities include three permanent campuses and several outreach centers. Last year, courses were offered in over 300 different locations as well as by open circuit

television and radio. Although the college maintains a central admissions office and computer file of student records, registration and the processing of graduates is under the direction of the registrars of each of the three major campuses. The registration process occurs on each of the campuses, at outreach centers, and by mail. Through a variety of input devices, all of the student records are input into the central computer file.

The central file from which this study began is a magnetic tape created from cards punched from the student application for graduation. The punch card record and the magnetic tape are used by advisors and registrars in processing students for graduation and are, therefore, subject to a series of changes for updating before final approval for graduation. The card and tape records include such elements as student number, name, degree and program. Degrees or awards are indicated by a two-character alphabetic code. Program codes to indicate the major field of study are two-character alphameric codes. These program codes were designed to be associated with a particular type of degree or other award.

To illustrate the need for some of the complexities in the current follow-up system, it must be pointed out that Miami-Dade not only has a rolling registration system, but also a rolling graduation system. That is, applications for graduation may be submitted in the terms before graduation requirements are completed, or after the student has completed all graduation requirements and left the college.

Typically, the final processing of degrees and awards is completed at the end of each of the four regular terms. However, since there is only one graduation exercise held each year on each campus, any student who expects to complete the requirements for a degree during the academic year may apply for and attend the graduation exercises in May.

The term "graduates", as used in this paper, includes two-year associate degrees, one-year planned certificates, and other awards. These are more fully described in the separate report on the results of the graduate survey.

The remainder of this paper, consisting of a description of a series of flow charts, points up some of the advantages as well as the problems of conducting research based on an operational student records system. Those who have participated in the design of such research may be interested to see how these problems were solved in the current system. Others who may be planning to develop such a system in the future may profit from how these operations are described in this paper.

The System

The entire system for the graduate follow-up study is well documented in a series of five flow diagrams shown in the appendix. The verbal descriptions contained in this section of the paper are intended to be used in conjunction with these flow diagrams to more fully describe some of the details of the system. Further discussion may also be found

in "A Survey of the 1972-73 Graduates of Miami-Dade Community College."

I. Edit

This section refers to Flow Diagram I. The purpose of this phase is to create a work tape, separate from the M-DCC Graduate File, which may be used solely for this survey. This work tape is edited for errors and is tailored to the specific needs of the graduate follow-up study.

Records for the appropriate terms are selected from the M-DCC Graduate File and edited for consistency, completeness and accuracy. Occasionally, records exist on this file with omissions in certain fields (such as sex code or campus code), errors or inconsistencies in student ID numbers, or inconsistencies between degree and program codes. Also, there may be certain coding entries which differ among the three campuses, and these differences are best resolved at this early stage of the system. One further problem stems from the fact that some students earn more than one degree. Since this is a survey of the graduates, not degrees, each graduate is processed only once by selecting only the record of his highest award for inclusion on the work tape.

II. Bookstore Returns and Currently Enrolled Students

At this step in the process (Flow Diagram II), a deck of finder cards consisting of student ID numbers is punched along with a corresponding listing of the graduates. This deck of cards ultimately becomes the reference list for the printing

of mailing labels. However, in this step, two matches are performed against this deck to remove certain groups from the eventual mailout.

Graduates who plan to attend the graduation ceremony must report to the M-DCC Bookstore to pick up their caps and gowns. At this [illegible] they are asked to fill out the graduate follow-up questionnaire, and their responses are coded and keypunched. Coding of responses is done by using a set of decision logic rules and writing the numeric code directly onto the punch card. This code is then keypunched into the finder card to yield a record which will later be matched with the original M-DCC graduate record. Since a second questionnaire should not be mailed to these graduates later, their records must be purged from the deck of potential mailouts.

Graduates who have reenrolled at M-DCC during the term of the mailout should not be sent a questionnaire since their plans are known. Hence, their records must also be purged from the deck of potential mailouts, and coded records which indicate that they were not mailed questionnaires must be provided.

As shown in the flow diagram, mailing labels are printed for those graduates not falling in one of the previously described groups. Further processing of the mailout group is discussed in the next section and shown in Flow Diagram III.

III. Mailout

This phase describes the mailout, reminder follow-up, and coding of the returned mailout questionnaires.

Using the labels printed in the previous step, questionnaires are mailed to those students who did not complete one earlier at the bookstore or did not reenroll. After a two-week wait, a new set of labels is generated for those students who have not yet responded, and reminders are mailed in an attempt to increase the response rate.

Questionnaire returns are coded and keypunched as described earlier, and the resulting records are passed on to the next phase of the system to be merged with those records created from the bookstore returns and currently enrolled graduates.

IV. Grad Bank Update

The Grad Bank tape contains the data from all previous graduate follow-ups conducted since the installment of the system being discussed here, and it is the purpose of this section to describe the updating of this file.

The three types of coded records produced earlier are combined and edited for coding errors. Edited records are united with their corresponding work tape records to create a single enlarged tape record which contains the original M-DCC Graduate File data (corrected or modified as necessary) plus the coded questionnaire responses. This tape is then merged with the Grad Bank tape to create a current and updated version of this latter file.

V. Grad Bank Usage

The corresponding flow diagram for this section shows how the Grad Bank is utilized.

A specially written program is used to produce a statistical summary of the graduate follow-up data for an annual report. This program has a variable selection process which displays all the data items produced in the annual report for selected subsets of the Grad Bank File. Two variables may be used to define the subsets for selection so that a cross-tabulation effect may be achieved.

The Grad Bank file is also set up to be used with MARK IV, a user-oriented software package for generating special reports. By means of only a few parameter cards, impromptu questions about the graduates may be answered overnight.

Data from the Grad Bank file may be used in conjunction with other college data by matching these files and extracting these data necessary for special analyses.

Summary

A detailed description of a computerized system for follow-up of graduates is presented to include an overall picture of the college operation and a detailed series of flow charts of the follow-up system and operation. Accompanying verbal descriptions of the flow charts further explain the specific operations necessary to key off of an operational student records system, collect additional data and tabulate the results. A separate report presents the results of the follow-up study.

APPENDIX

DIAGRAM
I

BEST COPY AVAILABLE

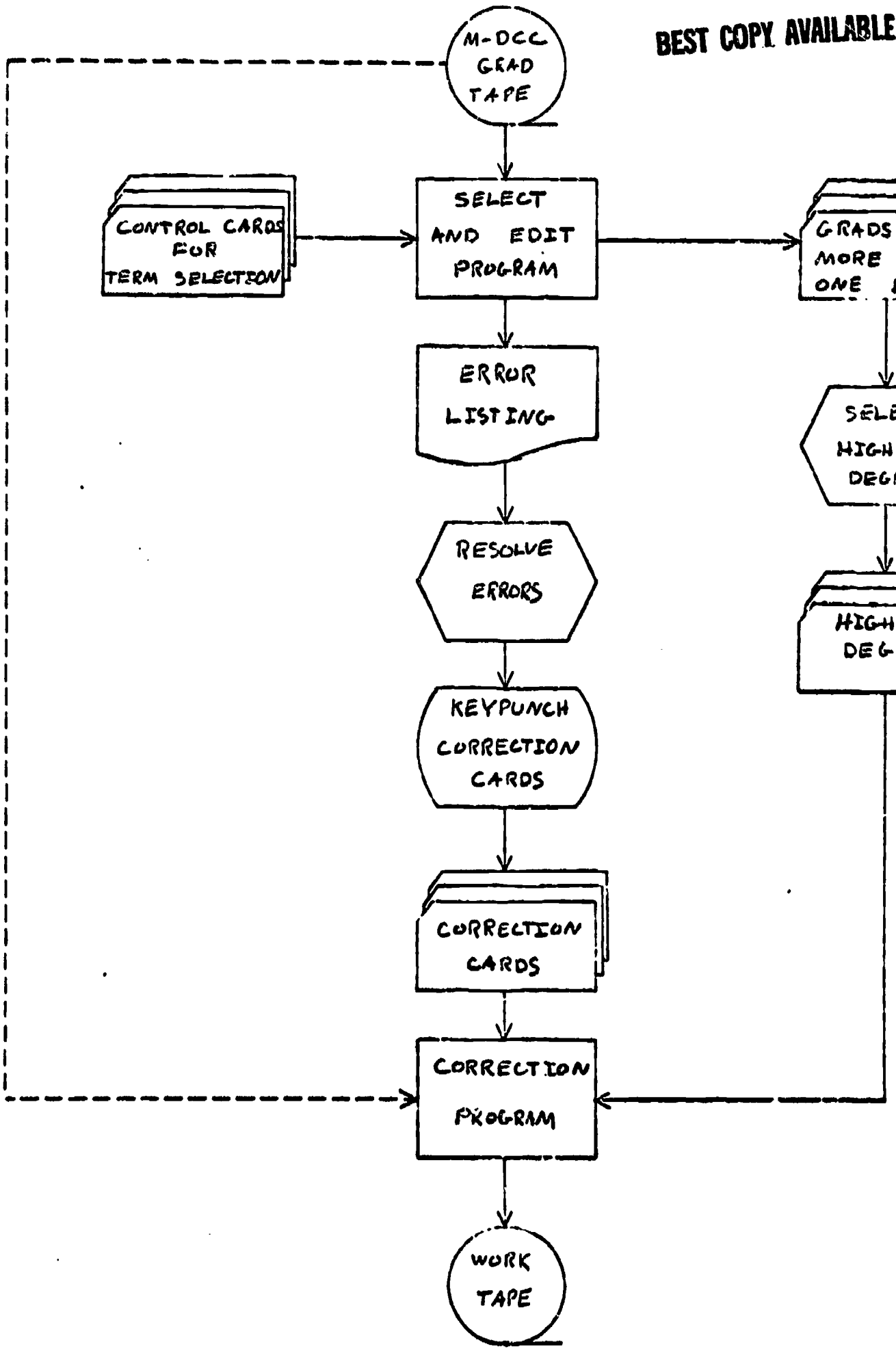

DIAGRAM II

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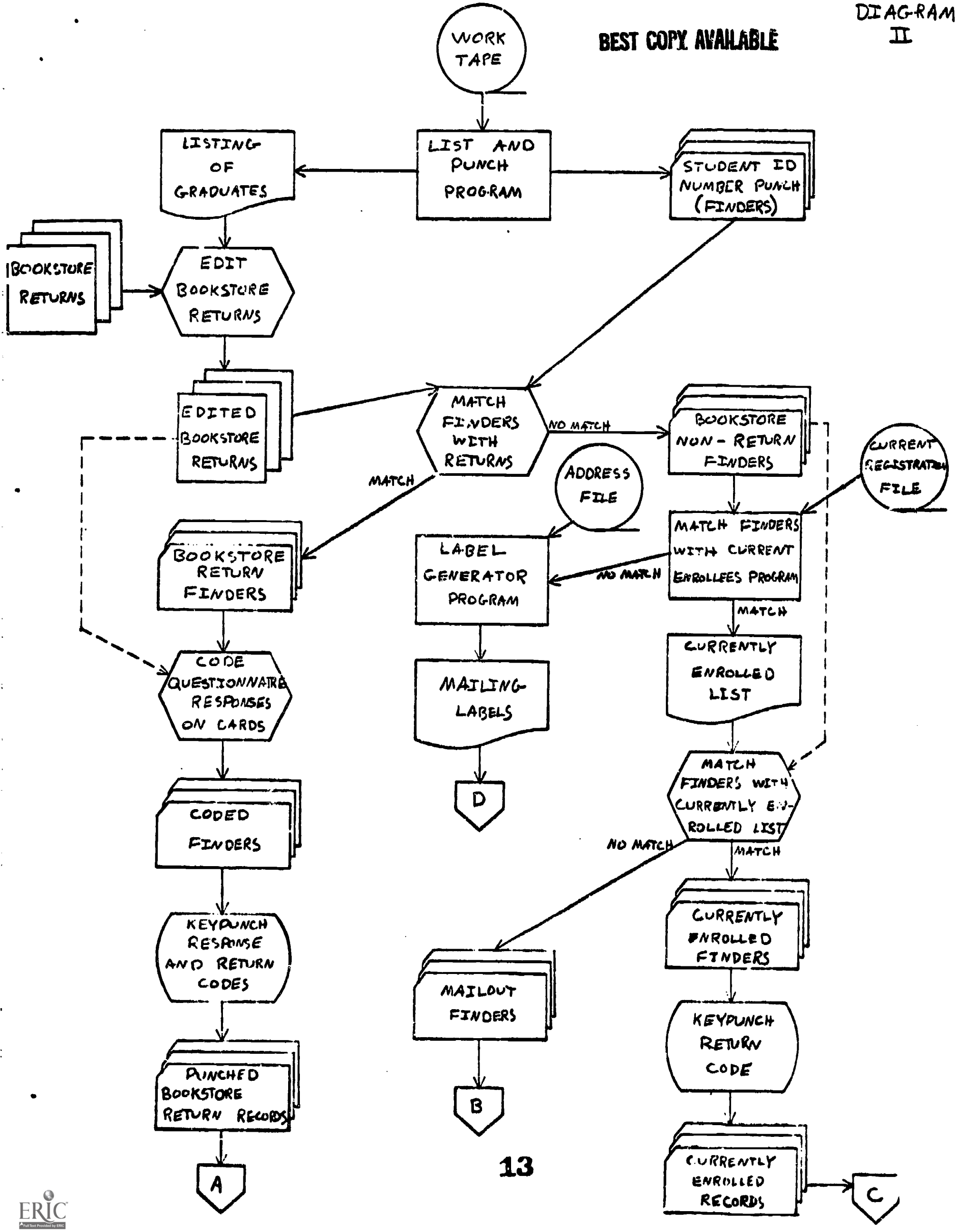

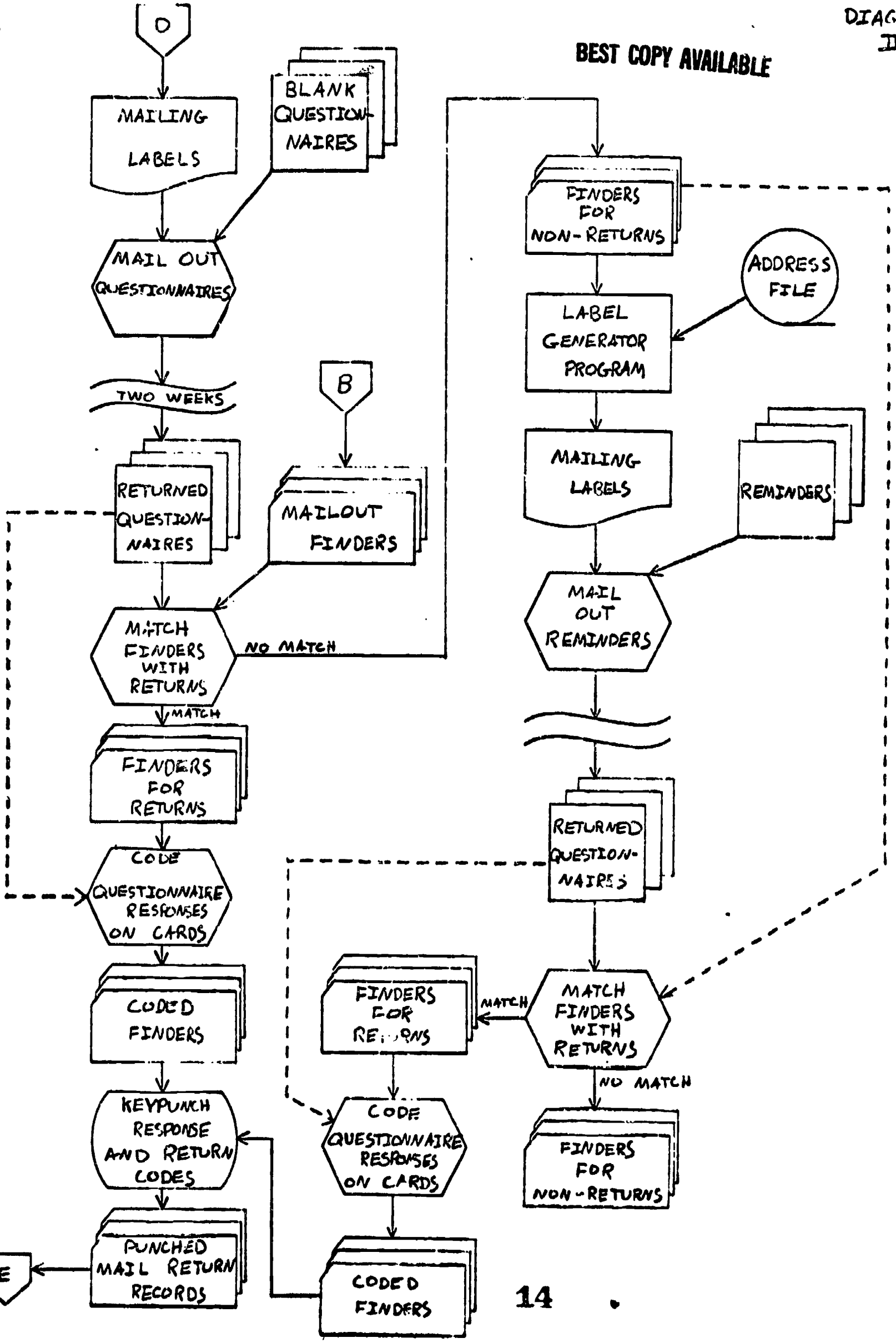

DIAGRAM IV

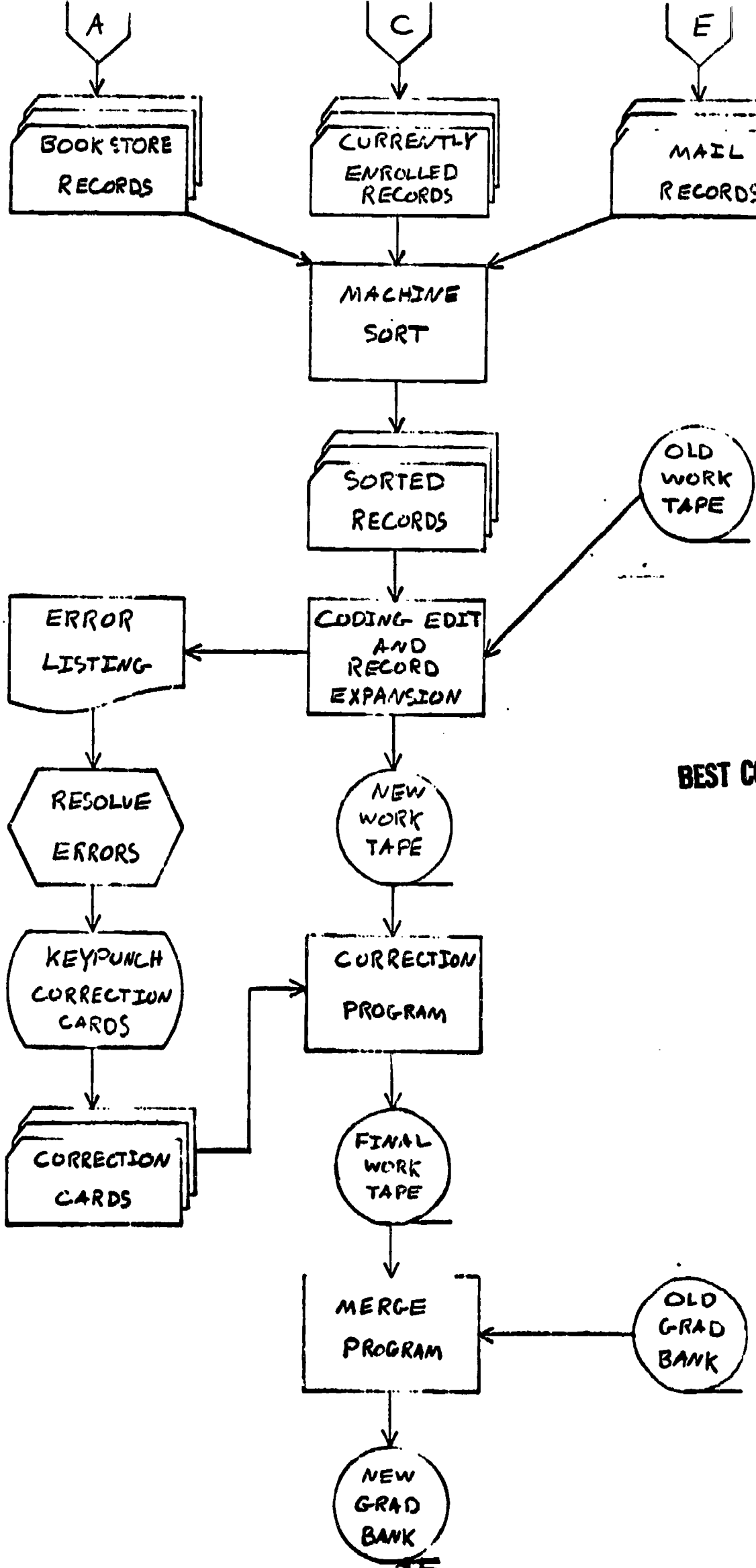

DIAGRAM V