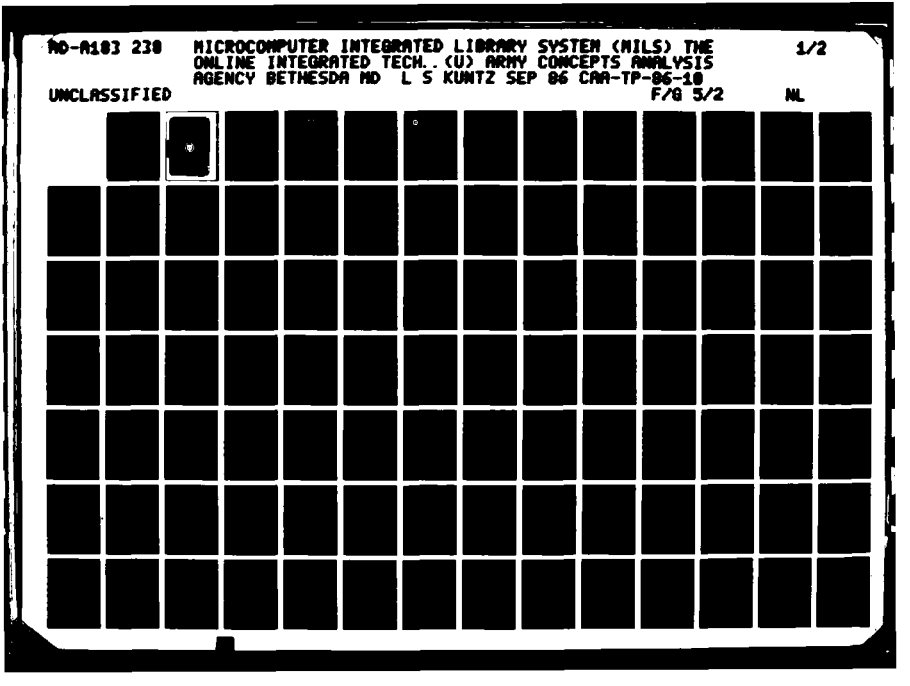
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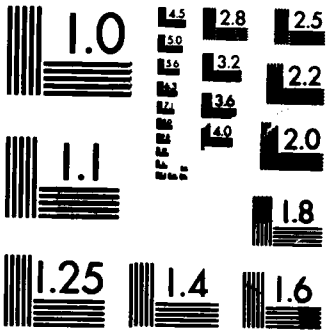

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MICROCOMPUTER INTEGRATED LIBRARY SYSTEM (MILS):

THE ONLINE INTEGRATED TECHNICAL INFORMATION CENTER SYSTEM AT US ARMY CONCEPTS ANALYSIS AGENCY (CAA)

SEPTEMBER 1986

AD-A183 238

PREPARED BY
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CONCEPTS ANALYSIS AGENCY

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The findings of this report are not to be construed as an official Department of the Army position, policy, or decision unless so designated by other official documentation. Comments or suggestions should be addressed to:

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CAA-TP-86-10

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UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE

AD-A183 238

REPORT DOCUMENTATION PAGE

Form Approved
OMB No 0704-0188
Exp Date: Jun 30 1986

1a REPORT SECURITY CLASSIFICATION: UNCLASSIFIED	1b RESTRICTIVE MARKINGS
2a SECURITY CLASSIFICATION AUTHORITY	3 DISTRIBUTION/AVAILABILITY OF REPORT: UNLIMITED
2b DECLASSIFICATION/DOWNGRADING SCHEDULE	
4 PERFORMING ORGANIZATION REPORT NUMBER(S): CAA-TP-86-10	5 MONITORING ORGANIZATION REPORT NUMBER(S)
6a NAME OF PERFORMING ORGANIZATION: U.S. Army Concepts Analysis Agency (CAA) / 6b OFFICE SYMBOL (If applicable): CSCA-RS	7a NAME OF MONITORING ORGANIZATION
6c ADDRESS (City, State, and ZIP Code): 8120 Woodmont Avenue, Bethesda, Maryland 20814-2797	7b ADDRESS (City, State, and ZIP Code)
8a NAME OF FUNDING/SPONSORING ORGANIZATION / 8b OFFICE SYMBOL (If applicable)	9 PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
8c ADDRESS (City, State, and ZIP Code)	10 SOURCE OF FUNDING NUMBERS: PROGRAM ELEMENT NO / PROJECT NO / TASK NO / WORK UNIT ACCESSION NO

11 TITLE (Include Security Classification)
Microcomputer Integrated Library System (MILS): The Online Integrated Technical Information Center System

12 PERSONAL AUTHOR(S)
Kuntz, Lynda S.

13a TYPE OF REPORT	13b TIME COVERED	14 DATE OF REPORT (Year, Month, Day)	15 PAGE COUNT
Final	FROM _____ TO _____	1986 September	

16 SUPPLEMENTARY NOTATION

17 COSATI CODES			18 SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	Technical Information Centers, data bases, data management, automation, integrated systems, microcomputers

19 ABSTRACT (Continue on reverse if necessary and identify by block number)

This technical paper presents the analysis of a system for the storage and retrieval of books and documents at the US Army Concepts Analysis Agency (CAA). It includes both the classified and unclassified technical information centers. The analysis indicated that a microcomputer integrated library system (MILS) was appropriate for the organization, management, and retrieval of the Agency's book and document collection. Cataloging information from OCLC and DTIC is used to create data bases in dBASE III. MILS consists of the following modules: online catalog, acquisition/cataloging, circulation, serials control, and management. The online catalog provides access by author, title, subject, series statement, DTIC AD number, organization, publisher, and report number. Boolean logic is available in the title and subject searching. In addition to dBASE III software, the system requires Wordstar or another spellcheck program, and FORTRAN 77 Compiler. The hardware requirements are an IBM with hard disk (or compatible), Modem, tapeback unit, and printer. The dBASE III programs are included in the appendixes.

20 DISTRIBUTION/AVAILABILITY OF ABSTRACT	21 ABSTRACT SECURITY CLASSIFICATION
☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT ☐ DTIC USERS	UNCLASSIFIED
22a NAME OF RESPONSIBLE INDIVIDUAL: Lynda S. Kuntz	22b TELEPHONE (Include Area Code): (301) 295-1530 / 22c OFFICE SYMBOL: CSCA-RSK

DD FORM 1473, 84 MAR — 83 APR edition may be used until exhausted. All other editions are obsolete.

SECURITY CLASSIFICATION OF THIS PAGE: UNCLASSIFIED

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TECHNICAL PAPER
CAA-TP-86-10

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THE ONLINE INTEGRATED TECHNICAL INFORMATION CENTER SYSTEM

AT US ARMY CONCEPTS ANALYSIS AGENCY (CAA)

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September 1986

Prepared by

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DEPARTMENT OF THE ARMY
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REPLY TO
ATTENTION OF:

CSCA-MSA (5-5d) 2 June 1987

MEMORANDUM FOR: Director, U. S. Army Concepts Analysis Agency, 8120 Woodmont Avenue, Bethesda, Maryland 20814-2797

SUBJECT: Microcomputer Integrated Library System (MILS)

1. Attached is "Microcomputer Integrated Library System (MILS)," a technical paper on some recent work accomplished by the Technical Information Center at U. S. Army Concepts Analysis Agency (CAA). The paper covers the development of an integrated library system for the management of books and technical documents at CAA. This system operates on an enhanced IBM-PC using dBase III and can be adapted for use in other technical information centers.

2. The Integrated Library System consists of five modules: On-line Catalog, Acquisition/Cataloging, Circulation, Serials Controls, and Management. The paper includes a listing of the the hardware and software requirements and a printout of the computer programs.

3. We have sent you this paper in the hope that you may find it a helpful reference in the management of information resources. The MILS point-of-contact for questions concerning the paper is Ms. Lynda S. Kuntz, AUTOVON: 295-1530 or Commercial: (301) 295-1530.

LYNDA S. KUNTZ
Librarian
Management Support Directorate

CAA	MILS: THE ONLINE INTEGRATED TECHNICAL INFORMATION CENTER SYSTEM AT CAA	STUDY SUMMARY CAA-TP-86-10

THE REASON FOR PERFORMING THE STUDY was to determine the most efficient and effective method of evolving from a two-system (manual and batch) environment into an integrated microcomputer library system.

THE PRINCIPAL FINDINGS of the work are:

1. A microcomputer based integrated library system can be developed;

2. Commercial software packages can be incorporated into a single system;

3. Programs can be written in dBASE III to retrieve, edit and delete bibliographic records; and

4. The system can be modified or customized to meet the individual library's needs.

THE PRINCIPAL LIMITATIONS which may affect the findings are as follows:

1. The system was developed to manage a technical information center's collection of technical documents and books;

2. No machine-readable records were converted into the system; and

3. The system requires an IBM PC with hard disk (or compatible).

THE SCOPE OF THE STUDY was to include an analysis of commercial and government sponsored integrated library systems and to acquire or develop a system which would provide computerized data base management to the technical information center.

THE STUDY OBJECTIVES were to:

1. Save Agency personnel time by providing one access point to all bibliographic information;

2. Provide individual control over the classified documents;

3. Allow Boolean logic searching of the data bases; and

4. Ensure that the system would be included in CAA's local area network.

THE BASIC APPROACH was to:

1. Obtain data on manual and batch operations;

2. Develop alternatives as to procurement of commercial package or government project, or in-house development of a system;

3. Design the data bases; and

4. Develop the programs for manipulation of the data bases.

THE STUDY SPONSOR was the Director, US Army Concepts Analysis Agency.

THE STUDY EFFORT was directed by Ms. Lynda S. Kuntz, Information Services Division, Research and Analysis Support Directorate, US Army Concepts Analysis Agency.

COMMENTS AND QUESTIONS may be addressed to the Director, US Army Concepts Analysis Agency, ATTN: CSCA-MSA, 8120 Woodmont Avenue, Bethesda, Maryland, 20814-2797.

Tear-out copies of this synopsis are at back cover.

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STUDY SUMMARY (tear-out copies)		

MILS: THE ONLINE INTEGRATED TECHNICAL INFORMATION CENTER SYSTEM AT THE US ARMY CONCEPTS ANALYSIS AGENCY

EXECUTIVE SUMMARY

This report covers the analysis of a system for the storage and retrieval of books and documents at the US Army Concepts Analysis Agency (CAA). It includes both the classified and unclassified technical information centers (TIC) which support the informational needs of the Agency's personnel.

The current system for storage and retrieval was developed before remote access to the mainframe computer was available and was constrained by non-proprietary software. As a consequence the system could not satisfy all requirements in regard to access, query, input, edit, and report generation.

A set of mandatory requirements and desirable requirements was developed to determine if better storage and retrieval were possible. Other functional, technical, and operational categories such as funding and hardware were identified.

The three major alternatives considered to support these requirements were: (1) improvements to the current software, (2) a commercial integrated library system (ILS), and (3) an in-house developed ILS. Of the three major alternatives only the last (i.e., an in-house developed ILS) was adequate to satisfy mandatory requirements and meet the funding and hardware categories.

An extensive survey and analysis of the systems for storage and retrieval of books and documents was conducted. Such means as interviews with vendors, presentations by administrators of other technical information centers, analysis of the literature on information management systems, and attendance at courses and conferences were used.

The analyses indicated that a microcomputer-based, integrated library system was appropriate for the organization, management, and retrieval of the Agency's book and document collections. All of the tasks involved in access, query, input, edit, and report generation could be accomplished by data base management software and the storage capacity of the microcomputer was adequate for this collection. Thus, the decision was made to develop a system in-house to meet the Agency's identified requirements.

MICROCOMPUTER INTEGRATED LIBRARY SYSTEM (MILS):

THE ONLINE INTEGRATED TECHNICAL INFORMATION CENTER SYSTEM

AT US ARMY CONCEPTS ANALYSIS AGENCY (CAA)

MAIN REPORT

1. PURPOSE. The purposes of this report are to present the analysis of a system for storage and retrieval of books and documents at CAA by defining the requirements for the in-house Microcomputer Integrated Library Systems (MILS), to present the data base design and program development stages, to discuss the implementation process, to describe the individual modules, to address future refinements, and to make recommendations for implementation at other technical information centers (TIC).

2. SCOPE. This report addresses integration of the systems for storage and retrieval of information materials in classified and unclassified TIC. The sources of these materials are illustrated at Appendix A.

3. BACKGROUND. The TIC storage and retrieval process was fragmented into unrelated subsets. This nonintegrated approach was occasioned by a number of factors; chief among these were:

a. The book collection was organized under a standard library classification system with retrieval via the card catalog.

b. The document collection was organized under a key-word-out-of-context (KWOC) system with retrieval via a print index.

c. These two systems were developed at different times in a functional fashion rather than with a view toward an integrated system.

d. The hardware and software environment was generally constrained (e.g., batch processing and nonproprietary software). Access to the mainframe computer is limited to tempest workstations. The agency did not have proprietary rights to the software used to produce the KWOC.

e. This fragmented process resulted in a resource-intensive, accountability inefficient, and inflexible system characterized by:

(1) Requirement to search in two locations for the same information,

(2) Lack of standardization in data entry in the KWOC,

(3) Lack of effective procedures for security and quality assurance,

(4) Excessive use of computational and mass storage capacity with excessive personnel resource commitment to maintain current system, and

(5) Inability to support reporting requirements.

4. STATEMENT OF THE PROBLEM. Determine the most efficient and effective method of evolving from a two-system environment to an integrated environment where:

a. Unnecessary search redundancy is eliminated,

b. Manager has access to data for reports, and

c. Effective, efficient policies, standards, and procedures can be implemented in regard to system development, security, and quality assurance.

5. METHODOLOGY. Facts:

a. No one was available to modify the KWOC software.

b. No microcomputer-based integrated library system was available from a commercial vendor.

c. Analysis of the state-of-the-art in information management reveals the evolution to integrated, multifunctional, computer-based information systems to support all functional areas including acquisitions, cataloging, public access, circulation, serial control, and reports.

6. ASSUMPTIONS

a. The system developed in-house should operate on most microcomputers using the Microsoft Disk Operating System (MS-DOS). This type of computer is currently in CAA and other Army library inventories and there are no reasons to believe that this hardware will become outdated in the foreseeable future.

b. When development of the in-house system began, most of the computer support personnel were committed to the mainframe system and the DA directed studies. In order to not increase their workload significantly and at the same time to take advantage of the library system expertise in the TIC, the decision was made to have the TIC staff develop and maintain the MILS.

7. APPROACH. A structured approach was used to determine the most efficient and effective method to develop an ILS. The overall approach is illustrated below:

- Review and documentation of current operations
- Obtain data
- Develop alternatives
- Design data base
- Develop program
- Produce report

The facts presented as background were obtained during the review and documentation step. The next step, "obtain data", was the process of collecting information, both internal and external, which was used to define the requirements for the system. The next step, "develop alternatives", consisted of evaluating the three alternatives. Next, "design data base", was determining what bibliographic information should be included. Next, "develop program", consisted of creation of menu-driven programs for input, editing, and access to the data bases. Finally, production of the report was the last step to document the decisionmaking processes and to present MILS to the public.

8. DEFINITION OF REQUIREMENTS OF THE SYSTEM

a. Purpose

(1) The purpose of this system is to maintain an inventory of all documents (classified and unclassified), books, and serials in the TIC.

(2) The system would also maintain circulation control of all these materials in accordance with security clearance status.

(3) Access to information in the data base must be flexible and include approach by author, title, or subject.

(4) After initial installation (uploading), the system will be maintained by inputting all new acquisitions.

(5) The system will also allow the generation of activity reports such as usage by patron or subject area.

(6) The system will provide to the end user easy instructions on its functions and operations. The system will be adjustable to meet the end users' requests for special displays or other search approaches.

b. Items to be Included

(1) Bibliographic records of all books, documents, and serials.

(2) Bibliographic records to be searchable by author, title, subject, AD number, or report number.

c. Operation

(1) Records to be accessible by the end users via a public terminal and eventually via desk terminals. Retrieval to be menu driven.

(2) Input of records to be done by library staff via interface between machine readable (MARC) records, Defense Technical Information Center (DTIC) records, and other online systems.

(3) User records to be developed from security clearance data files.

d. Objectives and Benefits of Automation

(1) Save Agency personnel time. Users will be able to quickly determine whether the TIC holds desired materials and the location of the items.

(2) Integrated system will indicate holdings in one automated search rather than in two manual file searches.

(3) Additions and deletions to this data base will be easier to accomplish and will have built-in quality control.

(4) Items will be tracked at all times, whether on order or checked out to individuals. Follow-up on late returns will be facilitated with an automated check-out and check-in system.

(5) Clearance procedures for personnel departing CAA will be improved as the system will indicate any overdue material.

(6) Relational search of the database, i.e., boolean logic can be used when searching for information.

(7) When CAA installs the local area network (LAN) connecting the currently standalone system, the TIC holdings will be accessible to all CAA personnel.

(8) The TIC will provide accountability for all classified documents.

e. Scope of the Project

(1) Included Information:

(a) Books

(b) Documents

(c) Reports

(d) Serials

(e) Software

(f) Films

(2) Involved Personnel:

(a) TIC staff

(b) Computer analysts

(c) Management and administrative personnel

(d) Information management officer

(3) Limitations/Exclusions. None.

9. DEVELOPMENT OF ALTERNATIVES

a. The three major alternatives considered to support these requirements are: (1) improvements to the current software, (2) a commercial ILS, and (3) an in-house developed ILS.

b. The first alternative was eliminated as no one was available to write enhancements to the KWOC program. In addition, online access to the mainframe computer was limited to terminals in special shielded rooms due to the classified information in the computer's data bases.

c. The commercial systems available in early 1985 which operated in the IBM PC environment were few in number, high in cost, and none were convenient for on-site visits. Since development is so rapid in this area, any organization considering automation today would have to reinvestigate the marketplace. The April 1, 1986 issue of Library Journal (LJ) has a review of the 1985 Automated Library System Marketplace. According to LJ, in 1984 there were 39 library-specific products for the IBM PC and by the end of 1985 there were 100. While subsystems such as circulation or acquisitions were available, there was no vendor selling an integrated system for the PC in 1985.

d. At the same time that commercial systems were evaluated, other possible approaches were examined. The Logistics Management Institute (LMI) and DTIC jointly were studying development of a local automation model and microcomputer-based local area model. LMI had been successful in automation of an information center at the minicomputer level. An individual at the Federal Library Automation Office (FEDLINK) was developing a program to download from the Online Computer Library Center (OCLC) and create an online catalog. However, government sponsored development at LMI and FEDLINK proved to be in such early stages that they were not viable options.

e. The decision to develop a system in-house was based on the evaluation of commercial products, the need to have a system prior to development dates of other government sponsored projects, and the available expertise at the Agency. In addition, an in-house developed program would allow complete control over costs and avoid the time delays inherent in the contracting process. The project was the responsibility of the supervisory librarian who started the TIC modernization project in 1984. The accomplishments of the project to date included acquisition of the M300 (OCLC's IBM PC), 1200 baud modem, communications software, and new furniture.

f. In addition to this equipment, the project had included the previously discussed systems analysis and the statement of requirements used in the evaluation of commercial systems. The following schedule was developed for the continuation of the modernization project:

Completion date	Tasks
March 1985	Software selection and familiarization
April 1985	Data base design and first applications programs Retrospective conversion of last 2 years' book purchases Input of personnel information
May 1985	Receipt of second M300 Input by screen prompts Input of classified documents as received
June 1985	Receipt of expansion chassis
August 1985	Program revisions
September 1985	Quality control procedures
October 1985	Receipt of second expansion chassis Receipt of tape backup unit
November 1985	Acquisitions system
December 1985	Refine menus for end users
January 1986	Issue holdings and user's guide to PC users in CAA Voucher registry report Book budget report
February 1986	Quality control via WordStar Circulation control system
March 1986	Serials control system Weekly report on periodicals received Computer completely menu driven
April 1986	Inventory by individuals Boolean logic searching
October 1986	Tallgrass disk drive acquisition Additional M300 acquisition

10. DATA BASE DESIGN

a. The goal of the data base design and program development was to produce a fully integrated online information system. The term integrated system means that data, applications and/or programs are combined and manipulated within a single environment. To qualify as integrated, the system must share data between applications without the user having to retype the data; move from one application to another without exiting the controlling environment; and have common user interface or use similar command structures and syntax throughout the system. This means that the staff will enter the data only once but will have the ability to use it for diverse purposes such as producing expenditure reports or preparing subject bibliographies.

b. The next step in creating this ILS was to determine the form of the data. The two primary cataloging sources for the books and documents in the TIC are OCLC and DTIC. The data structure of these two data bases is at Appendix B. The structure of each was examined to determine what modifications to make prior to inputting them into the CAA data bases. The intent was to limit the individual records to those items which would be searchable or were necessary to adequately describe the item to the end user. No attempt was made to convert either the OCLC records or the KWOC records which were in machine-readable form because the time and effort to correct them would have been too great. A recent inventory of books and documents on the shelves or checked out against the OCLC and KWOC tapes had revealed numerous inaccuracies.

c. Four different bibliographic data bases were deemed necessary.

(1) A book data base for publications whose bibliographic record would be in OCLC.

(2) A unclassified document data base for publications whose bibliographic record would be in DTIC on NTIS.

(3) A document data base for classified publications. Most of these would require original input.

(4) A serials data base for journals.

d. Subsets of these bibliographic data bases are created by the cataloging program. These subsets consist of two fields; the accession number and one word. For example the books data base consists of a books.dbf record for each book and a kwit.dbf record of each word in the title field and a subject.dbf record for each word in the subject field. The structure of each book related file and the indexes created for each field is illustrated below:

Books.dbf File

Field	Field name	Type	Width	Index file created
1	Accession #	Numeric	6	*
2	ISBN	Character	14	
3	Ref	Character	3	
4	Call #	Character	15	
5	Cutter	Character	3	
6	Author	Character	50	*
7	Title	Charcter	100	
8	Edition	Character	20	
9	Publisher	Character	20	*
10	Year	Character	4	
11	Pagination	Character	10	
12	Series	Character	50	
13	Subject	Character	100	

Kwit.dbf File

1	Accession #	Numeric	6	*
2	Word	Charcter	20	*

Subject.dbf File

1	Accession #	Numeric	6	*
2	Word	Character	20	*

e. The full description of all data files is at Appendix C. The practice throughout the data base design process was to keep the number of fields to those that would be used in most of the records. If a certain type of media did not use several fields, then the creation of a separate data file would be considered. For example, there is no need for the report classification, regrade code, declassification, or downgrading fields on unclassified documents. Therefore, the unclassified documents rate a separate data base. Multiple data files will not significantly slow the system but the creation of files with numerous empty fields will soon reduce the available disk space.

f. The dBASE III software package was selected to create, index, maintain, and search the data bases. dBASE III is a relational data base management program with no limits to its application to information center functions. It can handle up to one billion records, have up to 15 files open at one time, seven indexes open per file, and up to 128 fields per record. The indexing feature makes retrieval and input very fast; e.g., retrieval in less than 1 second regardless of size of file and updating of files and indexes when inputting new records in a like amount of time. dBASE III's specifications and limitations are at Appendix D.

11. **PROGRAM DEVELOPMENT.** In addition to being a relational data base management software program, dBASE III is a programing language. With some basic knowledge of how computer programs are written, one can write programs in dBASE III with minimum additional training. For the non-programer a nice feature of dBASE III is the ability to write programs which call other programs; thereby, small segments can be written, tested, revised, and/or debugged. When completed, the system is menu driven from the time that the computer is turned on. The first menu at Appendix E is a DOS command file which allows the user to select a function such as MILS, interlibrary loan or cataloging via OCLC, word processing, searching DIALOG, DTIC, BRS, or NEXIS or return to the DOS prompt. The DOS batch files at this point start the programs so that after each selection the user is presented with another menu. The main menu for MILS is at Appendix F.

12. IMPLEMENTATION

a. After the basic design of the data bases, the implementation of the system was gradually begun. The retrospective conversion began with the pulling of the shelf list cards on all books purchased in the last two years and the bibliographic information was keyed in using the full screen input program (menu and screen display at Appendix G). Next the circulation records were matched with their shelf list and input. Finally, a recall of all books, one department each week, was made and their bibliographic information was added to the data bases. The November/December 1985 issue of Library Technology Reports is a guide to the options and factors to be considered when doing retrospective conversions. The intent was to build a data base as exact as possible. For current operations, the acquisition subroutine programs were written. These programs provide for the input of bibliographic information when the items are ordered. As the items are received, the records are updated to include final price and complete bibliographic information. The system then transfers the appropriate bibliographic information to the data files and creates the index files that the user will search. The system also generates the book and spine labels for physical processing.

b. The security specialist began inputting the classified documents as they were received and checking them out to individuals when the second M300 work station was received in May 1985. The data files created by the security specialist are routinely copied to the first work station and the same is done for the book and unclassified document data bases.

c. Along with the retrospective conversion and the acquisition subroutines, the programs to search by author, title, subject, etc., were written, tested, and debugged. The search menu and a sample display of a retrieved record is at Appendix H. Procedures for quality control were tested. In the beginning quality control consisted of generation of a listing of the data base in alphabetical order and physically reviewing it for typos. After the acquisition of WordStar (a commercially available word processing software package), the data bases were copied to standard data format and run through CorrectStar. Other menus are at Appendix I. The complete listing of hardware and software requirements and costs are at Appendix J.

d. As an interim procedure, the program and data files were made available on floppy disks in January 1986, to CAA personnel with access to IBM ATs with dBASE III installed. When the LAN is installed, this procedure will not be necessary because a file server will allow access to the TIC computer. End user training was provided in small groups and an overview presentation was made to the Agency's Microcomputer Users' Group. A demonstration of a program was also made to the Director of the Army Staff. The user's guide at Appendix K includes information on how to install the system within dBASE III so that the TIC programs and data file do not overwrite any other data.

e. Refinements to the system's equipment include the tape backup. With the MT25 MicroSystems unit, the fixed disk can be copied to tape and verified as to accuracy within 5 to 10 minutes. This is important because many of the data files and all of the index files are now too large to fit on floppy disks.

f. In March 1986, the serials control system was written. The library technician indicates receipt by searching on the ISSN number, then types in the volume and issue number and the date from the cover of the issue. Weekly, the technician produces for dissemination within CAA a list of titles received the past week. That list is illustrated at Appendix L.

g. On April 1, 1986, the first listing by user of items checked out was distributed to the borrowers. When individuals receive reassignment orders, the security assistant produces a listing of what they have borrowed and requests that all materials be returned prior to their departure. MILS produces the listings and the mailing labels to facilitate sending them within the Agency.

h. On May 21, 1986, the FORTRAN program which automatically creates the keyword files (Kwit.dbf and Subject.dbf) was added to the system.

i. In October 1986, the program to convert either OCLC or DTIC records into dBASE records was completed. This was a major accomplishment because it means that if the bibliographic information can be downloaded from any other source, almost no original keying is necessary.

j. Throughout the writing of the programs and the development of the data bases, the TIC staff provided feedback on the system, made numerous suggestions on improvements and refinements to the screen displays and prompts or wording. Training for the staff began with the basics of searching and inputting or editing functions. As each individual progressed, trouble-shooting and error-checking methods were learned along with maintenance activities such as making tape backups. A log of programming problems or desired capabilities was kept and addressed as time allowed. The definitions and rules for data entry are at Appendix M.

13. DESCRIPTION OF MODULES

a. Online Catalog Module

(1) Public access is limited to the searching of the data bases by author, title, subject, series statement, DTIC AD number, organization, publisher, report number, or accession number. Boolean logic is available in the subject and title searching and between author and title fields. Browsing is allowed by inputting only the first few letters of any entry or an exact match is accomplished by inputting the entire entry. If the patron presses the carriage return when an entry is expected, the system prompts the patron to make an entry or to select another method of searching.

b. Acquisition/Cataloging Module

(1) The acquisition/cataloging module consists of several subsystems: order; bibliographic input for items not ordered (most documents are received via distribution lists); transfer from order to public searchable records; edit; delete; production of book and spine labels.

(2) The acquisition/cataloging librarian or technician is the individual who actually creates the data bases. While there are some quality assurance measures built into the system, the persons inputting bibliographic information must be accurate or the whole system will be unusable. The built in measures include: nonduplication of accession numbers; only numbers allowed in number fields; and only dates allowed in date fields. Records created by operator keying in information are run through WordStar to check for typos.

(3) The acquisition/cataloging steps for books are (1) place on order; (2) upon receipt, retrieve cataloging information from OCLC; (3) retrieve record from on-order file to indicate receipt and final price; (4) add edited OCLC records to the online catalog; (5) run program to create individual subject headings and keywords from the titles; and (6) produce book and spine labels. A year-end program retires the on-order file by fiscal year and makes it ready for the next fiscal year.

c. **Circulation Module.** Circulation control as far as enforcing loan periods is not a priority of the TIC. The important aspect of circulation is the location of an item. Therefore, the circulation module works in a

batch mode. Daily or weekly, depending on level of activity, the technician enters items borrowed or returned. A monthly listing of items on loan is sent to each individual. The personnel subsystem lists all CAA personnel, badge number, department, room, and phone.

d. Serials Control Module. This module allows for the daily check-in of periodicals by ISSN, the weekly production of titles received, the yearly production of a survey to patrons and a renewal list for procurement. The technician is prompted to input the ISSN after which the title is displayed for the technician's verification, and finally the technician selects the correct volume, issue, and cover date or edits the record which is the closest description of the issue just received. The weekly list of titles received is reprinted in the CAA Weekly Bulletin.

e. Management Module. This module consists of the activity reports, the voucher register, the budget, and the monthly receiving reports programs. The voucher register produces DA Form 3973 (Voucher Register of Books) which the TIC by regulation must keep. The budget programs allow for updating expenditures by vendor or deposit account. The monthly receiving report program produces the statement of expenditures on blanket purchase agreements.

14. MILS PROGRAMS AND FILES. Except for the programs which create the keyword records from the title and subject fields, the programs used in MILS are written in dBASE III. The MILS consists of data base files, executable programs, report forms, label files, and index files. The data base files described in Appendix C are the core of the system. The other files and programs perform functions and calculations, based on the contents of the data base files. The purpose of the programs, report, label and index files are as follows:

a. Executable Programs. The fourty-one programs in the system perform some action on the data bases. Program files have the file extension ".prg." The function of program files and the data bases, indexes, labels and report files which they use is illustrated in Appendix N. The full text of each program is at Appendix O.

b. Report Forms. The report forms are called by program files and have the extension ."frm." They are used to generate recurring reports such as a weekly list of journals received.

c. Label Files. Also called by program files are label files. They have the extension ".lbl." In MILS, they are used to produce the book and spine labels. The alignment of the continuous feed labels is so tedious, that an Epson RX-80F/T+ printer is setup and used solely for printing labels. dBASE does allow for print size commands: therefore, the spine labels are as large as possible while the book labels are in small print to allow display of more information.

d. Index Files. The index function in dBASE is what makes retrieval and input quicker and more efficient than systems which actually repeat the records in a sorted order. Index files have the extension ".ndx."

15. REFINEMENTS

a. The major planned refinements include putting MILS online via an electronic bulletin board system. In addition, authority control for author and subject headings needs to be developed. Finally, a program to produce bar code labels is needed to enhance the circulation subsystem.

b. The major equipment refinements will be the addition of a board to speed up the M300 to AT level, and the acquisition of a tallgrass disk drive, a second printer for production of labels, and another PC for public use. Minor refinements will be made to the screen displays and the results of a search display. The need for full MARC compatibility is being reviewed and, if necessary, the book data base can be modified to include more or all of the MARC fields. Another possible change is the inclusion of password access to the system.

16. RECOMMENDATIONS

a. MILS is designed to handle the information management needs of a small TIC. It replaces the labor intensive operations of card catalog maintenance, serials check-in, circulation control, and budget updating. Files can be easily modified and/or manipulated so that previously unforeseen needs can be accommodated. Without a LAN, it is a single user system; but by issuing the data bases and search programs on floppy disks to IBM AT users, it becomes a multiuser system. The end user can locate with one search the desired bibliographic record regardless of the item's format.

b. Because about 50 percent of the classified documents are not in a data base from which the TIC can download, the bibliographic information must be keyed in by the TIC staff. Experience has shown that if accessions are in the area of 15 to 20 items a day, one person can manage the workload in no more time than the previous manual and semiautomatic systems required.

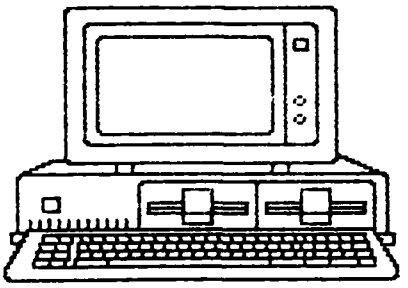
c. The programs can be easily modified for any other agency's use. Individuals making such modifications would need basic training in dBASE III, WordStar (or some other word processing with spell checking capability) and PC communications software. As illustrated in Appendix O, the programs include a description of what they do, what files and indexes they use, and their related programs.

d. MILS is a viable option for the TIC that desires complete control over costs and operations of their integrated information system. Start up requires the M300 workstation with an expansion chassis (or an IBM AT), the dBASE III software, and word processing software. A disk backup system must be installed and backups made frequently. The retrospective conversion of paper files to machine-readable files which was described resulted in a clean data base but a different approach such as using OCLC tapes is possible.

APPENDIX A

SOURCES OF MATERIALS

TIC COMPUTER



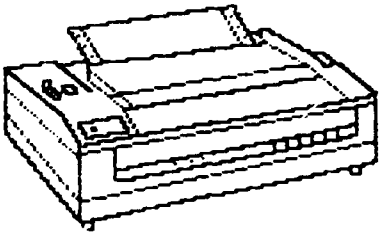
linked by dial up
access to

NATIONAL DATABASES

OCLC

DTIC

NTIS



APPENDIX B

DATA STRUCTURE FOR OCLC AND DTIC

OCLC DATA BASE FIELDS

For retrospective conversion of monographic records, the Association of Research Libraries has developed proposed guidelines for record fullness. Published in the *LC Information Bulletin* of March 25, 1985, these guidelines suggest the following mandatory record elements: (Items marked with an asterisk are required only if applicable to a given record.)

Leader:
- 05 Record status
- 06 Type of record
- 07 Bibliographic level
- 17 Encoding level
- 18 Descriptive cataloging form

007 Physical description fixed field

008 Fixed length data elements:
- 06 Type of publication
- 07 - 10 Date 1
- 11 - 14 Date 2
- 15 - 17 Country of publication
- 23 Form of reproduction
- 35 - 37 Language

010* LC card number

016* Canadiana control number

020* ISBN 040 Cataloging source

1xx* Main entry

245 Title statement:
- $a Short title
- $b* Remainder of title
- $c* Remainder of title page
- $h* Media qualifier
- $n* Number of part/section
- $p* Name of part/section

250 Edition statement:
- $a Edition statement
- $b* Remainder of edition

260 Imprint statement
- $a* Place of publication
- $b* Name of publisher
- $c Date of publication

300 Physical description
- $a Extent of item
- $b* Other physical details
- $c* Dimensions
- $e* Accompanying material

400- 411* Series statement

440* Series statement, title traced

490* Series statement, title untraced or traced differently

533* Photo-reproduction note

600-651* Subject added entries

700-740* Added entries

800-830* Series added entries

DTIC DATA BASE FIELDS

FIELD	FIELD DESCRIPTION
1	AD NUMBER
2	FIELDS AND GROUPS
5	SOURCE NAME/CORPORATE AUTHOR
6	UNCLASSIFIED TITLE
7	CLASSIFIED TITLE
8	TITLE CLASSIFICATION
9	DESCRIPTIVE NOTE
10	PERSONAL AUTHOR NAME(S)
11	DATE OF REPORT
12	PAGINATION
14	SOURCE SERIES NUMBERS
15	CONTRACT NUMBERS
16	PROJECT NUMBER
17	TASK NUMBER
18	MONITORING AGENCY ACRONYM(S). SBI
19	MONITORING AGENCY SERIES NUMBERS, SBI ACCESSION NUMBER
20	REPORT CLASSIFICATION
21	SUPPLEMENTARY NOTE
22	DISTRIBUTION/AVAILABILITY
23	POSTING TERMS (DESCRIPTORS)
24	DESCRIPTOR CLASSIFICATION
25	POSTING TERMS (IDENTIFIERS)
26	IDENTIFIER CLASSIFICATION
27	ABSTRACT
28	ABSTRACT CLASSIFICATION
30	ANNOTATION
31	SPECIAL CODE
32	REGRADE CODE
33	DISTRIBUTION/AVAILABILITY CODE
34	SERIAL CODE
35	CORPORATE AUTHOR CODE
37	CLASSIFICATION AUTHORITY
38	DECLASSIFICATION DATE/EVENT
39	DOWNGRADING DATE/EVENT
48	SBI HOLDING SYMBOL

APPENDIX C

DATA STRUCTURE FOR BOOKS, DOCUMENTS AND PERIODICALS

Structure for database: C:ONORDER.dbf
Number of data records: 262
Date of last update : 07/28/86

Field	Field Name	Type	Width	Dec	
1	AC	Character	6		ACCESSION NUMBER
2	ISBN	Character	14		INTERNATIONAL STANDARD BOOK NUMBER
3	REF	Character	3		REFERENCE
4	CL	Character	15		CALL NUMBER
5	ALN	Character	3		AUTHOR'S LAST NAME
6	AU	Character	20		AUTHOR
7	TI	Character	100		TITLE
8	ED	Character	10		EDITION
9	PU	Character	10		PUBLISHER
10	YR	Character	4		YEAR
11	PG	Character	5		PAGINATION
12	SER	Character	50		SERIES
13	SUBJECT	Character	135		SUBJECT HEADING
14	CP	Character	9		NUMBER OF COPIES
15	ORDERED	Date	8		DATE ORDERED
16	PRICE	Numeric	8	2	PRICE
17	VENDOR	Character	20		VENDOR
18	IND	Date	8		DATE RECEIVED
19	VTICKNU	Character	10		VENDOR TICKET NUMBER
20	REQBY	Character	20		REQUESTED BY
21	LISTNUMBER	Character	8		LIST NUMBER
22	ACCNUMBER	Character	7		ACCOUNT NUMBER
** Total **			474		

Structure for database: C:BOOKS.dbf
Number of data records: 1022
Date of last update : 07/25/86

Field	Field Name	Type	Width	Dec
1	AC	Character	6	
2	ISBN	Character	14	
3	REF	Character	3	
4	CL	Character	15	
5	ALN	Character	3	
6	AU	Character	20	
7	TI	Character	100	
8	ED	Character	10	
9	PU	Character	10	
10	YR	Character	4	
11	PG	Character	5	
12	SER	Character	50	
13	SUBJECT	Character	100	
14	CP	Character	9	
15	IND	Date	8	
** Total **			358	

KEYWORDS FROM TITLES

```
Structure for database: C:KWIT.dbf
Number of data records:     4032
Date of last update    : 07/08/86
Field  Field Name  Type       Width     Dec
    1  TI          Character     20
    2  AC          Character      6
** Total **                      27
```

KEYWORDS FROM SUBJECT HEADINGS

```
Structure for database: C:SUBJECT.dbf
Number of data records:     4880
Date of last update    : 07/16/86
Field  Field Name  Type       Width     Dec
    1  SH          Character     20
    2  AC          Character      6
** Total **                      27
```

Structure for database: C:UNCDOC.dbf UNCLASSIFIED DOCUMENTS
Number of data records: 180
Date of last update : 07/21/86

Field	Field Name	Type	Width	Dec	
1	AU	Character	20		
2	TI	Character	100		
3	PU	Character	10		
4	YR	Character	4		
5	PG	Character	5		
6	AC	Character	6		
7	CP	Character	9		
8	AD	Character	7		AD NUMBER
9	RN	Character	20		REPORT NUMBER
10	IND	Date	8		DATE OF INPUT
** Total **			190		

Structure for database: C:PERIODIC.dbf PERIODICALS
Number of data records: 1068
Date of last update : 07/30/86

Field	Field Name	Type	Width	Dec	
1	TI	Character	100		
2	PU	Character	10		
3	ISSN	Character	13		INTERNATIONAL STANDARD SERIALS NUMBER
4	FREQ	Character	2		FREQUENCY
5	NOTES	Memo	10		NOTES
6	DATE	Date	8		DATE RECEIVED
7	VOL	Character	10		VOLUME NUMBER
8	ISSUE	Character	10		ISSUE NUMBER
9	COST	Numeric	6	2	COST
10	SOURCE	Character	5		VENDOR
11	COVERDATE	Character	20		DATE ON COVER
** Total **			195		

Structure for database: C:DOCUMENT.dbf
Number of data records: 2117
Date of last update : 07/25/86

Field	Field Name	Type	Width	Dec	
1	AC	Character	6		ACCESSION NUMBER
2	AD	Character	9		DTIC'S AD NUMBER
3	CN	Character	10		CORPORATE AUTHOR
4	TI	Character	100		TITLE
5	AU	Character	50		AUTHOR
6	YR	Character	24		YEAR
7	IND	Date	8		INPUT DATE
8	PG	Character	4		PAGINATION
9	RN	Character	20		REPORT NUMBER
10	RC	Character	1		REPORT CLASSIFICATION
11	RL	Character	1		RECLASSIFICATION CODE
12	DL	Date	8		DECLASSIFICATION DATE
13	DG	Date	8		DOWN GRADE DATE
14	RD	Date	8		REVIEW DATE
15	CP	Character	9		NUMBER OF COPIES
** Total **			267		

APPENDIX D

dBASE III SPECIFICATIONS

dBase III Limitations and Specifications

HARDWARE

Machine	IBM PC or 100 percent compatibles
Operating System	PC-DOS 2.00 or greater
Memory	256K minimum
Disk drives	Two 360K minimum; hard disk recommended

DATA FILES

Number of records	1 billion maximum
Bytes per file	2 billion maximum
Record size	4,000 bytes per .DBF file 512K per .DBT file (memos)
Fields per record	128 maximum

FIELD SIZE

Character fields	254 bytes maximum
Date fields	8 bytes constant
Logical (Boolean) fields	1 byte constant
Memo fields	4K bytes per memo maximum
Numeric fields	19 bytes maximum

FILE OPERATION LIMITATIONS

Open file limit	15 of all kinds
User areas	Limit of 10. A data file with a memo file counts as two open files.
Indexes per data file	Limit of 7 open at one time; first index gives the file its logical order.
Open format files	One per user area.

NUMERIC ACCURACY

15.9 digits. The decimal point does not count as a digit in determining accuracy but does count as a space in numeric field definition.

Largest number	$1 \times 10^{+308}$
Smallest number	1×10^{-307}

MEMORY VARIABLES

Number of active memory variables: 256

Total bytes for memory variables: 6,000

APPENDIX E

COMPUTER MAIN MENU

COMPUTER'S MAIN MENU

SELECT AN APPLICATION BY TYPING A NUMBER. THEN PRESS THE RETN KEY

1	INTERLIBRARY LOAN	2	CATALOGING ON OCLC
3	SEARCHING DTIC	4	SEARCHING DIALOG
5	WORDSTAR	6	MICROCOMPUTER INTEGRATED LIBRARY SYSTEM MILS
7	TAPE BACK UP	8	SEARCHING BRS
9	LOTUS 1-2-3	10	SEARCHING NEXIS

11 RETURN TO C>

YOUR CHOICE?

APPENDIX F

MILS MAIN MENU

MICROCOMPUTER INTEGRATED LIBRARY SYSTEM (MILS)

SEARCHING THE DATA BASE

ACCESSIONS/CATALOGING ACTIVITIES

LOAN TRANSACTIONS

CLIENTELE TRANSACTIONS

MANAGEMENT ACTIVITIES

PERIODICAL ACTIVITIES

RETURN TO MAIN COMPUTER MENU

EXIT TO DBASE III PROMPT

SELECT OPERATION BY PRESSING FIRST LETTER

APPENDIX G

ACQUISITION/CATALOGING MENU

SCREEN DISPLAY

MILS ACCESSIONS/CATALOGING MENU

PLACE BOOKS ON ORDER	INDICATE RECEIPT
BIBLIOGRAPHIC INPUT FOR NON-ORDERS	UNCLASSIFIED DOCUMENT INPUT
EDIT RECORDS	DELETE RECORDS
LABELS PRINTED	SPINE LABELS PRINTED
CONVERT LCMARC RECORDS INTO MILS	KEYWORD FILES CREATION
OCLC RECORD CONVERSION	RETURN TO MAIN MENU

SELECT BY PRESSING FIRST LETTER

BIBLIOGRAPHIC INPUT FOR BOOKS
LAST ACCESSION NUMBER USED: 901147

NEXT ACCESSION NUMBER: ISBN

IF REFERENCE COPY
INPUT REF
DEWEY CALL NUMBER
FIRST 3 LETTERS OF
AUTHOR'S LAST NAME

AUTHOR:

TITLE:

EDITION: PUBLISHER: YEAR: PAGINATION:

SERIES:

SUBJECT HEADINGS:

OF COPIES: TO EXIT, LEAVE SCREEN BLANK AND PRESS PG DN

BIBLIOGRAPHIC INPUT FOR CLASSIFIED DOCUMENTS

LAST ACCESSION NUMBER USED: 22180

ACCESSION #: AI #: ORGANIZATION:

TITLE:

AUTHOR:

PUBLICATION DATE: PAGINATION:

REPORT NUMBER: REPORT CLASSIFICATION:

RECLASSIFICATION CODE: DECLASSIFICATION DATE MM DD YY :

DOWN GRADE DATE (MM/DD/YY): REVIEW DATE MM DD YY :

NUMBER OF COPIES:

TO EXIT, LEAVE SCREEN BLANK AND PRESS PGDN.

APPENDIX H

SEARCH MENU AND RESULTS

MILS SEARCH MENU

AUTHOR

TITLE

BOTH AUTHOR AND TITLE

SUBJECT

DTIC NUMBER

PUBLISHER OR ORGANIZATION

ORGANIZATION REPORT NUMBER

INDIVIDUAL ACCESSION NUMBER

RETURN TO MAIN MENU

SELECT BY PRESSING FIRST LETTER

PRESS SHIFT AND PRINT KEYS SIMULTANEOUSLY FOR HARD COPY
Press any key to continue...

CALL NUMBER	001.642 PRA
ACCESSION #	900551
AUTHOR	PRAGUE, CARY N.
TITLE	PROGRAMMING WITH DBASE III
PUBLISHER	TAB BOOKS
DATE	1985
PAGINATION	292

APPENDIX I

ALL OTHER MENUS

MILS LOAN TRANSACTIONS MENU

DETERMINE BORROWER'S CODE

CHARGE MATERIAL TO BORROWER

PRINT LIST ITEMS CHARGED TO BORROWER

MATERIALS RETURNED

LOAN RENEWED

ACCESSION NUMBER TO BORROWER

RETURN TO MAIN MENU

SELECT BY PRESSING FIRST LETTER

MILS PERSONNEL TRANSACTIONS MENU

ADD NEW PERSONNEL

EDIT PERSONNEL RECORD

DELETE PERSONNEL

RETURN TO MAIN MENU

SELECT BY PRESSING FIRST LETTER

PERIODICAL MENU

CHECK-IN PERIODICAL

EDIT PERIODICAL RECORDS

DELETE PERIODICAL RECORDS

PRINT WEEKLY LIST

RETURN TO MAIN MENU

SELECT OPERATION BY PRESSING FIRST LETTERS

APPENDIX J

HARDWARE AND SOFTWARE REQUIREMENTS AND COSTS

Hardware and Software System Requirements and Costs

OCLC M300 Workstation	2 @ $2,590	$ 5,180
Expansion chassis with 2 10MB fixed disks		3,230
Expansion chassis with 2 10MB fixed disks		2,258
EPSOM FX185 printer	2 @ 499	998
Cable	2 @ 25	50
Surge suppressor	2 @ 98	196
Hayes 1200 smart modem	2 @ 699	1,398
Sixpakplus	2 @ 377	754
MT25 tape backup system		898
Tape cartridge	5 @ 34	170
DBASE III	2 @ 437	874
Wordstar professional	2 @ 445	890
Total		$16,896

Monthly maintenance charges on M300 and expansion chassis $100.

The equipment and software is not used solely for the MILS. The work stations, printers and modems are used for literature searches of DIALOG, NEXIS, and DTIC and for ILL and cataloging on OCLC.

APPENDIX K

USER'S GUIDE TO CONCEPTS ANALYSIS AGENCY (CAA) INFORMATION RESOURCE CENTER (IRC) DATA BASE

This data base contains the bibliographic references to all books, technical reports and documents, and software in the Information Resource Center (Room 500 and Room 911). It replaces the Library Card Catalog and the keyword-out-of-context (KWOC) printout. The Library Card Catalog provided access to the book collection by author, title, or subject. The KWOC provided access to classified and unclassified technical reports and documents by words from the titles (nonclassified titles only).

The data base contains all books received since 1984 and all documents received since June 1985. Under the new system, all media will be accessible by author, words from the title, subject (books only), corporate author or publisher, Defense Technical Information Center (DTIC) number, or agency report number.

When CAA's local area network (LAN) is operational (estimated to be in calendar year 1987), this data base will be available through that system. In the meantime, it is planned that floppy disks will be provided monthly to individuals interested in accessing the data base from a CAA personal computer (PC). Older books and documents will be included as they are inventoried.

To install the data base and programs the first time, you must have dBASE III installed on your hard disk in a subdirectory named "dBasplus." This has probably already been done by the Computer Support Personnel. The initial programs and data bases will be automatically installed, and readied for use in a dbase subdirectory named "MILS." Caution: check that no one has already created this subdirectory.

Step by step instructions:

Insert disk labeled MILS Programs into A drive, at the A:/) prompt type MILS. The following message will appear.

MICROCOMPUTER INTEGRATED LIBRARY SYSTEM (MILS)
US Army Concepts Analysis Agency
8120 Woodmont Avenue
Bethesda, MD 20814-2797
(301) 295-1530

MILS		FEATURES
AUTHOR . . .	LYNDA S. KUNTZ	MENU DRIVEN INTEGRATED LIBRARY SYSTEM
DATE	SEPTEMBER 1986	
VERSION . .	1.1	CUSTOMIZED DATABASE OF BIBLIOGRAPHIC
SYSTEM . . .	DBASE III PLUS	INFORMATION ON BOOKS, SERIALS, AND
HARDWARE . .	IBM COMPATABLE WITH HARD DISK 640K MEMORY	DOCUMENTS
		BOOLEAN CONNECTORS
CAPACITY . .	LIMITED ONLY BY DISK SIZE	FULL SCREEN INPUT/EDIT
		MACHINE READABLE RECORD INTERFACE

IMPORTANT: To run this program, your dBASE III plus software must be installed in the C drive subdirectory named DBASPLUS. If you have not installed dBASE III in this subdirectory, it will be necessary to modify the MILS.BAT File on this disk to match your subdirectory name and/or drive. The program also assumes that you have created a config.db file. If you have not, you will get an error message "file not found." Do not worry, the program will go ahead and create one for you. The program creates a temporary config.db file, erases it when completed and restores your config.db file. You should abort at the end of this message if your dBASE III plus software is not installed in DBASPLUS subdirectory.

Otherwise, place the disk marked MILS databases in B drive. After you press any key at the end of this message, this program (MILS.BAT) creates a subdirectory in the DBASPLUS directory, copies the programs and databases, and creates subsets of the databases and indexes the necessary fields. You are finally presented with MILS main menu.

The US Army, US Army Concepts Analysis Agency, or MS. Kuntz make no representations or warranties with respect to the contents hereof and specifically disclaim any implied warranties of fitness for any particular purpose. Further, the author reserves the right to revise these programs and to make changes from time to time in the content hereof without obligation to notify any person of such revision or changes.

Comments and suggestions on MILS may be sent to:

US Army Concepts Analysis Agency
Attention: Technical Information Center
8120 Woodmont Avenue Bethesda, MD 20814-2797

Press conrol C to abort; otherwise, if you do not abort, the MILS batch file will continue. The MILS.BAT file is displayed below aong with an explanation of what each line does.

MILS.BAT File

```
ECHO OFF
CLS
MORE    MILS.TXT                **causes the MILS.TXT file
PAUSE                           **to appear on the screen
C:                              **one page at a time
CD
CS DBASPLUS
RENAME CONFIG.DB CONFIG2.DB     **saves your config.db file
COPY A:CONFIG.DB                **copies MILS config.db file to disk
MD MILS                         **creates the MILS subdirectory
CD MILS
COPY A:*.*                      **copies the programs onto disk
COPY B:*.*                      **copies the databases onto disk
CD..
DBASE                           **starts dbase
ERASE CONFIG.DB                 **after quitting dbase, erases
RENAME CONFIG2.DB CONFIG.DB     **reinstates your config.db file
RESET                           **returns to computers main menu
```

The dBASE copyright statement will aopear as usual. The next screen will be the MILS search menu as displayed below:

```
        MILS Search Menu
        Author
        Both Author and Title
        Subject
        DITIC Number
        Publisher or Organization
        Organization Report Number
        Individual Accession Number
        Return to Main Menu
   Select By Pressing First Letter
```

Basics about the search system:

a. The program operates in a browse mode. That is, inputting **Smith** will retrieve Smith, Smiths, Smithson, etc. The same is true for a title search. Inputting **War** will retrieve War, Wars, Warfare.

b. On yes or no questions, the program defaults to yes. Therefore, just pressing **return** is the same as pressing Y and **return**.

c. Note on accession numbering system:

```
9XXXXX Indicates a book
6XXXXX Indicates a NATO document
5XXXXX Indicates an UNCLASSIFIED document
4XXXXX Indicates a CONFIDENTIAL document
3XXXXX Indicates a periodical title
2XXXXX Indicates a SECRET document
1XXXXX Indicates a TOP SECRET document
```

After this initial installation, add a batch file to your beginning menu in order to access MILS. A suggested batch program is illustrated below:

```
c:
CD
CD DBASPLUS
rename config.db config.2.db
copy con config.db
do milsmenu
 Z
CD ...
dBASE
Erase config.db
rename config.2.db config.db
```

Suggestions on changes on the system, problems in its operation, or errors found in the data should be referred to Ms. Lynda Kuntz, Room 500, 295-1530.

APPENDIX L

PERIODICALS WEEKLY LIST

Page No. 1
05/14/86

PERIODICALS RECENTLY RECEIVED
AT THE TECHNICAL INFORMATION CENTER

TITLE	DATE	VOLUME	ISSUE
ARMY TIMES	MAY 19, 1986	46	41
BUSINESS WEEK	MAY 19, 1986		2947
CHRONOLOG	MAY 1986	14	5
COMPUTERWORLD	MAY 12, 1986	20	19
CONGRESSIONAL DIGEST	MAY 1986	65	5
DATA COMMUNICATIONS	MAY 1986	15	5
DATAPRO DIRECTORY OF SOFTWARE	MAY 1986	12	5
DEFENSE MONITOR	1986	15	3
DEFENSE WEEK	MAY 12, 1986	7	19
DEPARTMENT OF STATE BULLETIN	APRIL 1986	86	2109
ELECTRONICS	MAY 12, 1986	59	19
FEDERAL TIMES	MAY 19, 1986	22	13
FOREIGN REPORT	MAY 8,1986		1918
FORTUNE	MAY 26, 1986	113	11
INTERAVIA AEROSPACE REVIEW	5/1986	5	
INTERNATIONAL FINANCIAL STATISTICS	MAY 1986	39	5
JOURNAL OF MATHEMATICAL ANALYSIS & APPLICATIONS	MAY 15,1986	116	1
LIBRARY & INFORMATION SCIENCES	APRIL 29, 1986	86	17
LIBRARY JOURNAL	MAY 15, 1986	111	9
M300 & PC REPORT	APRIL 1986	3	4
NAVAL RESEARCH LOGISTICS QUARTERLY	MAY 1986	33	2
NEWSWEEK	MAY 19, 1986	107	20
PARAMETERS	SPRING 1986	26	1
PLANNING REVIEW	MAY 1986	14	3
PROCEEDINGS U.S. NAVAL INSTITUTE	JANUARY 1986	112	1995

PERIODICALS RECENTLY RECEIVED
AT THE TECHNICAL INFORMATION CENTER

TITLE	DATE	VOLUME	ISSUE
PROCEEDINGS U.S. NAVAL INSTITUTE	FEBRUARY 1986	112	2996
SCIENCE	16 MAY 1986	232	4752
SCIENTIFIC AMERICAN	JUNE 1986	254	6
TECHNOMETRICS	MAY 1986	28	2
TIME	MAY 19, 1986	127	20
U.S. CODE CONGRESSIONAL & ADMINISTRATIVE NEWS	MAY 1986		3
U.S. NEWS & WORLD REPORT	MAY 19, 1986	100	19
UNISPHERE	MAY 1986	6	2

APPENDIX M

DEFINITIONS AND RULES FOR DATA ENTRY

There are several important definitions and rules that apply to the Microcomputer Integrated Library System (MILS).

DEFINITIONS

Character — Character is a generic term that includes all graphic symbols. Letters, numbers, punctuation marks, other special characters, and blank spaces are all considered characters.

Record — A record is a group of related fields. For example, a record book is comprised of a group of fields such as the accession number, author's name, title, etc.

File — A file is a group of records. It can be compared to a file in a filing cabinet. For example, the file title "periodicals" contains all the individual records on serials.

Data base — A data base is a collection of files. The data base is like a filing cabinet. It contains a number of files, such as the books file and periodicals file.

Hard copy — Hard copy refers to a paper copy of a document (as opposed to a screen display).

Cursor — The cursor is the blinking rectangle which indicates where the next character typed will appear on the screen.

Prompt — A prompt is a screen message which requires a response from the user; for example, "selection?" at the end of each menu.

Enter — To enter data means to send it to the computer by pressing the "return" or "enter" key. Therefore, if the instructions read "enter the ISSN number," you are to type the ISSN number and then press "return."

Default — A default is the standard value that has been assigned to a field and is used when the user enters no value. In MILS the default to a yes/no question is no.

RULES FOR DATA ENTRY

1. Always press "return" after typing in a field or response to a screen prompt. This will cause what has been typed to be "entered" or set to the computer.

2. To erase a character, use the "delete" key. To backup the cursor, use the "blank" key.

3. To change a character(s), just type over it(them). The new character(s) will replace what was there.

4. Holding down a key will cause multiple entries. For example, if you want to enter one blank line, press the "enter" key and release it immediately. Holding the key down will cause more than one blank line to be entered.

5. A date is entered as "month, day, year".

6. The length of field entries is limited. The allowable length of the field to be entered will be highlighted on the screen.

7. The allowable length for some fields is quite long. Whenever you wish to finish entering data for such a field and move to the next field, you just press the "return" key once to move the cursor to the next field.

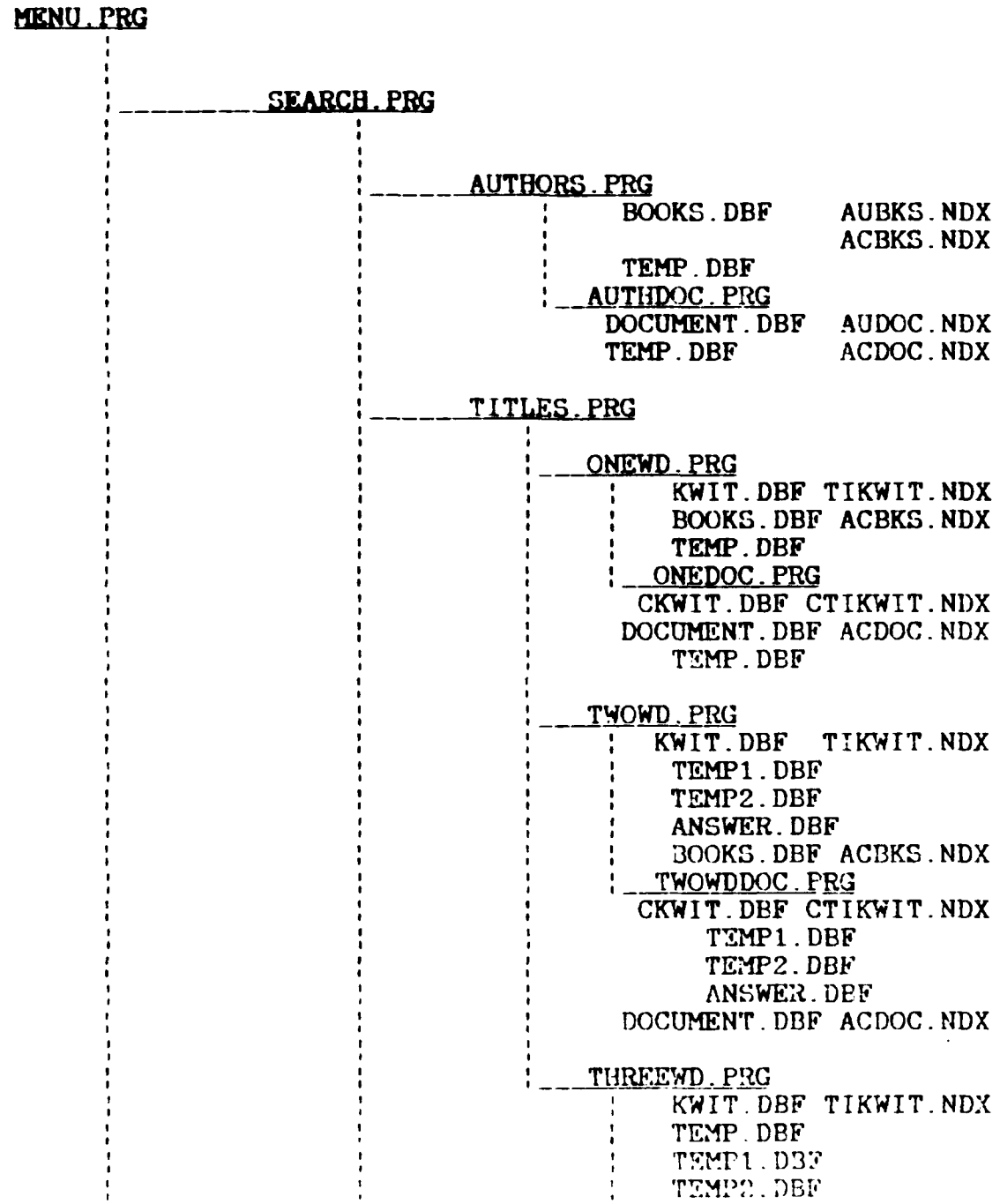
8. If the type of information entered in a particular field is not allowed, for example, a letter is entered when a number is required, what you type will not be displayed. Press the "arrow" key to get back to the beginning of the field, then reenter the information.

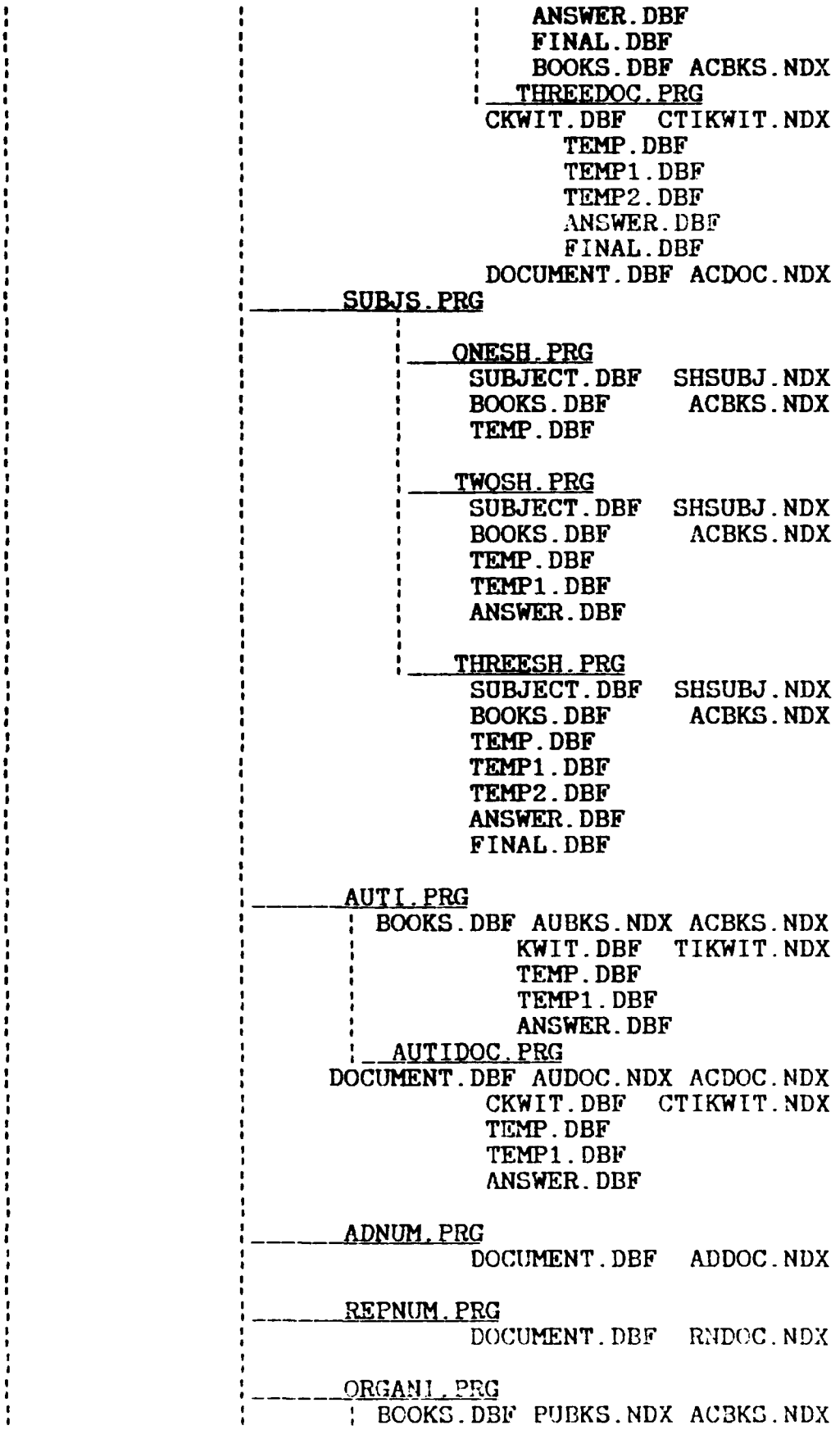
9. Occasionally there may be an error which has to do with the system rather than the data entry. When this happens, contact the system manager.

APPENDIX N

FUNCTION OF PROGRAM FILES AND RELATED DATA BASES AND INDEXES

LATEST VERSION 2.1, 29 MARCH 1987




ANSWER.DBF
FINAL.DBF
BOOKS.DBF ACBKS.NDX
THREEDOC.PRG
CKWIT.DBF CTIKWIT.NDX
TEMP.DBF
TEMP1.DBF
TEMP2.DBF
ANSWER.DBF
FINAL.DBF
DOCUMENT.DBF ACDOC.NDX
SUBJS.PRG
ONESH.PRG
SUBJECT.DBF SHSUBJ.NDX
BOOKS.DBF ACBKS.NDX
TEMP.DBF
TWOSH.PRG
SUBJECT.DBF SHSUBJ.NDX
BOOKS.DBF ACBKS.NDX
TEMP.DBF
TEMP1.DBF
ANSWER.DBF
THREESH.PRG
SUBJECT.DBF SHSUBJ.NDX
BOOKS.DBF ACBKS.NDX
TEMP.DBF
TEMP1.DBF
TEMP2.DBF
ANSWER.DBF
FINAL.DBF
AUTI.PRG
BOOKS.DBF AUBKS.NDX ACBKS.NDX
KWIT.DBF TIKWIT.NDX
TEMP.DBF
TEMP1.DBF
ANSWER.DBF
AUTIDOC.PRG
DOCUMENT.DBF AUDOC.NDX ACDOC.NDX
CKWIT.DBF CTIKWIT.NDX
TEMP.DBF
TEMP1.DBF
ANSWER.DBF
ADNUM.PRG
DOCUMENT.DBF ADDOC.NDX
REPNUM.PRG
DOCUMENT.DBF RNDOC.NDX
ORGANI.PRG
BOOKS.DBF PUBKS.NDX ACBKS.NDX

```
                    TEMP.DBF
                  ORGDOC.PRG
              DOCUMENT.DBF CNDOC.NDX ACDOC.NDX
                    TEMP.DBF

          ACNUM.PRG
                          BOOKS.DBF   ACBKS.NDX
                       DOCUMENT.DBF   ACDOC.NDX
ACQ.PRG

          ONORDER.PRG
                       ONORDER.DBF   VENDOR.NDX

          (INDICATE RECEIPT)
                       ONORDER.DBF   VENDOR.NDX

          BIBBKS.PRG
               BOOKS.DBF ACBKS.NDX AUBKS.NDX
                         PUBKS.NDX  INDBKS.NDX
                         ACTEMP.MEM

          BKEDIT.PRG
               BOOKS.DBF ACBKS.NDX AUBKS.NDX
                         PUBKS.NDX  INDBKS.NDX
            SUBJECT.DBF ACSUBJ.NDX SHSUBJ.NDX
             KWIT.DBF  ACKWIT.NDX  TIKWIT.NDX

          BKDELE.PRG
               BOOKS.DBF ACBKS.NDX AUBKS.NDX
                         PUBKS.NDX  INDBKS.NDX
            SUBJECT.DBF ACSUBJ.NDX SHSUBJ.NDX
               KWIT.DBF ACKWIT.NDX TIKWIT.NDX

          (LABELS PRINTED)
                       BOOKS.DBF   INDBKS.NDX
                       BKLABEL.LBL

          UNCDOC.PRG
              DOCUMENT.DBF ACDOC.NDX AUDOC.NDX
                           ADDOC.NDX  CNDOC.NDX
                           RNDOC.NDX  INDDOC.NDX

          (SPINE LABELS PRINTED)
                       BOOKS.DBF   INDBKS.NDX
                       SPINE.LBL

          KWIT.PRG (INCLUDES KEYWORD
                           WRITTEN IN FORTRAN)
               TITLES.DBF
               BOOKS.DBF
               TITLES.TXT (SDF)
               TEMP.OUT (SDF)
               KWIT.DBF TIKWIT.NDX ACKWIT.NDX
               SUBJECTS.DBF
               SUBJECTS.TXT (SDF)
```

SUBJECT.DBF SHSUBJ.NDX ACSUBJ.NDX
ACBKS.NDX AUBKS.NDX
PUBKS.NDX INDBKS.NDX

LCMARC.PRG
RAWCAA.DBF
CAA.DBF
RAWCAA.TXT (SDF)
BOOKS.DBF

NEW.PRG
RAWCAA.DBF
CAA.DBF
RAWCAA.TXT (SDF)
BOOKS.DBF

CHECKOUT.PRG

BORCODE.PRG
BORROWER.DBF LNBOR.NDX

CHARGE.PRG
UNCLCIRC.DBF ACCIRC.NDX BCCIRC.NDX

LISTCHG.PRG
UNCLCIRC.DBF BCCIRC.NDX
BOOKS.DBF ACBKS.NDX

BKRETURN.PRG
UNCLCIRC.DBF ACCIRC.NDX BCCIRC.NDX

RENEW.PRG
UNCLCIRC.DBF ACCIRC.NDX BCCIRC.NDX

AC_BOR.PRG
BORROWER.DBF BCBOR.NDX
UNCLCIRC.DBF ACCIRC.NDX

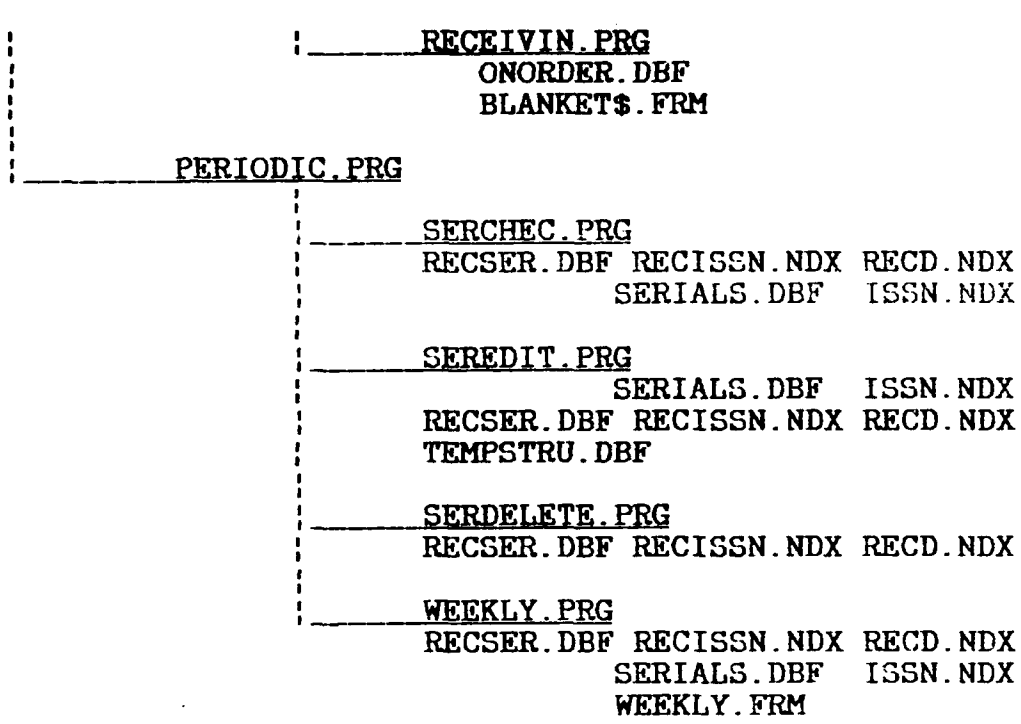
PERSONNE.PRG
BORROWER.DBF LNBOR.NDX BCBOR.NDX

MANAGEME.PRG

CIRREPORT.PRG
UNCLCIR.DBF
UNCLCIR.FRM

ACCREPORT.PRG
ONORDER.DBF
ACCREPORT.FRM

REG.PRG
VOUTEMP.DBF
ONORDER.DBF


RECEIVIN.PRG
ONORDER.DBF
BLANKET$.FRM
PERIODIC.PRG
SERCHEC.PRG
RECSER.DBF RECISSN.NDX RECD.NDX
SERIALS.DBF ISSN.NDX
SEREDIT.PRG
SERIALS.DBF ISSN.NDX
RECSER.DBF RECISSN.NDX RECD.NDX
TEMPSTRU.DBF
SERDELETE.PRG
RECSER.DBF RECISSN.NDX RECD.NDX
WEEKLY.PRG
RECSER.DBF RECISSN.NDX RECD.NDX
SERIALS.DBF ISSN.NDX
WEEKLY.FRM

APPENDIX O

dBASE III PROGRAMS

```
********MENU.PRG
****LAST REVISION: 01/21/86
***WRITTEN BY L. S. KUNTZ
CLEAR
SET EXACT OFF
SET ECHO OFF
SET TALK OFF
SET MENUS OFF
SET STATUS OFF
SET SCOREBOARD OFF
DO WHILE .T.
@0,0 TO 23,79 DOUBLE
STORE " " TO OPERATION
@1,1 SAY DTOC(DATE())
@1,30 SAY "MAIN MENU"
@2,10 SAY " MICROCOMPUTER INTEGRATED LIBRARY SYSTEM
(MILS)"
@4,20 SAY "SEARCHING THE DATA BASE "
@6,20 SAY "ACCESSIONS/CATALOGING ACTIVITIES "
@8,20 SAY "LOAN TRANSACTIONS "
@10,20 SAY "CLIENTELE TRANSACTIONS "
@12,20 SAY "MANAGEMENT ACTIVITIES "
@14,20 SAY "PERIODICAL ACTIVITIES "
@16,20 SAY "RETURN TO MAIN COMPUTER MENU "
@18,20 SAY "EXIT TO DBASE III PROMPT "
@20,15 SAY "SELECT BY PRESSING FIRST LETTER  " GET
OPERATION PICT "A"
READ
STORE UPPER(OPERATION) TO OPERATION
DO CASE
   CASE OPERATION = "S"
        DO SEARCH
   CASE OPERATION = "A"
        DO ACQ
   CASE OPERATION = "L"
        DO CHECKOUT
   CASE OPERATION = "C"
        DO PERSONNEL
   CASE OPERATION = "M"
        DO MANAGEMENT
   CASE OPERATION = "P"
        DO PERIODICALS
   CASE OPERATION = "R"
        QUIT
   CASE OPERATION = "E"
        CLEAR
        SET STATUS ON
        SET SCOREBOARD ON
        CANCEL
 OTHERWISE
```

```
        @23,1 SAY "ERROR - SELECT S, A, L, C, M, P, R, OR E "
         ?? CHR(7)
         STORE 1 TO XX
             DO WHILE XX<35
             STORE XX+1 TO XX
             ENDDO
ENDCASE
ENDDO
```

```
*******************************SEARCH.PRG
********************* SEARCH MENU PROGRAM
**************LAST REVISION: 08/11/86
CLEAR
DO WHILE .T.
@ 0,0 TO 23,79 DOUBLE
STORE " " TO CHOICE
@1,1 SAY DTOC(DATE())
@1,20 SAY "MILS SEARCH MENU    "
@3,20 SAY "AUTHOR "
@5,20 SAY "TITLE "
@7,20 SAY "BOTH AUTHOR AND TITLE "
@9,20 SAY "SUBJECT "
@11,20 SAY "DTIC NUMBER "
@13,20 SAY "PUBLISHER OR ORGANIZATION "
@15,20 SAY "ORGANIZATION REPORT NUMBER "
@17,20 SAY "INDIVIDUAL ACCESSION NUMBER "
@19,20 SAY "RETURN TO MAIN MENU"
@21,15 SAY "SELECT BY PRESSING FIRST LETTER " GET CHOICE
PICT "A"
READ
STORE UPPER(CHOICE) TO CHOICE
CLEAR
DO CASE
   CASE CHOICE = "A"
        DO AUTHORS
   CASE CHOICE = "T"
        DO TITLES
   CASE CHOICE = "B"
        DO AUTI
   CASE CHOICE = "S"
        DO SUBJS
   CASE CHOICE = "D"
        DO ADNUM
   CASE CHOICE = "P"
        DO ORGANI
   CASE CHOICE = "O"
        DO REPNUM
   CASE CHOICE = "I"
        DO ACNUM
   CASE CHOICE = "R"
        CLOSE DATABASES
        CLEAR
        RETURN TO MASTER
 OTHERWISE
    @23,1
    @23,1 SAY "ERROR - PRESS A, T, B, S, D, P, O, I, OR
R "
    ?? CHR(7)
    STORE 1 TO XX
        DO WHILE XX<35
        STORE XX+1 TO XX
        ENDDO
ENDCASE
ENDDO
```

```
***SEARCHING BY AUTHORS
****AUTHORS.PRG
CLEAR
SET SAFETY OFF
CLOSE DATA
STORE "Y" TO DOAGAIN
DO WHILE UPPER(DOAGAIN) = "Y"
   @0,0 TO 23,79 DOUBLE
   STORE SPACE(20) TO MAUTH
   USE BOOKS INDEX AUBKS
   @5,10 SAY "LOOK FOR WHAT AUTHOR? (LAST NAME ONLY) "
GET MAUTH
   READ
      STORE UPPER(MAUTH) TO MAUTH
          IF MAUTH = "   "
             @10,30 SAY "YOU PRESSED THE RETURN KEY."
             @12,30 SAY "IF YOU WANT TO SEARCH FOR AN
AUTHOR,"
             @14,30 SAY "ENTER 'A' AT THE NEXT MENU;
OTHERWISE,"
             @16,30 SAY "MAKE ANOTHER SELECTION."
             WAIT
             CLEAR
             RETURN TO MASTER
          ENDIF
      STORE LEN(TRIM(MAUTH)) TO AUTEMP
          SEEK SUBSTR(MAUTH,1,AUTEMP)
          COPY TO TEMP FIELDS AC WHILE AU =
SUBSTR(MAUTH,1,AUTEMP)
      USE TEMP
      GO BOTTOM
         IF AC < 700000
         @15,5 SAY "NO RECORDS FOUND "
               STORE "Y" TO REQUEST
         @17,5 SAY "DO YOU WANT TO SEARCH DOCUMENTS FOR
SAME AUTHOR? "                  GET REQUEST PICT "Y"
          READ
              IF REQUEST = "Y"
                 CLOSE DATA
                 DO AUTHDOC
              ENDIF
          CLEAR
          RETURN
          ENDIF
   STORE "Y" TO FOUND
   STORE RECNO() TO MANY
   @15,5 SAY "   " GET MANY
   @15,20 SAY " BOOKS WERE FOUND "
   @16,25 SAY "PRESS RETURN TO CONTINUE "
   READ
   @18,20 SAY "DO YOU WANT TO SEE THESE RECORDS? " GET
FOUND PICT "Y"
   READ
      IF FOUND = "N"
         STORE "Y" TO REQUEST
```

```
@20,5 SAY "DO YOU WANT TO SEARCH DOCUMENTS FOR SAME
AUTHOR? " GET REQUEST PICT "Y"
         READ
            IF REQUEST = "Y"
               DO AUTHDOC
            ENDIF
          CLEAR
          RETURN
       ENDIF
SELECT 1
USE BOOKS INDEX ACBKS
SELECT 2
USE TEMP
SET RELATION TO AC INTO BOOKS
DO WHILE .NOT. EOF()
   CLEAR
   ?
   ?
   ?
   ? "                ",A->REF
   ? "CALL NUMBER     ",A->CL
   ? "                ",A->ALN
   ?
   ? "ACCESSION #     ",A->AC
   ?
   ? "AUTHOR          ",A->AU
   ? "TITLE           ",A->TI
   ? "PUBLISHER       ",A->PU
   ? "DATE            ",A->YR
   ? "PAGINATION      ",A->PG
   @1,20 SAY "BOOK RECORD"
   @2,1 SAY "PRESS SHIFT AND PRINT KEYS SIMULTANEOUSLY
FOR HARD COPY"
   WAIT
   SKIP
ENDDO
CLOSE DATABASES
CLEAR
STORE "Y" TO REQUEST
@17,5 SAY "DO YOU WANT TO SEARCH DOCUMENTS FOR THE SAME
AUTHOR? " GET REQUEST PICT "Y"
READ
   IF REQUEST = "Y"
      DO AUTHDOC
   ENDIF
USE TEMP
ZAP
CLOSE DATA
CLEAR
@20,20 SAY "LOCATE MORE AUTHORS (Y/N)? " GET DOAGAIN
PICTURE 'Y'
READ
CLEAR
ENDDO
RETURN
```

```
***SEARCHING DOCUMENTS BY AUTHORS
****AUTHDOC.PRG
CLEAR
SET SAFETY OFF
CLOSE DATA
STORE "Y" TO DOCSER
DO WHILE UPPER(DOCSER) = "Y"
   @0,0 TO 23,79 DOUBLE
   SELECT 1
   USE DOCUMENT INDEX AUDOC
   @10,10 SAY "WORKING . . . "
   SEEK SUBSTR(MAUTH,1,AUTEMP)
   COPY TO TEMP1 FIELDS AC WHILE AU =
SUBSTR(MAUTH,1,AUTEMP)
   SET INDEX TO ACDOC
   SELECT 2
   USE TEMP1
   GO BOTTOM
      IF AC < 100000
         @15,5 SAY "NO RECORDS FOUND "
         @17,5 SAY "DO YOU WANT TO SEARCH FOR ANOTHER
AUTHOR? " GET DOCSER PICT "Y"
         READ
            IF DOCSER = "N"
               CLOSE DATA
               CLEAR
               RETURN TO MASTER
             ENDIF
          IF DOCSER = "Y"
             DO AUTHORS
             CLOSE DATA
             CLEAR
          ENDIF
      ENDIF
   IF AC > 100000
      STORE "Y" TO FOUND
      STORE RECNO() TO MANY
      @15,5 SAY "   " GET MANY
      @15,18 SAY " DOCUMENTS WERE FOUND "
      @16,25 SAY "PRESS RETURN TO CONTINUE "
      READ
      @18,20 SAY "DO YOU WANT TO SEE THESE RECORDS? "
GET FOUND PICT "Y"
      READ
   ENDIF
   IF FOUND = "N"
      CLEAR
      RETURN
   ENDIF
GO TOP
SET RELATION TO AC INTO DOCUMENT
DO WHILE .NOT. EOF()
   CLEAR
   ?
   ?
```

```
   ?
   ?
   ? "ACCESSION #    ",AC
   ?
   ? "AUTHOR         ",AU
   ? "TITLE          ",TI
   ? "PUBLISHER      ",CN
   ? "DATE           ",YR
   ? "PAGINATION     ",PG
   @1,20 SAY "DOCUMENT RECORD"
   @2,1 SAY "PRESS SHIFT AND PRINT KEYS SIMULTANEOUSLY
FOR HARD COPY"
   WAIT
   SKIP
ENDDO
CLOSE DATABASES
CLEAR
USE TEMP1
ZAP
CLOSE DATA
CLEAR
@20,20 SAY "LOCATE MORE AUTHORS (Y/N)? " GET DOCSER
PICTURE 'Y'
READ
   IF DOCSER = "N"
   RETURN TO MASTER
   ENDIF
   IF DOCSER = "Y"
   CLOSE DATA
   CLEAR
   DO AUTHORS
   ENDIF
ENDDO
```

```
*******TITLES.PRG
*****SEARCHING BY KEY WORDS IN THE TITLE
*****LAST REVISION: 08/06/86
***CALLED BY SEARCH.PRG
***WRITTEN BY L. S. KUNTZ
SET SAFETY OFF
CLOSE DATA
USE TEMP
ZAP
USE TEMP2
ZAP
USE ANSWER
ZAP
CLOSE DATA
CLEAR
DO WHILE .T.
@0,0 TO 23,79 DOUBLE
STORE " " TO CHOICE
@3,25 SAY "TITLE SEARCH MENU"
@5,15 SAY "ONE WORD "
@7,15 SAY "TWO WORDS "
@9,15 SAY "MORE THAN TWO WORDS "
@11,15 SAY "RETURN TO MAIN MENU"
@13,15 SAY "SELECT BY PRESSING FIRST LETTER " GET CHOICE
PICTURE "A"
READ
STORE UPPER(CHOICE) TO CHOICE
CLEAR
DO CASE
   CASE CHOICE = "O"
        DO ONEWD
   CASE CHOICE = "T"
        DO TWOWD
   CASE CHOICE = "M"
        DO THREEWD
   CASE CHOICE = "R"
        CLEAR
        RETURN
OTHERWISE
   @23,1
   @23,1 SAY "ERROR - SELECT O, T, M, OR R "
   ?? CHR (7)
   STORE 1 TO XX
       DO WHILE XX < 35
       STORE XX + 1 TO XX
       ENDDO
ENDCASE
ENDDO
```

```
***ONEWD.PRG
CLEAR
SET SAFETY OFF
CLOSE DATA
STORE "Y" TO DOAGAIN
DO WHILE UPPER(DOAGAIN) = "Y"
   @0,0 TO 23,79 DOUBLE
   STORE SPACE(20) TO MTITLE
   SELECT 1
   USE KWIT INDEX TIKWIT
   SELECT 2
   USE BOOKS INDEX ACBKS
   @5,20 SAY " ENTER ANY WORD FROM THE TITLE? " GET
MTITLE
   READ
   STORE UPPER(MTITLE) TO MTITLE
       IF MTITLE = "    "
          @10,30 SAY "YOU ENTERED THE RETURN KEY."
          @12,30 SAY "IF YOU WANT TO SEARCH FOR A
TITLE,"
          @14,30 SAY "ENTER 'O' AT THE NEXT MENU;
OTHERWISE,"
          @16,30 SAY "MAKE ANOTHER SELECTION."
          WAIT
         CLEAR
         RETURN
      ENDIF
   SELECT 1
   STORE LEN(TRIM(MTITLE)) TO TITEMP
   SEEK SUBSTR(MTITLE,1,TITEMP)
   COPY TO TEMP FIELDS AC WHILE TI =
SUBSTR(MTITLE,1,TITEMP)
   USE TEMP
   GO BOTTOM
      IF AC < 700000
         @15,5 SAY "NO RECORDS FOUND "
         STORE "Y" TO REQUEST
         @17,5 SAY "DO YOU WANT TO SEARCH DOCUMENTS FOR
SAME WORD? " GET REQUEST PICT "Y"
         READ
            IF REQUEST = "Y"
               CLOSE DATA
               DO ONEDOC
            ENDIF
         CLEAR
         RETURN
      ENDIF
   STORE "Y" TO FOUND
   STORE RECNO( ) TO MANY
   @15,5 SAY "   " GET MANY
   @15,20 SAY " BOOKS WERE FOUND "
   @16,25 SAY "PRESS RETURN TO CONTINUE "
   READ
      @18,20 SAY "DO YOU WANT TO SEE THESE RECORDS" "
GET FOUND PICT "Y"
```

```
   READ
      IF FOUND = "N"
         STORE "Y" TO REQUEST
@20,5 SAY "DO YOU WANT TO SEARCH DOCUMENTS FOR SAME
WORD? " GET REQUEST PICT "Y"
         READ
            IF REQUEST = "Y"
               DO ONEDOC
            ENDIF
         CLEAR
         RETURN
      ENDIF
  GO TOP
  SET RELATION TO AC INTO BOOKS
  DO WHILE .NOT. EOF()
     CLEAR
     ?
     ?
     ?
     ? "                ",B->REF
     ? "CALL NUMBER     ",B->CL
     ? "                ",B->ALN
     ?
     ? "ACCESSION #     ",B->AC
     ?
     ? "AUTHOR          ",B->AU
     ? "TITLE           ",B->TI
     ? "PUBLISHER       ",B->PU
     ? "DATE            ",B->YR
     ? "PAGINATION      ",B->PG
     @1,35 SAY "BOOK RECORD "
     @2,1 SAY "PRESS SHIFT AND PRINT KEYS SIMULTANEOUSLY
FOR HARD COPY"
     WAIT
     SKIP
  ENDDO
CLOSE DATA
CLEAR
STORE "Y" TO REQUEST
@17,2 SAY "DO YOU WANT TO SEARCH DOCUMENTS WITH SAME
WORD? " GET REQUEST PICT "Y"
READ
   IF REQUEST = "Y"
      DO ONEDOC
   ENDIF
USE TEMP
ZAP
CLOSE DATA
CLEAR
@20,20 SAY " LOCATE MORE KEY WORDS (Y/N)? " GET DOAGAIN
PICTURE 'Y'
READ
CLEAR
ENDDO
RETURN
```

```
***ONEDOC.PRG
CLEAR
SET SAFETY OFF
CLOSE DATA
STORE "Y" TO DOCSER
@0,0 TO 23,79 DOUBLE
USE CKWIT INDEX CTIKWIT
@10,10 SAY "WORKING . . . "
SEEK SUBSTR (MTITLE,1,TITEMP)
COPY TO TEMP WHILE TI = SUBSTR(MTITLE,1,TITEMP)
SELECT 1
USE DOCUMENT INDEX ACDOC
SELECT 2
USE TEMP
GO BOTTOM
   IF AC < 100000
      @15,5 SAY "NO RECORDS FOUND "
      @17,5 SAY "DO YOU WANT TO SEARCH FOR ANOTHER WORD?
" GET DOCSER PICT "Y"
      READ
         IF DOCSER = "N"
            CLOSE DATA
            CLEAR
            RETURN TO MASTER
         ENDIF
      IF DOCSER = "Y"
         DO ONEWD
         CLOSE DATA
         CLEAR
      ENDIF
   ENDIF
   IF AC > 100000
      STORE "Y" TO FOUND
      STORE RECNO() TO MANY
      @15,5 SAY "   " GET MANY
      @15,18 SAY " DOCUMENTS WERE FOUND "
      @16,25 SAY "PRESS RETURN TO CONTINUE "
      READ
      @18,20 SAY "DO YOU WANT TO SEE THESE RECORDS? "
GET FOUND PICT "Y"
      READ
         IF FOUND = "N"
            CLEAR
            USE TEMP
            ZAP
            CLOSE DATA
            RETURN
         ENDIF
  GO TOP
  SET RELATION TO AC INTO DOCUMENT
  DO WHILE .NOT. EOF()
     CLEAR
     ?
     ?
     ?
```

```
      ?
      ?
      ? "ACCESSION #    ",A->AC
      ?
      ? "AUTHOR         ",A->AU
      ? "TITLE          ",A->TI
      ? "PUBLISHER      ",A->CN
      ? "DATE           ",A->YR
      ? "PAGINATION     ",A->PG
      @1,35 SAY "DOCUMENT RECORD "
      @2,1 SAY "PRESS SHIFT AND PRINT KEYS SIMULTANEOUSLY
FOR HARD COPY"
      WAIT
      SKIP
  ENDDO
CLOSE DATA
CLEAR
USE TEMP
ZAP
CLOSE DATA
CLEAR
@20,20 SAY " LOCATE MORE KEY WORDS (Y/N)? " GET DOCSER
PICTURE 'Y'
READ
   IF DOCSER = "N"
      RETURN TO MASTER
   ENDIF
   IF DOCSER = "Y"
      CLOSE DATA
      CLEAR
      DO ONEWD
   ENDIF
```

```
***TWOWD.PRG
***WRITTEN 19 NOV 86 BY L. S. KUNTZ
CLEAR
CLOSE DATABASE
STORE "Y" TO DOAGAIN
DO WHILE UPPER(DOAGAIN) = "Y"
   @0,0 TO 23,79 DOUBLE
   STORE SPACE(20) TO OTITLE
   STORE SPACE(20) TO TTITLE
   USE KWIT INDEX TIKWIT
   @5,10 SAY "ENTER FIRST WORD FROM THE TITLE  " GET
OTITLE
   READ
   STORE UPPER(OTITLE) TO OTITLE
   @7,10 SAY "WORKING . . . . "
   STORE LEN(TRIM(OTITLE)) TO TEMP
   SEEK SUBSTR(OTITLE,1,TEMP)
   COPY TO TEMP1 FIELDS AC WHILE TI =
SUBSTR(OTITLE,1,TEMP)
   @9,10 SAY "ENTER SECOND WORD FROM THE TITLE " GET
TTITLE
   READ
   STORE UPPER(TTITLE) TO TTITLE
   @11,10 SAY "WORKING . . . "
   STORE LEN(TRIM(TTITLE)) TO TITEMP
   SEEK SUBSTR(TTITLE,1,TITEMP)
   COPY TO TEMP2 FIELDS AC WHILE TI =
SUBSTR(TTITLE,1,TITEMP)
   SELECT 1
   USE TEMP1
   SELECT 2
   USE TEMP2
   JOIN WITH TEMP1 TO ANSWER FOR AC = TEMP1 -> AC FIELDS
AC
   CLOSE DATABASE
   SELECT 3
   USE BOOKS INDEX ACBKS
   SELECT 4
   USE ANSWER
   GO BOTTOM
      IF AC < 700000
         @15,5 SAY "NO RECORDS FOUND "
         STORE "Y" TO REQUEST
         @17,5 SAY "DO YOU WANT TO SEARCH DOCUMENTS WITH
SAME WORDS? " GET REQUEST PICTURE "Y"
         READ
            IF REQUEST = "Y"
               CLOSE DATA
               DO TWOWDDOC
            ENDIF
         CLEAR
         RETURN
      ENDIF
  STORE "Y" TO FOUND
  STORE RECNO( ) TO MANY
```

```
   @15,5 SAY " " GET MANY
   @15,20 SAY "BOOK RECORDS WERE FOUND "
   @16,25 SAY "PRESS ANY KEY TO CONTINUE "
   READ
   @18,20 SAY "DO YOU WANT TO SEE THESE RECORDS? " GET
FOUND PICT "Y"
   READ
      IF FOUND = "N"
         STORE "Y" TO REQUEST
@20,5 SAY "DO YOU WANT TO SEARCH DOCUMENTS WITH SAME
WORDS? " GET REQUEST PICTURE "Y"
         READ
            IF REQUEST = "Y"
               DO TWOWDDOC
            ENDIF
         CLEAR
         RETURN
      ENDIF
   GO TOP
   SET RELATION TO AC INTO BOOKS
   DO WHILE .NOT. EOF()
      CLEAR
      ?
      ?
      ?
      ?"                    ",C->REF
      ?"CALL NUMBER         ",C->CL
      ?"                    ",C->ALN
      ?
      ?"ACCESSION NUMBER",C->AC
      ?
      ?"AUTHOR              ",C->AU
      ?"TITLE               ",C->TI
      ?"                    "
      ?"PUBLISHER           ",C->PU
      ?"DATE                ",C->YR
      ?"PAGINATION          ",C->PG
      WAIT
      SKIP
   ENDDO
CLOSE DATABASES
CLEAR
STORE "Y" TO REQUEST
@17,5 SAY "DO YOU WANT TO SEARCH DOCUMENTS WITH SAME
WORDS? " GET REQUEST PICTURE "Y"
READ
   IF REQUEST = "Y"
      DO TWOWDDOC
   ENDIF
USE TEMP1
ZAP
USE TEMP2
ZAP
USE ANSWER
ZAP
```

```
CLEAR
@23,20 SAY " LOCATE MORE KEY WORDS? " GET DOAGAIN
PICTURE 'Y'
READ
ENDDO
CLEAR
RETURN
```

```
*TWOWDDOC.PRG
CLEAR
CLOSE DATA
STORE "Y" TO DOAGAIN
DO WHILE UPPER(DOAGAIN) = "Y"
   @0,0 TO 23,79 DOUBLE
   USE CKWIT INDEX CTIKWIT
   SEEK SUBSTR(OTITLE,1,TEMP)
   @5,10 SAY "WORKING SAME SEARCH ON CLASSIFIED
DOCUMENTS . . . "
   COPY TO TEMP1 FIELDS AC WHILE TI =
SUBSTR(OTITLE,1,TEMP)
   @10,10 SAY "WORKING SAME SEARCH ON CLASSIFIED
DOCUMENTS . . . "
   SEEK SUBSTR(TTITLE,1,TITEMP)
   COPY TO TEMP2 FIELDS AC WHILE TI =
SUBSTR(TTITLE,1,TITEMP)
   SELECT 1
   USE TEMP1
   SELECT 2
   USE TEMP2
   JOIN WITH TEMP1 TO ANSWER FOR AC = TEMP1 -> AC FIELDS
AC
   CLOSE DATA
   SELECT 5
   USE DOCUMENT INDEX ACDOC
   SELECT 4
   USE ANSWER
   GO BOTTOM
      IF AC < 100000
         @15,5 SAY " NO RECORDS FOUND "
         STORE "Y" TO REPEAT
@17,5 SAY "DO YOU WANT TO RETURN TO SEARCH MENU? " GET
REPEAT PICTURE "Y"
         READ
         CLEAR
         CLOSE DATA
         DO TITLES
      ENDIF
  STORE RECNO() TO MANY
  @15,5 SAY " " GET MANY
  @15,20 SAY "CLASSIFIED DOCUMENTS WERE FOUND "
  @16,25 SAY "PRESS ANY KEY TO CONTINUE"
  READ
  STORE "Y" TO REQUEST
  @17,20 SAY "DO YOU WANT TO SEE THESE DOCUMENTS? " GET
REQUEST PICT "Y"
  READ
     IF REQUEST = "N"
        CLOSE DATA
        DO TITLES
     ENDIF
  GO TOP
  SET RELATION TO AC INTO DOCUMENT
  DO WHILE .NOT. EOF()
```

```
      CLEAR
      ?
      ?
      ?
      ? " ACCESSION NUMBER", E->AC
      ?
      ? " AUTHOR           ", E->AU
      ? " TITLE            ", E->TI
      ? " CORPORATE AUTHOR", E->CN
      ? " DATE             ", E->YR
      ? " REPORT NUMBER    ", E->RN
      WAIT
      SKIP
   ENDDO
CLOSE DATABASES
CLEAR
USE TEMP1
ZAP
USE TEMP2
ZAP
USE ANSWER
ZAP
CLOSE DATA
CLEAR
@21,20 SAY " PRESS RETURN TO RETURN TO TITLE SEARCH MENU
" GET DOAGAIN
READ
CLEAR
DO TITLES
ENDDO
```

```
***THREEWD.PRG
***WRITTEN 19 NOV 86 BY L. S. KUNTZ
CLEAR
SET SAFETY OFF
CLOSE DATA
STORE "Y" TO DOAGAIN
DO WHILE UPPER(DOAGAIN) = "Y"
   @0,0 TO 23,79 DOUBLE
   STORE SPACE(20) TO OTITLE
   STORE SPACE(20) TO TTITLE
   STORE SPACE(20) TO WTITLE
   USE KWIT INDEX TIKWIT
   @5,10 SAY "ENTER FIRST WORD FROM THE TITLE  " GET
OTITLE
   READ
   STORE UPPER(OTITLE) TO OTITLE
       IF OTITLE = "    "
          @10,30 SAY " YOU PRESSED THE RETURN KEY. "
          @12,30 SAY " IF YOU WANT TO SEARCH FOR A
TITLE,"
          @14,30 SAY " ENTER 'H' AT THE NEXT MENU;
OTHERWISE,"
          @16,30 SAY " MAKE ANOTHER SELECTION. "
          WAIT
          CLEAR
          RETURN TO MASTER
       ENDIF
   @7,10 SAY "WORKING . . . . "
   STORE LEN(TRIM(OTITLE)) TO TITEMP
   SEEK SUBSTR(OTITLE,1,TITEMP)
   COPY TO TEMP FIELDS AC WHILE TI =
SUBSTR(OTITLE,1,TITEMP)
   @9,10 SAY "ENTER SECOND WORD FROM THE TITLE " GET
TTITLE
   READ
   STORE UPPER(TTITLE) TO TTITLE
   @11,10 SAY "WORKING . . . "
   STORE LEN(TRIM(TTITLE)) TO TITEMP
   SEEK SUBSTR(TTITLE,1,TITEMP)
   COPY TO TEMP1 FIELDS AC WHILE TI =
SUBSTR(TTITLE,1,TITEMP)
   @13,10 SAY "ENTER THIRD WORD FROM THE TITLE " GET
WTITLE
   READ
   STORE UPPER(WTITLE) TO WTITLE
   @15,10 SAY "WORKING . . . "
   STORE LEN(TRIM(WTITLE)) TO TITEMP
   SEEK SUBSTR(WTITLE,1,TITEMP)
   COPY TO TEMP2 FIELDS AC WHILE TI =
SUBSTR(WTITLE,1,TITEMP)
   SELECT 1
   USE TEMP
   SELECT 2
   USE TEMP1
   JOIN WITH TEMP TO ANSWER FOR AC = TEMP -> AC FIELDS
```

```
AC
   SELECT 3
   USE ANSWER
   SELECT 4
   USE TEMP2
   JOIN WITH ANSWER TO FINAL FOR AC = ANSWER -> AC
FIELDS AC
   SELECT 5
   USE BOOKS INDEX AC3KS
   SELECT 6
   USE FINAL
   GO BOTTOM
      IF AC < 700000
         @17,5 SAY "NO RECORDS FOUND"
         STORE "Y" TO REQUEST
@19,5 SAY "DO YOU WANT TO SEARCH DOCUMENTS FOR SAME
TITLE? " GET  REQUEST PICT "Y"
         READ
            IF REQUEST = "Y"
               CLOSE DATA
               DO THREEDOC
            ENDIF
         CLEAR
         RETURN
      ENDIF
  STORE "Y" TO FOUND
  STORE RECNO() TO MANY
  @17,5 SAY " " GET MANY
  @17,20 SAY "RECORDS WERE FOUND "
  @19,25 SAY "PRESS RETURN TO CONTINUE "
  READ
  @21,20 SAY "DO YOU WANT TO SEE THESE RECORDS> " GET
FOUND PICT "Y"
  READ
     IF FOUND = "N"
        STORE "Y" TO REQUEST
@21,20 SAY "DO YOU WANT TO SEARCH DOCUMENTS FOR SAME
TITLE? " GET REQUEST PICT "Y"
        READ
           IF REQUEST = "Y"
              DO THREEDOC
           ENDIF
        CLEAR
        RETURN
     ENDIF
  GO TOP
  SET RELATION TO AC INTO BOOKS
  DO WHILE .NOT. EOF()
     CLEAR
     ?
     ?
     ?
     ?"                    ",E->REF
     ?"CALL NUMBER         ",E->CL
     ?"                    ",E->ALN
```

```
      ?
      ?"ACCESSION NUMBER",E->AC
      ?
      ?"AUTHOR           ",E->AU
      ?"TITLE            ",E->TI
      ?"                 "
      ?"PUBLISHER        ",E->PU
      ?"DATE             ",E->YR
      ?"PAGINATION       ",E->PG
      WAIT
      SKIP
   ENDDO
CLOSE DATABASES
CLEAR
STORE "Y" TO REQUEST
@17,5 SAY "DO YOU WANT TO SEARCH DOCUMENTS FOR THE SAME
TITLE? " GET REQUEST PICT "Y"
READ
    IF REQUEST = "Y"
       DO THREEDOC
    ENDIF
USE TEMP
ZAP
USE TEMP1
ZAP
USE TEMP2
ZAP
USE ANSWER
ZAP
USE FINAL
ZAP
CLOSE DATA
CLEAR
@23,20 SAY " LOCATE MORE KEY WORDS (Y/N)? " GET DOAGAIN
PICTURE 'Y'
READ
ENDDO
RETURN
```

```
***THREEDOC.PRG
***WRITTEN 03/09/87 BY L. S. KUNTZ
CLEAR
SET SAFETY OFF
CLOSE DATA
STORE "Y" TO DOCSER
@0,0 TO 23,79 DOUBLE
USE CKWIT INDEX CTIKWIT
@7,10 SAY "WORKING . . . . "
SEEK SUBSTR(OTITLE,1,TITEMP)
COPY TO TEMP FIELDS AC WHILE TI =
SUBSTR(OTITLE,1,TITEMP)
@11,10 SAY "WORKING . . . "
SEEK SUBSTR(TTITLE,1,TITEMP)
COPY TO TEMP1 FIELDS AC WHILE TI =
SUBSTR(TTITLE,1,TITEMP)
@15,10 SAY "WORKING . . . "
SEEK SUBSTR(WTITLE,1,TITEMP)
COPY TO TEMP2 FIELDS AC WHILE TI =
SUBSTR(WTITLE,1,TITEMP)
SELECT 1
USE TEMP
SELECT 2
USE TEMP1
JOIN WITH TEMP TO ANSWER FOR AC = TEMP -> AC FIELDS AC
SELECT 3
USE ANSWER
SELECT 4
USE TEMP2
JOIN WITH ANSWER TO FINAL FOR AC = ANSWER -> AC FIELDS
AC
SELECT 5
USE DOCUMENT INDEX ACDOC
SELECT 6
USE FINAL
GO BOTTOM
   IF AC < 100000
      @17,5 SAY "NO RECORDS FOUND"
      @19,5 SAY "DO YOU WANT TO SEARCH FOR ANOTHER
TITLE? " GET DOCSER PICT "Y"
      READ
         IF DOCSER = "N"
            CLOSE DATA
            CLEAR
            RETURN TO MASTER
         ENDIF
         IF DOCSER = "Y"
            DO THREEWD
            CLOSE DATA
            CLEAR
         ENDIF
      ENDIF
   IF AC > 100000
      STORE "Y" TO FOUND
      STORE RECNO() TO MANY
```

```
        @17,5 SAY " " GET MANY
        @17,18 SAY "RECORDS WERE FOUND "
        @16,20 SAY "PRESS RETURN TO CONTINUE "
        READ
        @18,20 SAY "DO YOU WANT TO SEE THESE RECORDS? "
GET FOUND PICT "Y"
        READ
     ENDIF
     IF FOUND = "N"
        CLEAR
        RETURN
     ENDIF
   GO TOP
   SET RELATION TO AC INTO DOCUMENT
   DO WHILE .NOT. EOF()
      CLEAR
      ?
      ?
      ?
      ?"ACCESSION NUMBER",E->AC
      ?
      ?"AUTHOR           ",E->AU
      ?"TITLE            ",E->TI
      ?"                 "
      ?"PUBLISHER        ",E->CN
      ?"DATE             ",E->YR
      ?"PAGINATION       ",E->PG
      WAIT
      SKIP
   ENDDO
CLOSE DATABASES
USE TEMP
ZAP
USE TEMP1
ZAP
USE TEMP2
ZAP
USE ANSWER
ZAP
USE FINAL
ZAP
CLOSE DATA
CLEAR
@23,20 SAY " LOCATE MORE KEY WORDS (Y/N)? " GET DOCSER
PICTURE 'Y'
READ
     IF DOCSER = "N"
        CLEAR
        RETURN TO MASTER
     ENDIF
     IF DOCSER = "Y"
        CLOSE DATA
        CLEAR
        DO THREEWD
   ENDIF
```

```
*******SUBJS.PRG
*****SEARCHING BY SUBJECT HEADINGS
*****LAST REVISION: 08/08/86
***CALLED BY SEARCH.PRG
**WRITTEN BY L. S. KUNTZ
SET SAFETY OFF
CLOSE DATA
USE TEMP
ZAP
USE TEMP2
ZAP
USE ANSWER
ZAP
CLOSE DATA
CLEAR
DO WHILE .T.
   @0,0 TO 23,79 DOUBLE
   STORE " " TO CHOICE
   @3,25 SAY "SUBJECT SEARCHING MENU"
   @5,15 SAY "ONE WORD "
   @7,15 SAY "TWO WORDS "
   @9,15 SAY "MORE THAN TWO WORDS "
   @11,15 SAY "RETURN TO MAIN MENU"
   @13,15 SAY "SELECT BY PRESSING FIRST LETTER " GET
CHOICE PICT "A"
   READ
   STORE UPPER(CHOICE) TO CHOICE
   CLEAR
  DO CASE
     CASE CHOICE = "O"
          DO ONESH
     CASE CHOICE = "T"
          DO TWOSH
     CASE CHOICE = "M"
          DO THREESH
     CASE CHOICE = "R"
          CLEAR
          CLOSE DATABASES
          RETURN
OTHERWISE
   @21,1
   @23,1 SAY "ERROR   PRESS O, T, M, OR R
   ?? CHR(7)
   STORE 1 TO XX
        DO WHILE XX <35
           STORE XX + 1 TO XX
        ENDDO
ENDCASE
ENDDO
```

```
***ONESH.PRG
CLEAR
SET SAFETY OFF
CLOSE DATA
STORE "Y" TO DOAGAIN
DO WHILE UPPER(DOAGAIN) = "Y"
   @0,0 TO 23,79 DOUBLE
   STORE SPACE(20) TO MSUBJ
   SELECT 1
   USE SUBJECT INDEX SHSUBJ
   SELECT 2
   USE BOOKS INDEX ACBKS
   @5,20 SAY " ENTER ANY SUBJECT HEADING " GET MSUBJ
   READ
   STORE UPPER(MSUBJ) TO MSUBJ
      IF MSUBJ = "    "
         @10,30 SAY "YOU ENTERED THE RETURN KEY."
         @12,30 SAY "IF YOU WANT TO SEARCH FOR A
SUBJECT,"
         @14,30 SAY "ENTER 'S' AT THE NEXT MENU;
OTHERWISE,"
         @16,30 SAY "MAKE ANOTHER SELECTION."
         WAIT
         CLEAR
         RETURN
      ENDIF
   SELECT 1
   STORE LEN(TRIM(MSUBJ)) TO TISUBJ
   SEEK SUBSTR(MSUBJ,1,TISUBJ)
   COPY TO TEMP FIELDS AC WHILE SUBJECT =
SUBSTR(MSUBJ,1,TISUBJ)
   USE TEMP
   GO BOTTOM
      IF AC < 700000
         @15,5 SAY "NO RECORDS FOUND "
         WAIT
      ENDIF
   STORE "Y" TO FOUND
   STORE RECNO() TO MANY
   @15,5 SAY "   " GET MANY
   @15,20 SAY " BOOKS WERE FOUND "
   @16,25 SAY "PRESS RETURN TO CONTINUE "
   READ
   @18,20 SAY "DO YOU WANT TO SEE THESE RECORDS? " GET
FOUND PICT "Y"
   READ
      IF FOUND    "N"
         CLEAR
         CLOSE DATA
         RETURN
      ENDIF
   GO TOP
   SET RELATION TO AC INTO BOOKS
   DO WHILE  NOT  EOF()
      CLEAR
```

```
        ?
        ?
        ?
        ?
        ? "                ",B->REF
        ? "CALL NUMBER     ",B->CL
        ? "                ",B->ALN
        ?
        ? "ACCESSION #     ",B->AC
        ?
        ? "AUTHOR          ",B->AU
        ? "TITLE           ",B->TI
        ? "PUBLISHER       ",B->PU
        ? "DATE            ",B->YR
        ? "PAGINATION      ",B->PG
        ? "SUBJECT HEADINGS",B->SUBJECT
        @1,35 SAY "BOOK RECORD "
        @2,1 SAY "PRESS SHIFT AND PRINT KEYS
SIMULTANEOUSLY FOR HARD COPY"
        WAIT
        SKIP
    ENDDO
CLEAR
@20,20 SAY " LOCATE MORE SUBJECT HEADINGS (Y/N)? " GET
DOAGAIN PICTURE 'Y'
READ
CLEAR
USE TEMP
ZAP
CLOSE DATA
ENDDO
RETURN
```

```
**TWOSH.PRG
SET SAFETY OFF
CLEAR
CLOSE DATA
STORE "Y" TO DOAGAIN
DO WHILE UPPER(DOAGAIN) = "Y"
   @0,0 TO 23,79 DOUBLE
   STORE SPACE(20) TO FCOND
   STORE SPACE(20) TO SCOND
   SELECT 1
   USE SUBJECT INDEX SHSUBJ
   SELECT 2
   USE BOOKS INDEX ACBKS
   @5,20 SAY "ENTER FIRST SUBJECT HEADING        " GET
FCOND
   READ
   STORE UPPER(FCOND) TO FCOND
   @7,10 SAY "WORKING . . . "
         IF FCOND = "     "
            @10,30 SAY "YOU ENTERED THE RETURN KEY."
            @12,30 SAY "IF YOU WANT TO SEARCH FOR A
SUBJECT,"
            @14,30 SAY "ENTER 'S' AT THE NEXT MENU;
OTHERWISE,"
            @16,30 SAY "MAKE ANOTHER SELECTION."
            WAIT
            CLEAR
            RETURN
         ENDIF
  SELECT 1
  STORE LEN(TRIM(FCOND)) TO TISUBJ
  SEEK SUBSTR(FCOND,1,TISUBJ)
  COPY TO TEMP FIELDS AC WHILE SUBJECT =
SUBSTR(FCOND,1,TISUBJ)
  @9,20 SAY "ENTER SECOND SUBJECT HEADING       " GET
SCOND
  READ
  STORE UPPER(SCOND) TO SCOND
  @11,10 SAY "WORKING . . . "
  STORE LEN(TRIM(SCOND)) TO TISUBJ
  SEEK SUBSTR(SCOND,1,TISUBJ)
  COPY TO TEMP1 FIELDS AC WHILE SUBJECT =
SUBSTR(SCOND,1,TISUBJ)
  SELECT 1
  USE TEMP
  SELECT 2
  USE TEMP1
  JOIN WITH TEMP TO ANSWER FOR AC = TEMP -> AC FIELDS AC
  CLOSE DATA
  SELECT 3
  USE BOOKS INDEX ACBKS
  SELECT 4
  USE ANSWER
  GO BOTTOM
     IF AC < 700000
```

```
        @15,5 SAY "NO RECORDS FOUND "
        WAIT
      ENDIF
   STORE "Y" TO FOUND
   STORE RECNO() TO MANY
   @15,5 SAY " " GET MANY
   @15,20 SAY "BOOK RECORDS WERE FOUND"
   @16,25 SAY "PRESS RETURN TO CONTINUE "
   READ
   @18,20 SAY "DO YOU WANT TO SEE THESE RECORDS? " GET
FOUND PICT "Y"
   READ
      IF FOUND = "N"
         CLEAR
         USE TEMP
         ZAP
         USE TEMP1
         ZAP
         USE ANSWER
         ZAP
         CLOSE DATA
         RETURN
      ENDIF
   GO TOP
   SET RELATION TO AC INTO BOOKS
   DO WHILE .NOT. EOF()
      ?
      ?
      ?
      ?
      ?
      ? "                    ",C->REF
      ? "CALL NUMBER         ",C->CL
      ? "                    ",C->ALN
      ?
      ? "ACCESSION #         ",C->AC
      ?
      ? "AUTHOR              ",C->AU
      ? "TITLE               ",C->TI
      ? "PUBLISHER           ",C->PU
      ? "DATE                ",C->YR
      ? "PAGINATION          ",C->PG
      ? "SUBJECT HEADINGS    ",C->SUBJECT
      @2,1 SAY "PRESS SHIFT AND PRINT KEYS SIMULTANEOUSLY
FOR HARD COPY"
      WAIT
      SKIP
   ENDDO
CLOSE DATABASES
CLEAR
USE TEMP
ZAP
USE TEMP1
ZAP
USE ANSWER
```

```
ZAP
CLOSE DATA
@23,20 SAY "LOCATE MORE SUBJECTS? " GET DOAGAIN PICT 'Y'
READ
ENDDO
RETURN
```

```
***THREESH.PRG
SET SAFETY OFF
CLEAR
CLOSE DATA
STORE "Y" TO DOAGAIN
DO WHILE UPPER(DOAGAIN) = "Y"
   @0,0 TO 23,79 DOUBLE
   STORE SPACE(20) TO FCOND
   STORE SPACE(20) TO SCOND
   STORE SPACE(20) TO TCOND
   USE SUBJECT INDEX SHSUBJ
   @5,10 SAY "ENTER FIRST SUBJECT HEADING      " GET
FCOND
   READ
   STORE UPPER(FCOND) TO FCOND
   @7,10 SAY "WORKING . . . "
   STORE LEN(TRIM(FCOND)) TO TEMP
   SEEK SUBSTR(FCOND,1,TEMP)
   COPY TO TEMP1 FIELDS AC WHILE SUBJECT =
SUBSTR(FCOND,1,TEMP)
   @9,10 SAY "ENTER SECOND SUBJECT HEADING     " GET
SCOND
   READ
   STORE UPPER(SCOND) TO SCOND
   @11,10 SAY "WORKING . . . "
   STORE LEN(TRIM(SCOND)) TO TEMP
   SEEK SUBSTR(SCOND,1,TEMP)
   COPY TO TEMP2 FIELDS AC WHILE SUBJECT =
SUBSTR(SCOND,1,TEMP)
   @13,10 SAY "ENTER THIRD SUBJECT HEADING      " GET
TCOND
   READ
   STORE UPPER(TCOND) TO TCOND
   @15,10 SAY "WORKING . . . "
   STORE LEN(TRIM(TCOND)) TO TEMP
   SEEK SUBSTR(TCOND,1,TEMP)
   COPY TO TEMP3 FIELDS AC WHILE SUBJECT =
SUBSTR(TCOND,1,TEMP)
   SELECT 1
   USE TEMP1
   SELECT 2
   USE TEMP2
   JOIN WITH TEMP1 TO ANSWER FOR AC = TEMP1 -> AC FIELDS
AC
   SELECT 3
   USE ANSWER
   SELECT 4
   USE TEMP3
   JOIN WITH ANSWER TO FANSWER FOR AC =  ANSWER -> AC
FIELDS AC
   SELECT 5
   USE FANSWER
   GO BOTTOM
      IF AC < 700000
         @17,5 SAY "NO RECORDS FOUND "
```

```
                WAIT
                CLEAR
                USE TEMP1
                ZAP
                USE TEMP2
                ZAP
                USE TEMP3
                ZAP
                USE ANSWER
                ZAP
                USE FANSWER
                ZAP
                CLOSE DATA
                RETURN
            ENDIF
        STORE "Y" TO FOUND
        STORE RECNO() TO MANY
        @17,5 SAY " " GET MANY
        @17,20 SAY "BOOKS WERE FOUND"
        @18,25 SAY "PRESS RETURN TO CONTINUE"
        READ
        @19,20 SAY "DO YOU WANT TO SEE THESE RECORDS? " GET
    FOUND PICT "Y"
        READ
            IF FOUND = "N"
               CLEAR
               USE TEMP1
               ZAP
               USE TEMP2
               ZAP
               USE TEMP3
               ZAP
               USE ANSWER
               ZAP
               USE FANSWER
               ZAP
               CLOSE DATA
               RETURN
            ENDIF
        GO TOP
        SELECT 6
        USE BOOKS INDEX ACBKS
        SELECT 5
        SET RELATION TO AC INTO BOOKS
        DO WHILE .NOT. EOF()
            CLEAR
            ?
            ?
            ?
            ?
            ?
            ? "                    ",F->REF
            ? "CALL NUMBER         ",F->CL
            ? "                    ",F->ALN
            ?
```

```
      ? "ACCESSION #       ",F->AC
      ?
      ? "AUTHOR            ",F->AU
      ? "TITLE             ",F->TI
      ? "PUBLISHER         ",F->PU
      ? "DATE              ",F->YR
      ? "PAGINATION        ",F->PG
      ? "SUBJECT HEADINGS ",F->SUBJECT
      @2,1 SAY "PRESS SHIFT AND PRINT KEYS SIMULTANEOUSLY
FOR HARD COPY"
      WAIT
      SKIP
  ENDDO
CLOSE DATABASES
USE TEMP1
ZAP
USE TEMP2
ZAP
USE TEMP3
ZAP
USE ANSWER
ZAP
USE FANSWER
ZAP
CLOSE DATA
CLEAR
@23,20 SAY "LOCATE MORE SUBJECT HEADINGS (Y/N)? " GET
DOAGAIN PICTURE 'Y'
READ
ENDDO
RETURN
```

```
***AUTI.PRG
SET SAFETY OFF
SET EXACT OFF
CLEAR
CLOSE DATABASE
STORE "Y" TO DOAGAIN
DO WHILE UPPER(DOAGAIN) = "Y"
   @0,0 TO 23,79 DOUBLE
   STORE SPACE(20) TO AUCOND
   STORE SPACE(20) TO TICOND
   USE BOOKS INDEX AUBKS
   @5,10 SAY " ENTER AUTHOR'S LAST NAME    " GET AUCOND
   READ
   STORE UPPER(AUCOND) TO AUCOND
       IF AUCOND = "   "
          @10,30 SAY "YOU PRESSED THE RETURN KEY."
          @12,30 SAY "IF YOU WANT TO SEARCH FOR AN
AUTHOR,"
          @14,30 SAY "ENTER 'N' AT THE NEXT MENU;
OTHERWISE,"
          @16,30 SAY "MAKE ANOTHER SELECTION."
          WAIT
          CLEAR
          RETURN
       ENDIF
   @7,10 SAY "WORKING . . . "
   STORE LEN(TRIM(AUCOND)) TO TEMP
   SEEK SUBSTR(AUCOND,1,TEMP)
   COPY TO TEMP1 FIELDS AC WHILE AU =
SUBSTR(AUCOND,1,TEMP)
   USE KWIT INDEX TIKWIT
   @9,10 SAY "ENTER ANY WORD FROM THE TITLE    " GET
TICOND
   READ
      IF TICOND = "    "
         @10,30 SAY "YOU PRESSED THE RETURN KEY. "
         @12,30 SAY "IF YOU WANT TO SEARCH FOR AN AUTHOR
AND TITLE,"
         @14,30 SAY "ENTER 'N' AT THE NEXT MENU;
OTHERWISE,"
         @16,30 SAY "MAKE ANOTHER SELECTION."
         WAIT
         CLEAR
         RETURN
      ENDIF
   @11,10 SAY "WORKING . . . "
   STORE LEN(TRIM(TICOND)) TO TITEMP
   SEEK SUBSTR(TICOND,1,TITEMP)
   COPY TO TEMP2 FIELDS AC WHILE TI =
SUBSTR(TICOND,1,TITEMP)
   SELECT 1
   USE TEMP1
   SELECT 2
   USE TEMP2
   JOIN WITH TEMP1 TO ANSWER FOR AC = TEMP1 -> AC FIELDS
```

```
AC
    CLOSE DATA
    SELECT 3
    USE BOOKS INDEX ACBKS
    SELECT 4
    USE ANSWER
    GO BOTTOM
        IF AC < 700000
           @15,5 SAY "NO RECORDS FOUND "
           STORE "Y" TO REQUEST
@17,5 SAY "DO YOU WANT TO SEARCH DOCUMENTS WITH SAME
WORDS? " GET REQUEST PICT "Y"
           READ
              IF REQUEST = "Y"
                 CLOSE DATA
                 DO AUTIDOC
              ENDIF
           CLEAR
         ENDIF
  STORE "Y" TO FOUND
  STORE RECNO() TO MANY
  @15,5 SAY "   " GET MANY
  @15,20 SAY " BOOKS WERE FOUND "
  @16,25 SAY "PRESS RETURN TO CONTINUE "
  READ
  @18,20 SAY " DO YOU WANT TO SEE THESE RECORDS? " GET
FOUND PICT "Y"
  READ
     IF FOUND = "N"
        STORE "Y" TO REQUEST
@20,5 SAY  "DO YOU WANT TO SEARCH DOCUMENTS WITH SAME
WORDS? " GET REQUEST PICTURE "Y"
        READ
           IF REQUEST = "Y"
              DO AUTIDOC
           ENDIF
         CLEAR
         RETURN
      ENDIF
  GO TOP
  SET RELATION TO AC INTO BOOKS
  DO WHILE .NOT. EOF()
     CLEAR
     ?
     ?
     ?
     ? "                    ",C->REF
     ? " CALL NUMBER        ",C->CL
     ? "                    ",C->ALN
     ?
     ? "ACCESSION NUMBER",C->AC
     ?
     ? "AUTHOR              ",C->AU
     ? "TITLE               ",C->TI
     ?
```

```
      ? "PUBLISHER          ",C->PU
      ? "DATE               ",C->YR
      ? "PAGINATION         ",C->PG
      WAIT
      SKIP
  ENDDO
CLOSE DATABASES
CLEAR
STORE "Y" TO REQUEST
@17,5 SAY "DO YOU WANT TO SEARCH DOCUMENTS WITH SAME
WORDS? " GET REQUEST PICT "Y"
READ
   IF REQUEST = "Y"
      DO AUTIDOC
   ENDIF
USE TEMP1
ZAP
USE TEMP2
ZAP
USE ANSWER
ZAP
CLOSE DATA
CLEAR
@23,20 SAY " LOCATE MORE AUTHOR/TITLES (Y/N)? " GET
DOAGAIN PICT "Y"
READ
ENDDO
CLEAR
RETURN
```

```
***AUTIDOC.PRG
SET SAFETY OFF
SET EXACT OFF
CLEAR
CLOSE DATABASE
STORE "Y" TO DOAGAIN
DO WHILE UPPER(DOAGAIN) = "Y"
   @0,0 TO 23,79 DOUBLE
   @7,10 SAY "WORKING . . . "
   USE DOCUMENT INDEX AUDOC
   SEEK SUBSTR(AUCOND,1,TEMP)
   COPY TO TEMP1 FIELDS AC WHILE AU =
SUBSTR(AUCOND,1,TEMP)
   USE CKWIT INDEX CTIKWIT
   @9,10 SAY "WORKING . . . "
   SEEK SUBSTR(TICOND,1,TITEMP)
   COPY TO TEMP2 FIELDS AC WHILE TI =
SUBSTR(TICOND,1,TITEMP)
   SELECT 1
   USE TEMP1
   SELECT 2
   USE TEMP2
   JOIN WITH TEMP1 TO ANSWER FOR AC = TEMP1 -> AC FIELDS
AC
   CLOSE DATA
   SELECT 3
   USE DOCUMENT INDEX ACDOC
   SELECT 4
   USE ANSWER
   GO BOTTOM
      IF AC < 100000
         @15,5 SAY "NO RECORDS FOUND "
      ENDIF
   STORE "Y" TO FOUND
   STORE RECNO() TO MANY
   @15.5 SAY "   " GET MANY
   @15,18 SAY " DOCUMENTS WERE FOUND "
   @16,25 SAY "PRESS RETURN TO CONTINUE "
   READ
   @18,20 SAY " DO YOU WANT TO SEE THESE RECORDS? " GET
FOUND PICT "Y"
   READ
      IF FOUND = "N"
         CLEAR
         RETURN
      ENDIF
  GO TOP
  SET RELATION TO AC INTO DOCUMENT
  DO WHILE .NOT. EOF()
     CLEAR
     ?
     ?
     ?
     ?
     ? "ACCESSION NUMBER",C->AC
```

```
        ?
        ? "AUTHOR              ",C->AU
        ? "TITLE               ",C->TI
        ?
        ? "PUBLISHER           ",C->CN
        ? "DATE                ",C->YR
        ? "PAGINATION          ",C->PG
        WAIT
        SKIP
    ENDDO
CLOSE DATABASES
CLEAR
USE TEMP1
ZAP
USE TEMP2
ZAP
USE ANSWER
ZAP
CLOSE DATA
CLEAR
@23,20 SAY " LOCATE MORE AUTHOR/TITLES (Y/N)? " GET
DOAGAIN PICT "Y"
READ
DO AUTI
ENDDO
```

```
**ADNUM.PRG
********************* SEARCHING BY AD NUMBER
CLEAR
SET SAFETY OFF
CLOSE DATA
STORE "Y" TO DOAGAIN
DO WHILE UPPER(DOAGAIN) = "Y"
   @0,0 TO 23,79 DOUBLE
   STORE SPACE(9) TO COND
   USE DOCUMENT INDEX ADDOC
   @5,20 SAY " LOOK FOR WHAT AD NUMBER ? " GET COND
   READ
   STORE UPPER(COND) TO COND
       IF COND = "       "
          @10,30 SAY "YOU PRESSED THE RETURN KEY."
          WAIT
          CLEAR
          RETURN
       ENDIF
   SEEK COND
   DO WHILE AD = COND
      CLEAR
      ?
      ?
      ?
      ?
      ? "ACCESSION # ",AC
      ?
      ? "AUTHOR       ",AU
      ? "TITLE        ",TI
      ? "PUBLISHER    ",CN
      ? "AD NUMBER    ",AD
      ? "DATE         ",YR
      ? "PAGINATION   ",PG
      @1,20 SAY "CLASSIFIED DOCUMENT RECORD "
      @2,1 SAY "PRESS SHIFT AND PRINT KEYS
SIMULTANEOUSLY FOR HARD COPY"
      WAIT
      SKIP
   ENDDO
CLEAR
@23,20 SAY " LOCATE MORE ACCESSION NUMBERS (Y/N)? "  GET
DOAGAIN PICTURE 'Y'
READ
CLEAR
ENDDO
CLOSE DATABASES
RETURN
```

```
**REPNUM.PRG
********************* SEARCHING BY REPORT NUMBER
CLEAR
SET SAFETY OFF
CLOSE DATA
STORE "Y" TO DOAGAIN
DO WHILE UPPER(DOAGAIN) = "Y"
   @0,0 TO 23,79 DOUBLE
   STORE SPACE(9) TO COND
   USE DOCUMENT INDEX RNDOC
   @5,20 SAY " LOOK FOR WHAT REPORT NUMBER ? " GET COND
   READ
   STORE UPPER(COND) TO COND
       IF COND = "       "
          @10,30 SAY "YOU PRESSED THE RETURN KEY."
          WAIT
          CLEAR
          RETURN
       ENDIF
   SEEK COND.
   DO WHILE RN = COND
      CLEAR
      ?
      ?
      ?
      ?
      ? "ACCESSION #    ",AC
      ?
      ? "REPORT NUMBER ",RN
      ? "AUTHOR        ",AU
      ? "TITLE         ",TI
      ? "PUBLISHER     ",CN
      ? "DATE          ",YR
      ? "PAGINATION    ",PG
      @1,20 SAY "CLASSIFIED DOCUMENT RECORD "
      @2,1 SAY "PRESS SHIFT AND PRINT KEYS
SIMULTANEOUSLY FOR HARD COPY"
      WAIT
      SKIP
   ENDDO
CLEAR
@23,20 SAY " LOCATE MORE REPORT NUMBERS (Y/N)? "  GET
DOAGAIN PICTURE 'Y'
READ
CLEAR
ENDDO
CLOSE DATABASES
RETURN
```

```
**********SEARCHING BY ORGANIZATION
***ORGANI.PRG
CLEAR
SET SAFETY OFF
CLOSE DATA
STORE "Y" TO DOAGAIN
DO WHILE UPPER(DOAGAIN) = "Y"
   @0,0 TO 23, 79 DOUBLE
   STORE SPACE(20) TO COND
   SELECT 1
   USE BOOKS INDEX PUBKS
   @5,10 SAY " LOOK FOR WHAT ORGANIZATION? " GET COND
   READ
   STORE UPPER(COND) TO COND
       IF COND = "     "
          @10,30 SAY "YOU PRESSED THE RETURN KEY."
          @12,30 SAY "IF YOU WANT TO SEARCH FOR AN
ORGANIZATION,"
          @14,30 SAY "ENTER 'O' AT THE NEXT MENU;
OTHERWISE,"
          @16,30 SAY "MAKE ANOTHER SELECTION"
          WAIT
          CLEAR
          RETURN
       ENDIF
   STORE LEN(TRIM(COND)) TO ORTEMP
   SEEK SUBSTR(COND,1,ORTEMP)
   COPY TO TEMP FIELDS AC WHILE PU =
SUBSTR(COND,1,ORTEMP)
   USE TEMP
   GO BOTTOM
      IF AC < 700000
         @15,5 SAY " NO RECORDS FOUND "
         STORE "Y" TO REQUEST
@17,5 SAY "DO YOU WANT TO SEARCH DOCUMENTS FOR SAME
ORGANIZATION? " GET REQUEST PICT "Y"
         READ
            IF REQUEST = "Y"
               CLOSE DATA
               DO ORGDOC
            ENDIF
         CLEAR
         RETURN
      ENDIF
   STORE "Y" TO FOUND
   STORE RECNO() TO MANY
   @15,5 SAY "   " GET MANY
   @15,20 SAY " BOOK RECORDS WERE FOUND "
   @16,25 SAY "PRESS ANY KEY TO CONTINUE "
   READ
   @18,20 SAY " DO YOU WANT TO SEE THESE RECORDS? " GET
FOUND PICT "Y"
   READ
      IF FOUND = "N"
         STORE "Y" TO REQUEST
```

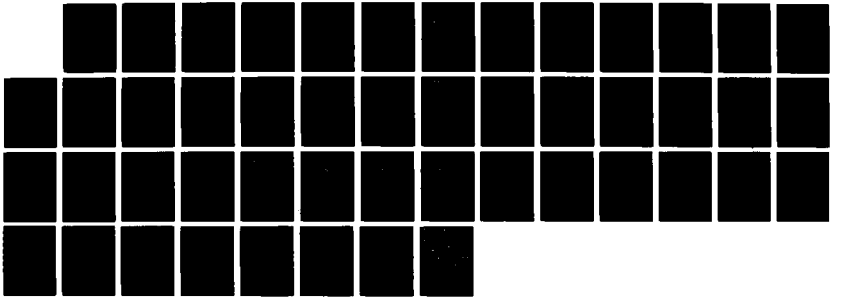
```
@20,5 SAY " DO YOU WANT TO SEARCH DOCUMENTS FOR SAME
ORGANIZATION? " GET REQUEST PICT "Y"
          READ
             IF REQUEST = "Y"
                CLOSE DATA
                DO ORGDOC
             ENDIF
          CLEAR
          RETURN
       ENDIF
  SELECT 1
  USE BOOKS INDEX ACBKS
  SELECT 2
  USE TEMP
  SET RELATION TO AC INTO BOOKS
  DO WHILE .NOT. EOF()
     CLEAR
     ?
     ?
     ?
     ? "CALL NUMBER    ",A->CL
     ? "               ",A->ALN
     ?
     ? "ACCESSION #    ",A->AC
     ?
     ? "AUTHOR         ",A->AU
     ? "TITLE          ",A->TI
     ? "PUBLISHER      ",A->PU
     ? "DATE           ",A->YR
     ? "PAGINATION     ",A->PG
     @1,20 SAY "BOOK RECORD"
     @2,1 SAY "PRESS SHIFT AND PRINT KEYS SIMULTANEOUSLY
FOR HARD COPY"
     WAIT
     SKIP
  ENDDO
CLOSE DATABASES
CLEAR
STORE "Y" TO REQUEST
@17,5 SAY "DO YOU WANT TO SEARCH DOCUMENTS FOR SAME
ORGANIZATION? " GET REQUEST PICT "Y"
READ
   IF REQUEST = "Y"
      DO ORGDOC
   ENDIF
USE TEMP
ZAP
CLOSE DATA
CLEAR
@ 20,20 SAY "LOCATE MORE ORGANIZATIONS? " GET DOAGAIN
PICT "Y"
READ
ENDDO
CLEAR
RETURN
```

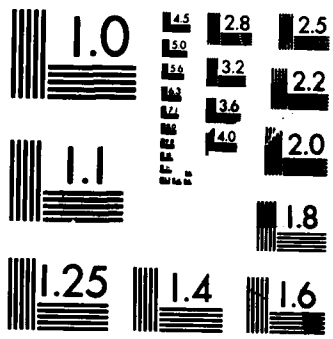
```
***SEARCHING DOCUMENTS BY CORPORATE AUTHOR
**ORGDOC.PRG
***WRITTEN BY L. S. KUNTZ
**LAST REVISION 03/10/87
CLEAR
SET SAFETY OFF
CLOSE DATA
STORE "Y" TO DOCSER
@0,0 TO 23,79 DOUBLE
SELECT 1
USE DOCUMENT INDEX CNDOC
@10,10 SAY "WORKING . . . "
SEEK SUBSTR(COND,1,ORTEMP)
COPY TO TEMP FIELDS AC WHILE CN = SUBSTR(COND,1,ORTEMP)
SET INDEX TO ACDOC
SELECT 2
USE TEMP
GO BOTTOM
   IF AC < 100000
      @15,5 SAY "NO RECORDS FOUND "
@17,5 SAY " DO YOU WANT TO SEARCH FOR ANOTHER
ORGANIZATION> " GET DOCSER PICT "Y"
      READ
         IF DOCSER = "N"
            CLOSE DATA
            CLEAR
            RETURN TO MASTER
         ENDIF
         IF DOCSER = "Y"
            DO ORGANI
            CLOSE DATA
            CLEAR
         ENDIF
    ENDIF
    IF AC > 100000
       STORE "Y" TO FOUND
       STORE RECNO() TO MANY
       @15,5 SAY "   " GET MANY
       @15,18 SAY " DOCUMENTS WERE FOUND "
       @16,25 SAY "PRESS RETURN TO CONTINUE"
       READ
       @18,20 SAY "DO YOU WANT TO SEE THESE RECORDS? "
GET FOUND PICT "Y"
       READ
    ENDIF
   IF FOUND = "N"
      CLEAR
      RETURN
   ENDIF
  GO TOP
  SET RELATION TO AC INTO DOCUMENT
  DO WHILE .NOT. EOF()
     CLEAR
     ?
     ?
```

```
        ?
        ?
        ? "ACCESSION # ",AC
        ?
        ? "AUTHOR       ",A->AU
        ? "TITLE        ",A->TI
        ? "PUBLISHER    ",A->CN
        ? "DATE         ",A->YR
        ? "PAGINATION   ",A->PG
        @1,20 SAY "CLASSIFIED DOCUMENT RECORD "
        @2,1 SAY "PRESS SHIFT AND PRINT KEYS SIMULTANEOUSLY
FOR HARD COPY "
        WAIT
        SKIP
    ENDDO
CLOSE DATABASES
CLEAR
USE TEMP
ZAP
CLOSE DATA
CLEAR
@20,20 SAY "LOCATE MORE ORGANIZATIONS? " GET DOCSER
PICTURE "Y"
READ
    IF DOCSER = "N"
       RETURN
    ENDIF
    IF DOCSER = "Y"
       CLOSE DATA
       CLEAR
       DO ORGANI
    ENDIF
```

AD-A183 238 MICROCOMPUTER INTEGRATED LIBRARY SYSTEM (MILS) THE ONLINE INTEGRATED TECH.. (U) ARMY CONCEPTS ANALYSIS AGENCY BETHESDA MD L S KUNTZ SEP 86 CAA-TP-86-10 2/2

UNCLASSIFIED F/G 5/2 NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

```
**ACNUM.PRG
******************** SEARCHING BY ACCESSION NUMBER
CLEAR
SET SAFETY OFF
CLOSE DATA
STORE "Y" TO DOAGAIN
DO WHILE UPPER(DOAGAIN) = "Y"
   @0,0 TO 23,79 DOUBLE
   STORE SPACE(6) TO COND
   USE BOOKS INDEX ACBKS
   @5,20 SAY " LOOK FOR WHAT ACCESSION NUMBER ? " GET
COND
   READ
      IF COND = "      "
         @10,30 SAY "YOU PRESSED THE RETURN KEY."
         @12,30 SAY "IF YOU WANT TO SEARCH FOR AN
ACCESSION "
         @14,30 SAY "NUMBER, ENTER 'C' AT THE NEXT MENU;
"
         @16,30 SAY "OTHERWISE, MAKE ANOTHER SELECTION."
         WAIT
        CLEAR
        RETURN
     ENDIF
   SEEK &COND
   DO WHILE AC = &COND
      CLEAR
      ?
      ?
      ?
      ?
      ? "                ",REF
      ? "CALL NUMBER     ",CL
      ? "                ",ALN
      ?
      ? "ACCESSION #     ",AC
      ?
      ? "AUTHOR          ",AU
      ? "TITLE           ",TI
      ? "PUBLISHER       ",PU
      ? "DATE            ",YR
      ? "PAGINATION      ",PG
      ? "SUBJECTS        ",SUBJECT
      @1,20 SAY "BOOK RECORD"
      @2,1 SAY "PRESS SHIFT AND PRINT KEYS
SIMULTANEOUSLY FOR HARD COPY"
      WAIT
      SKIP
   ENDDO
CLEAR
STORE "Y" TO REQUEST
@0,0 TO 23,79 DOUBLE
@17,5 SAY "DO YOU WANT TO SEARCH FOR DOCUMENT ACCESSION
NUMBER? " GET REQUEST PICT "Y"
READ
```

```
CLEAR
   IF REQUEST = "Y"
      USE DOCUMENT INDEX ACDOC
      @5,10 SAY "LOOK FOR WHAT ACCESSION NUMBER? " GET
COND
      READ
      SEEK &COND
         DO WHILE AC = &COND
            CLEAR
            ?
            ?
            ?
            ?
            ? "ACCESSION # ",AC
            ?
            ? "AUTHOR       ",AU
            ? "TITLE        ",TI
            ? "PUBLISHER    ",CN
            ? "DATE         ",YR
            ? "PAGINATION   ",PG
            @1,20 SAY "CLASSIFIED DOCUMENT RECORD "
            @2,1 SAY "PRESS SHIFT AND PRINT KEYS
SIMULTANEOUSLY FOR HARD COPY"
            WAIT
            SKIP
         ENDDO
      CLEAR
@23,20 SAY " LOCATE MORE ACCESSION NUMBERS (Y/N)? "  GET
DOAGAIN PICTURE 'Y'
READ
CLEAR
ENDDO
CLOSE DATABASES
RETURN
```

```
********************* ADD, EDIT, OR DELETE BOOKS
*******ACQ.PRG
*******LAST REVISION: 08/11/86
***CALLED BY MENU.PRG
***WRITTEN BY L. S. KUNTZ
CLEAR
CLOSE DATA
DO WHILE .T.
@ 0,0 TO 23,79 DOUBLE
STORE " " TO OPTION
@1,1 SAY DTOC(DATE())
@3,20 SAY "MILS ACCESSIONS/CATALOGING MENU"
@7,3 SAY "PLACE BOOKS ON ORDER "
@7,44 SAY "INDICATE RECEIPT"
@9,3 SAY "BIBLIOGRAPHIC INPUT FOR NON-ORDERS"
@9,44 SAY "UNCLASSIFIED DOCUMENT INPUT"
@11,3 SAY "EDIT RECORDS"
@11,44 SAY "DELETE RECORDS"
@13,3 SAY "LABELS PRINTED"
@13,44 SAY "SPINE LABELS PRINTED"
@15,3 SAY "CONVERT LCMARC RECORDS INTO MILS"
@15,44 SAY "KEYWORD FILES CREATION"
@17,3 SAY "OCLC RECORD CONVERSION "
@17,44 SAY "RETURN TO MAIN MENU"
@19,3 SAY "SELECT BY PRESSING FIRST LETTER " GET OPTION
PICT "A"
READ
STORE UPPER(OPTION) TO OPTION
CLEAR
DO CASE
   CASE OPTION = "P"
        DO ONORDER
   CASE OPTION = "I"
*****DONE WHEN BOOKS WHICH ARE ON ORDER, ARE RECEIVED
CLEAR
STORE "Y" TO ANSWER
DO WHILE UPPER(ANSWER) = "Y"
STORE SPACE(20) TO COND
USE ONORDER
@5,10 SAY "ENTER A SIGNIFICANT WORD FROM THE TITLE " GET
COND
READ
STORE UPPER(COND) TO COND
DO WHILE .NOT. EOF()
   STORE LEN(TRIM(COND)) TO NCOND
   LIST OFF RECN(), TI FOR SUBSTR(COND,1,NCOND) $TI
ENDDO
INPUT "RECORD NUMBER TO EDIT, 0 FOR NONE OF THESE. " TO
EDCHOICE
     IF EDCHOICE <> 0
        GOTO EDCHOICE
        EDIT EDCHOICE
     ENDIF
CLEAR
@22,10 SAY "RECEIVE MORE BOOKS (Y/N)? " GET ANSWER
```

```
PICTURE 'Y'
READ
CLEAR
CLOSE DATA
ENDDO
****
   CASE OPTION = "V"
        CLEAR
        USE BOOKS INDEX ACBKS
        GO BOTTOM
        DISP OFF AC, TI
        WAIT
   CASE OPTION = "B"
        DO BIBBKS
   CASE OPTION = "E"
        DO BKEDIT
   CASE OPTION = "D"
        DO BKDELE
   CASE OPTION = "L"
        USE BOOKS INDEX INDBKS
        ACCEPT "ENTER TODAY'S DATE " TO LOOKFOR
        STORE CTOD(LOOKFOR) TO LOOKFOR
        SEEK LOOKFOR
             SET PRINT ON
             ? CHR(15)
             LABEL FORM BKLABEL WHILE IND = LOOKFOR
             ? CHR(18)
             SET PRINT OFF
        WAIT
        CLEAR
        CLOSE DATABASES
   CASE OPTION = "U"
        DO UNCDOC
   CASE OPTION = "S"
        SET TALK OFF
        CLEAR
        USE BOOKS INDEX INDBKS
        ACCEPT "ENTER TODAY'S DATE " TO LOOKFOR
        STORE CTOD(LOOKFOR) TO LOOKFOR
        SEEK LOOKFOR
             SET PRINT ON
             ? CHR(27) + CHR (69)
             LABEL FORM SPINE WHILE IND = LOOKFOR
             ? CHR(27)
             SET PRINT OFF
         WAIT
         CLEAR
         CLOSE DATABASES
****CREATE KEYWORD FILES
    CASE OPTION = "K"
         DO KWIT
***CONVERT LCMARC RECORDS
    CASE OPTION = "C"
         DO LCMARC
***CONVERT OCLC RECORDS
```

```
    CASE OPTION = "O"
         DO NEW
    CASE OPTION = "R"
         RETURN TO MASTER
OTHERWISE
    @ 23,1
    @ 23,1 SAY "ERROR - PRESS P, B, E, L, C, O, I, U, D,
S, K, OR R "
    ?? CHR(7)
    STORE 1 TO XX
        DO WHILE XX<35
        STORE XX+1 TO XX
        ENDDO
ENDCASE
ENDDO
```

```
******TO PLACE BOOKS ON ORDER
***ONORDER.DBF IS TO BE ARCHIVED AFTER 30 SEPTEMBER EACH
YEAR.
CLEAR
USE ONORDER INDEX VENDOR
MORE = .T.
STORE SPACE (14) TO MISBN
STORE SPACE(20) TO MAU
STORE SPACE(100) TO MTI
STORE SPACE(10) TO MED
STORE SPACE(10) TO MPU
STORE SPACE(4) TO MYR
STORE 000000000 TO MCP
STORE DATE() TO MORDERED
STORE 00000.00 TO MPRICE
STORE SPACE(20) TO MVENDOR
STORE SPACE(20) TO MREQBY
DO WHILE MORE
  CLEAR
  @1,10 SAY " PLACING ORDERS FOR BOOKS "
  @3,1 SAY "ISBN: " GET MISBN
  @5,1 SAY " AUTHOR:" GET MAU PICT
"!!!!!!!!!!!!!!!!!!!!"
  @7,1 SAY " TITLE:" GET MTI
  @10,1 SAY "EDITION: " GET MED
  @10,30 SAY " PUBLISHER:" GET MPU
  @12,1 SAY " YEAR:" GET MYR
  @12,50 SAY " NUMBER OF COPIES:" GET MCP
  @14,1 SAY " COST:" GET MPRICE PICT "99999.99"
  @14,30 SAY " VENDOR:" GET MVENDOR
  @16,1 SAY " REQUESTED BY:" GET MREQBY
READ
APPEND BLANK
REPLACE ISBN WITH MISBN, AU WITH MAU, TI WITH MTI, ED
WITH MED, PU WITH MPU
REPLACE YR WITH MYR, CP WITH MCP, ORDERED WITH MORDERED
REPLACE PRICE WITH MPRICE, VENDOR WITH MVENDOR, REQBY
WITH MREQBY
CLEAR
STORE SPACE(14) TO MISBN
STORE SPACE(20) TO MAU
STORE SPACE(100) TO MTI
STORE SPACE(10) TO MPU
STORE SPACE(10) TO MED
STORE SPACE(4) TO MYR
STORE 000000000 TO MCP
STORE DATE() TO MORDERED
STORE 00000.00 TO MPRICE
STORE SPACE(20) TO MVENDOR
STORE SPACE(20) TO MREQBY
CLEAR
@ 23,10 SAY "PLACE MORE ITEMS ON ORDER (Y/N)?" GET MORE
PICTURE 'Y'
READ
ENDDO
```

```
********** TO ADD BIBLIOGRAPHIC INFORMATION ON BOOKS
**BIBBKS.PRG
CLEAR
SET TALK OFF
USE BOOKS INDEX ACBKS, AUBKS, PUBKS, INDBKS
RESTORE FROM ACTEMP
MORE = .T.
STORE " " TO MADDED
STORE SPACE(6) TO MAC
STORE SPACE(14) TO MISBN
STORE SPACE(3) TO MREF
STORE SPACE(15) TO MCL
STORE SPACE(3) TO MALN
STORE SPACE(20) TO MAU
STORE SPACE(100) TO MTI
STORE SPACE(10) TO MED
STORE SPACE(10) TO MPU
STORE SPACE(4) TO MYR
STORE SPACE(5) TO MPG
STORE SPACE(50) TO MSER
STORE SPACE(135) TO MSUBJECT
STORE SPACE(9) TO MCP
STORE DATE() TO MIND
STORE SPACE(13) TO MISBN
DO WHILE MORE
   CLEAR
   @1,10 SAY "BIBLIOGRAPHIC INPUT FOR MONOGRAPHS"
   @2,2  SAY "LAST ACCESSION NUMBER USED: "
   @2,30 SAY ACTEMP
   @4,6 SAY "NEXT ACCESSION NUMBER:    " GET MAC PICT
"999999"
   @4,40 SAY "ISBN: " GET MISBN
   @6,1 SAY "IF REFERENCE COPY"
   @7,1 SAY "INPUT REF          " GET MREF PICT "!!!"
   @8,1 SAY "CALL NUMBER " GET MCL PICT
"999.99999999999"
   @9,1 SAY "FIRST 3 LETTERS OF" GET MALN PICT "!!!"
   @10,1 SAY "AUTHOR'S LAST NAME"
   @12,5 SAY "AUTHOR:    " GET MAU PICTURE
"!!!!!!!!!!!!!!!!!!!!"
   @14,5 SAY "TITLE:     " GET MTI
   @17,5 SAY "EDITION: " GET MED
   @17,25 SAY "PUBLISHER:" GET MPU PICTURE  "!!!!!!!!!!"
   @17,45 SAY "YEAR:" GET MYR PICT "9999"
   @17,60 SAY "PAGINATION:" GET MPG PICT "999999"
   @19,5 SAY "SERIES: " GET MSER
   @21,5 SAY "SUBJECT HEADINGS: " GET MSUBJECT
   @23,3 SAY "# OF COPIES:" GET MCP PICT "99999999"
      IF MADDED = "X"
         @23,25 SAY "PREVIOUS RECORD ADDED."
      ENDIF
    @23,22 SAY "TO EXIT, LEAVE SCREEN BLANK AND PRESS PG
DN."
    READ
       IF MTI = "                    "
```

```
            USE
            SAVE TO ACTEMP
            CLEAR
            RETURN
          ELSE
        GO TOP
            SEEK MAC
                IF EOF()
                    STORE MAC TO ACTEMP
   APPEND BLANK
   REPLACE AC WITH MAC, ISBN WITH MISBN, REF WITH MREF,
CL WITH MCL
   REPLACE ALN WITH MALN, AU WITH MAU, TI WITH MTI, ED
WITH MED, PU WITH MPU
   REPLACE YR WITH MYR, PG WITH MPG, SER WITH MSER,
SUBJECT WITH MSUBJECT
   REPLACE CP WITH MCP, IND WITH MIND
   CLEAR
   STORE "X" TO MADDED
   STORE SPACE(6) TO MAC
   STORE SPACE(14) TO MISBN
   STORE SPACE(3) TO MREF
   STORE SPACE(15) TO MCL
   STORE SPACE(3) TO MALN
   STORE SPACE(20) TO MAU
   STORE SPACE(100) TO MTI
   STORE SPACE(10) TO MED
   STORE SPACE(10) TO MPU
   STORE SPACE(4) TO MYR
   STORE SPACE(5) TO MPG
   STORE SPACE(50) TO MSER
   STORE SPACE(135) TO MSUBJECT
   STORE SPACE(9) TO MCP
   STORE DATE () TO MIND
  ELSE
  CLEAR
  ?CHR(7)
  @5,24 SAY "****ACCESSION NUMBER PREVIOUSLY USED***"
WAIT
ENDIF
CLEAR
ENDDO
CLOSE DATABASES
```

```
**********EDIT BOOK OR UNCLASSIFIED DOCUMENT RECORDS
**BKEDIT.PRG
SET EXACT ON
DO WHILE .T.
   CLEAR
   STORE " " TO EDITING
   @0,0 TO 23,79 DOUBLE
   @3,25 SAY " EDIT EACH "
   @5,20 SAY "BIBLIOGRAPHIC RECORD      "
   @7,20 SAY "SUBJECT HEADINGS          "
   @9,20 SAY "KEY WORDS FROM THE TITLE "
   @11,20 SAY "RETURN TO MAIN MENU       "
   @13,20 SAY "SELECT BY PRESSING FIRST LETTER" GET
EDITING PICT "A"
   READ
   STORE UPPER(EDITING) TO EDITING
 DO CASE
    CASE EDITING = "B"
         CLEAR
         MORE = .T.
         USE BOOKS INDEX ACBKS, AUBKS, PUBKS, INDBKS
         DO WHILE MORE
  ACCEPT "ENTER ACCESSION NUMBER TO BE EDITED " TO MAC
            SEEK &MAC
                IF (EOF() .OR. BOF())
                   ELSE
           DISPLAY OFF RECNO(), AC, TI WHILE AC = &MAC
INPUT "RECORD NUMBER TO EDIT, 0 FOR NONE." TO EDCHOICE
                IF EDCHOICE <> 0
                GOTO EDCHOICE
                    EDIT
                ENDIF
                ENDIF
@23,20 SAY " EDIT ANOTHER ACCESSION NUMBER (Y/N)? " GET
MORE PICTURE 'Y'
          READ
          CLOSE DATA
          CLEAR
          ENDDO
   CASE EDITING = "S"
        CLEAR
        MORE = .T.
        USE SUBJECT INDEX ACSUBJ, SHSUBJ
        DO WHILE MORE
ACCEPT "ENTER ACCESSION NUMBER TO BE CHANGED. " TO MAC
           SEEK &MAC
           IF (EOF() .OR. BOF())
              ELSE
                 DISPLAY WHILE AC = &MAC
                 AGAIN = .T.
              DO WHILE AGAIN
INPUT "RECORD NUMBER TO EDIT, 0 FOR NONE OF THESE." TO
EDCHOICE
           IF EDCHOICE <> 0
              GOTO EDCHOICE
```

```
                EDIT EDCHOICE
             ENDIF
@23,20 SAY "CONTINUE EDITING THIS ACCESSION NUMBER
(Y/N)? " GET AGAIN PICTURE 'Y'
                READ
                ENDDO
@23,20 SAY "INPUT ANOTHER ACCESSION NUMBER TO EDIT
(Y/N)? " GET MORE PICTURE 'Y'
          READ
          CLEAR
               ENDIF
           ENDDO
   CASE EDITING = "K"
          CLEAR
          MORE = .T.
          USE KWIT INDEX ACKWIT, TIKWIT
          DO WHILE MORE
ACCEPT "ENTER ACCESSION NUMBER TO BE EDITED " TO MAC
             SEEK &MAC
                IF (EOF() .OR. BOF())
             ELSE
                DISPLAY WHILE AC = &MAC
                AGAIN = .T.
                   DO WHILE AGAIN
INPUT "RECORD NUMBER TO EDIT, 0 FOR NONE OF THESE." TO
EDCHOICE
                      IF EDCHOICE <> 0
                         GOTO EDCHOICE
                         EDIT EDCHOICE
                      ENDIF
@23,20 SAY "CONTINUE EDITING THIS ACCESSION NUMBER
(Y/N)? " GET AGAIN PICTURE 'Y'
                      READ
                   ENDDO
@23,20 SAY "INPUT ANOTHER ACCESSION NUMBER TO EDIT (Y/N)
?" GET MORE PICTURE 'Y'
                   READ
                   CLEAR
                ENDIF
          ENDDO
   CASE EDITING = "R"
          SET EXACT OFF
          CLOSE DATABASES
          CLEAR
          RETURN TO MASTER
OTHERWISE
   @23,1
   @23,1 SAY "ERROR - PRESS B, K, S, OR R "
   ?? CHR(7)
   STORE 1 TO XX
   DO WHILE XX < 35
      STORE XX + 1 TO XX
   ENDDO
ENDCASE
ENDDO
```

```
**********DELETE BOOK OR UNCLASSIFIED DOCUMENT RECORDS
****BKDELE.PRG
CLEAR
SET ESCAPE OFF
STORE " " TO DELETING
DO WHILE .T.
   @0,0 TO 23,79 DOUBLE
   @3,25 SAY " DELETE EACH  "
   @5,20 SAY "BIBLIOGRAPHIC RECORD      "
   @7,20 SAY "SUBJECT HEADINGS          "
   @9,20 SAY "KEY WORDS FROM THE TITLE "
   @11,20 SAY "PACK RECORDS              "
   @13,20 SAY "RETURN TO MAIN MENU       "
   @15,25 SAY "SELECT  Y PRESSING FIRST LETTER  " GET
DELETING PICT "A"
   READ
   STORE UPPER(DELETING) TO DELETING
DO CASE
   CASE DELETING = "B"
        CLEAR
        MORE = .T.
        SET EXACT ON
        USE BOOKS INDEX ACBKS, AUBKS, PUBKS, INDBKS
        DO WHILE MORE
           ACCEPT "ENTER ACCESSION NUMBER TO BE
DELETED." TO MAC
           SEEK &MAC
              IF (EOF() .OR. BOF())
                 ELSE
              DISPLAY OFF RECNO(), AC, TI WHILE AC =
&MAC
INPUT "RECORD NUMBER TO DELETE, 0 FOR NONE." TO EDCHOICE
              IF EDCHOICE <>0
                 GOTO EDCHOICE
                 DELETE
              ENDIF
              ENDIF
@23,20 SAY " DELETE ANOTHER ACCESSION NUMBER (Y/N)? "
GET MORE PICTURE 'Y'
        READ
        CLEAR
        ENDDO
CASE DELETING = "S"
     CLEAR
     MORE = .T.
     SET EXACT ON
     USE SUBJECT INDEX ACSUBJ, SHSUBJ
     DO WHILE MORE
        ACCEPT "ENTER ACCESSION NUMBER TO BE DELETED. "
TO MAC
        SEEK &MAC
           IF (EOF() .OR. BOF())
              ELSE
           DISPLAY WHILE AC = &MAC
           AGAIN = .T.
```

```
            DO WHILE AGAIN
INPUT "RECORD TO DELETE, 0 FOR NONE OF THESE." TO
EDCHOICE
               IF EDCHOICE <> 0
                  GOTO EDCHOICE
                  DELETE
               ENDIF
@23,20 SAY "CONTINUE DELETING THIS ACCESSION NUMBER
(Y/N)? " GET AGAIN PICTURE 'Y'
                  READ
            ENDDO
@23,20 SAY "INPUT ANOTHER ACCESSION NUMBER TO DELETE
(Y/N)? " GET MORE PICTURE 'Y'
            READ
            CLEAR
               ENDIF
      ENDDO
CASE DELETING = "K"
     CLEAR
     MORE = .T.
     SET EXACT ON
     USE KWIT INDEX ACKWIT, TIKWIT
     DO WHILE MORE
        ACCEPT "ENTER ACCESSION NUMBER TO DELETE " TO
MAC
        SEEK &MAC
           IF (EOF() .OR. BOF())
              ELSE
           DISPLAY WHILE AC = &MAC
           AGAIN = .T.
              DO WHILE AGAIN
INPUT "RECORD NUMBER TO DELETE, 0 FOR NONE OF THESE." TO
EDCHOICE
                 IF EDCHOICE <> 0
                    GOTO EDCHOICE
                    DELETE
                 ENDIF
@23,20 SAY "CONTINUE DELETING THIS ACCESSION NUMBER
(Y/N)? " GET AGAIN PICTURE 'Y'
                 READ
              ENDDO
@23,20 SAY "INPUT ANOTHER ACCESSION NUMBER TO DELETE
(Y/N) ?" GET MORE PICTURE 'Y'
                 READ
                 CLEAR
           ENDIF
        ENDDO
CASE DELETING = "P"
     CLEAR
     SET TALK ON
     USE BOOKS INDEX ACBKS, AUBKS, PUBKS, INDBKS
@5,10 SAY "WORKING ON REMOVING DELETED RECORDS FROM BOOK
FILES"
     PACK
     CLEAR
```

```
     USE SUBJECT INDEX ACSUBJ, SHSUBJ
@5,10 SAY "WORKING ON REMOVING DELETED RECORDS FROM
SUBJECT FILES"
     PACK
     CLEAR
     USE KWIT INDEX ACKWIT, TIKWIT
@5,10 SAY "WORKING ON REMOVING DELETED RECORDS FROM KEY
WORD FILES"
     PACK
     CLEAR
     SET TALK OFF
CASE DELETING = "R"
     CLOSE DATABASES
     SET EXACT OFF
     SET ESCAPE ON
     RETURN TO MASTER
OTHERWISE
   @23,1
   @23,1 SAY "ERROR - PRESS B, S, K, P, OR R"
   ?? CHR(7)
   STORE 1 TO XX
   DO WHILE XX < 35
      STORE XX + 1 TO XX
   ENDDO
ENDCASE
ENDDO
```

```
********************* TO ADD BIBLIOGRAPHIC INFORMATION ON
**********************UNCLASSIFIED DOCUMENTS
***UNCDOC.PRG
CLEAR
SET TALK OFF
USE UNCDOC INDEX ACUNC, PUUNC, AUUNC, ADUNC, RNUNC,
INDUNC
RESTORE FROM UNCTEMP
MORE = .T.
STORE " " TO MADDED
STORE SPACE(20) TO MAU
STORE SPACE(100) TO MTI
STORE SPACE(10) TO MPU
STORE SPACE(4) TO MYR
STORE SPACE(5) TO MPG
STORE SPACE(6) TO MAC
STORE SPACE(9) TO MCP
STORE SPACE(7) TO MAD
STORE SPACE(20) TO MRN
STORE DATE() TO MIND
DO WHILE MORE
   CLEAR
   @1,10 SAY "BIBLIOGRAPHIC INPUT FOR UNCLASSIFIED
DOCUMENTS "
   @2,2  SAY "LAST ACCESSION NUMBER USED: "
   @2,30 SAY UNCTEMP
   @4,6 SAY "NEXT ACCESSION NUMBER:    " GET MAC PICT
"999999"
   @6,5 SAY "AUTHOR:    " GET MAU PICTURE
"!!!!!!!!!!!!!!!!!!!!"
   @8,5 SAY "TITLE:     " GET MTI
   @11,5 SAY "CORPORATE PUBLISHER:" GET MPU PICTURE
"!!!!!!!!!!"
   @13,5 SAY "YEAR:" GET MYR PICT "9999"
   @13,17 SAY "PAGINATION:" GET MPG PICT "999999"
   @13,40 SAY "# OF COPIES:" GET MCP PICT "99999999"
   @15,5 SAY "AD NUMBER:" GET MAD
   @15,25 SAY "REPORT NUMBER:" GET MRN
       IF MADDED = "X"
          @23,25 SAY "PREVIOUS RECORD ADDED."
       ENDIF
   @23,22 SAY "TO EXIT, LEAVE SCREEN BLANK AND PRESS PG
DN."
   READ
      IF MTI = "                    "
         USE
         SAVE TO UNCTEMP
         CLEAR
         RETURN
       ELSE
         GO TOP
         SEEK &MAC
            IF EOF()
               STORE &MAC TO UNCTEMP
   APPEND BLANK
```

```
   REPLACE AC WITH &MAC, AU WITH MAU, TI WITH MTI, PU
WITH MPU
   REPLACE YR WITH MYR, PG WITH MPG, CP WITH MCP, IND
WITH MIND
   CLEAR
   STORE "X" TO MADDED
   STORE SPACE(20) TO MAU
   STORE SPACE(100) TO MTI
   STORE SPACE(10) TO MPU
   STORE SPACE(4) TO MYR
   STORE SPACE(5) TO MPG
   STORE SPACE(6) TO MAC
   STORE SPACE(9) TO MCP
   STORE SPACE(7) TO MAD
   STORE SPACE(20) TO MRN
   STORE DATE() TO MIND
   ELSE
   CLEAR
   ?CHR(7)
   @5,24 SAY "****ACCESSION NUMBER PREVIOUSLY USED***"
   WAIT
      ENDIF
CLEAR
ENDDO
CLOSE DATABASES
```

```
***KWIT.PRG
***TO CREATE KEYWORD FILES FROM TITLE FIELD IN BOOK
RECORDS
SET SAFETY OFF
? " WORKING ON CREATING TITLES.DBF FILE "
USE TITLES
ZAP
? "         WORKING . . . "
APPEND FROM BOOKS
? " WORKING ON CREATING TITLES.TXT SDF "
COPY TO TITLES.TXT SDF
CLOSE DATABASES
?? CHR(7)
? "  FOR THE INPUT FILE USE:    TITLES.TXT "
?
? "  FOR THE OUTPUT FILE USE:    TEMP.OUT "
?
? "  AT THE TERMINATION OF THE PROGRAM, IT WILL DISPLAY
"
? "     THE NUMBER OF RECORDS PROCESSED "
?
?
RUN KEYWORD
CLOSE DATABASES
? " WORKING ON CREATING KEYWORD FILE FROM THE TITLES "
USE KWIT
ZAP
? "          WORKING . . . "
APPEND FROM TEMP.OUT SDF
CLOSE DATABASES
USE KWIT
?? CHR(7)
? " THERE IS ONE SMALL QUIRK OF THE PROGRAM. "
? " YOU MUST ADD THE ACCESSION NUMBER TO THE FIRST
RECORD "
? " PRESS CONTROL W AFTER INPUTTING THE NUMBER "
WAIT
BROW
? " CREATING THE WORD INDEX "
INDEX ON TI TO TIKWIT
? "CREATING THE ACCESSION NUMBER INDEX "
INDEX ON AC TO ACKWIT
CLOSE DATABASES
CLEAR
***TO CREATE KEYWORD FILES FROM TITLE FIELD IN
UNCLASSIFIED DOCS
*USE TITLES
*ZAP
*APPEND FROM UNCDOC
*COPY TO TITLES.TXT SDF
*CLOSE DATABASES
*? " 3. AT THE PROMPT >KEYWORD "
*? " 4. FOR THE INPUT FILE TYPE IN > TITLES.TXT "
*? " 5. FOR THE OUTPUT FILE TYPE IN > TEMP.OUT "
*? " 6. AT THE TERMINATION OF THE PROGRAM, IT WILL
```

```
DISPLAY "
*? "     THE NUMBER OF RECORDS PROCESSED AND AT THIS
POINT, "
*? "     YOU SHOULD RETURN TO DBASE (DBASE)."
*? " 7. EXECUTE THE PROGRAM MAUNKWIT BY TYPE IN .DO
MAUNKWIT. "
***TO CREATE KEYWORD FILES FROM SUBJECT FIELD IN BOOK
RECORDS
? "WORKING ON CREATING THE SUBJECTS.DBF FILE "
USE SUBJECTS
ZAP
? "        WORKING . . . "
APPEND FROM BOOKS
? "  WORKING ON CREATING THE SUBJECTS.TXT SDF FILE "
COPY TO SUBJECTS.TXT SDF
CLOSE DATABASES
?? CHR(7)
? "  FOR THE INPUT FILE USE:  SUBJECTS.TXT "
?
? "  FOR THE OUTPUT FILE USE:  TEMP.OUT "
?
? "  AT THE TERMINATION OF THE PROGRAM, IT WILL DISPLAY
"
? "     THE NUMBER OF RECORDS PROCESSED "
?
?
RUN KEYWORD
CLOSE DATABASES
USE SUBJECT
ZAP
? " WORKING ON CREATING THE KEYWORD FILE FROM THE
SUBJECTS "
APPEND FROM TEMP.OUT SDF
? "     WORKING . . . "
CLOSE DATABASES
?? CHR(7)
USE SUBJECT
? " ADD THE ACCESSION NUMBER TO THE FIRST RECORD "
WAIT
BROW
? " WORKING ON INDEXING THE WORDS IN THE SUBJECT
HEADINGS "
INDEX ON SUBJECT TO SBSUBJ
INDEX ON AC TO ACSUBJ
USE SUBJECTS
ZAP
USE TITLES
ZAP
CLOSE DATABASES
USE BOOKS
? "WORKING ON REINDEXING AUTHORS IN BOOKS FILE "
INDEX ON AU TO AUBKS
? "WORKING ON REINDEXING PUBLISHERS IN BOOKS FILE "
INDEX ON PU TO PUBKS
? "WORKING ON REINDEXING DATE IN BOOKS FILE "
```

```
INDEX ON IND TO INDBKS
? " WORKING ON REINDEXING ACCESSION NUMBER IN BOOKS FILE
"
INDEX ON AC TO ACBKS
CLOSE DATABASES
?? CHR(7)
SET SAFETY ON
RETURN
```

```
****LCMARC.PRG
***USE WHEN DATA IS DOWNLOADED FROM LCMARC
SET SAFETY OFF
USE RAWCAA
ZAP
USE CAA
ZAP
CLEAR
STORE "Y" TO READY
@10,10 SAY " YOU SHOULD HAVE RENAMED THE EDITED
DOWNLOADED "
@12,10 SAY "PROGRAM RAWCAA.TXT AND COPIED IT INTO THE
DBASPLUS DIRECTORY"
@14,10 SAY " IF YOU HAVE, PRESS 'Y' " GET READY PICTURE
'Y'
READ
IF READY = "N"
RETURN
ENDIF
USE RAWCAA
APPEND FROM RAWCAA.TXT SDF
STORE "Y" TO NEW
@17,10 SAY "DO YOU KNOW THE NEXT ACCESSION NUMBER TO BE
USED? (Y/N) " GET NEW PICTURE 'Y'
READ
IF NEW = "N"
RETURN
ENDIF
ACCEPT "ENTER FIRST ACCESSION NUMBER TO BE ADDED  " TO
NEXTNUM
SELECT 1
USE RAWCAA
SELECT 2
USE CAA
SELECT 1
GO TOP
STORE VAL(NEXTNUM) - 1 TO LAC
STORE SPACE(14) TO LISBN
STORE SPACE(3) TO LREF
STORE SPACE(15) TO LCL
STORE SPACE(3) TO LALN
STORE SPACE(40) TO LAU
STORE SPACE(100) TO LTI
STORE SPACE(10) TO LED
STORE SPACE(35) TO LPU
STORE SPACE(4) TO LYR
STORE SPACE(11) TO LPG
STORE SPACE(50) TO LSER
STORE SPACE(100) TO LSUBJECT
STORE DATE() TO LIND
  DO WHILE .NOT. EOF()
  DO CASE
  CASE 'BN- '$DATA
  STORE SUBSTR(DATA,5,14) TO LISBN
  CASE 'REF- '$DATA
```

```
      STORE SUBSTR(DATA,6,3) TO LREF
      STORE UPPER(LREF) TO LREF
      CASE 'CA- '$DATA
      STORE SUBSTR(DATA,5,15) TO LCL
      CASE 'MALN- '$DATA
      STORE SUBSTR(DATA,7,3) TO LALN
      STORE UPPER(LALN) TO LALN
      CASE 'AU- '$DATA
      STORE SUBSTR(DATA,5,40) TO LAU
      STORE UPPER(LAU) TO LAU
      CASE 'TI- '$DATA
      STORE SUBSTR(DATA,5,100) TO LTI
      STORE UPPER(LTI) TO LTI
      CASE 'ED- '$DATA
      STORE SUBSTR(DATA,5,10) TO LED
      STORE UPPER(LED) TO LED
      CASE 'IM- '$DATA
      STORE SUBSTR(DATA,5,35) TO LPU
      STORE UPPER(LPU) TO LPU
      CASE 'PY- '$DATA
      STORE SUBSTR(DATA,5,4) TO LYR
      CASE 'PH- '$DATA
      STORE SUBSTR(DATA,5,11) TO LPG
      CASE 'SE- '$DATA
      STORE SUBSTR(DATA,5,50) TO LSER
      STORE UPPER(LSER) TO LSER
   OTHERWISE
   ENDCASE
      IF 'DE- '$DATA
      STORE SUBSTR(DATA,5,100) TO LSUBJECT
      STORE UPPER(LSUBJECT) TO LSUBJECT
      STORE LAC + 1 TO LAC
   SELECT 2
   APPEND BLANK
      REPLACE AC WITH LAC
      REPLACE ISBN WITH LISBN
      REPLACE REF WITH LREF
      REPLACE CL WITH LCL
      REPLACE ALN WITH LALN
      REPLACE AU WITH LAU
      REPLACE TI WITH LTI
      REPLACE ED WITH LED
      REPLACE PU WITH LPU
      REPLACE YR WITH LYR
      REPLACE PG WITH LPG
      REPLACE SER WITH LSER
      REPLACE SUBJECT WITH LSUBJECT
      REPLACE IND WITH LIND
      STORE SPACE(10) TO LISBN
      STORE SPACE(3) TO LREF
      STORE SPACE(15) TO LCL
      STORE SPACE(3) TO LALN
      STORE SPACE(40) TO LAU
      STORE SPACE(100) TO LTI
      STORE SPACE(10) TO LED
```

```
   STORE SPACE(35) TO LPU
   STORE SPACE(4) TO LYR
   STORE SPACE(11) TO LPG
   STORE SPACE(50) TO LSER
   STORE SPACE(100) TO LSUBJECT
SELECT 1
ENDIF
SKIP
ENDDO
CLOSE DATABASES
CLEAR
USE RAWCAA
ZAP
USE BOOKS
APPEND FROM CAA
CLOSE DATABASES
SET SAFETY ON
RETURN
```

```
****NEW.PRG
***USED WHEN DOWNLOADED FROM OCLC
*** "*" MODIFIED FOR REFERENCE BOOKS
SET SAFETY OFF
USE RAWCAA
ZAP
USE CAA
ZAP
STORE "Y" TO READY
@10,10 SAY "YOU SHOULD HAVE RENAMED THE EDITED
DOWNLOADED "
@12,10 SAY "PROGRAM RAWCAA.TXT AND COPIED IT INTO THE
DBASPLUS DIRECTORY"
@14,10 SAY " IF YOU HAVE, PRESS 'Y' " GET READY PICT 'Y'
READ
   IF READY = "N"
      RETURN
   ENDIF
USE RAWCAA
APPEND FROM RAWCAA.TXT SDF
STORE "Y" TO NEW
@17,10 SAY "DO YOU KNOW THE NEXT ACCESSION NUMBER TO BE
USED? (Y/N) " GET NEW PICT 'Y'
READ
   IF NEW = "N"
      RETURN
   ENDIF
ACCEPT "ENTER FIRST ACCESSION NUMBER    " TO NEWNUM
SELECT 1
USE RAWCAA
SELECT 2
USE CAA
SELECT 1
GO TOP
STORE VAL(NEWNUM) -1 TO LAC
STORE SPACE(10) TO LISBN
STORE "REF" TO LREF
*STORE SPACE(3) TO LREF
STORE SPACE(15) TO LCL
STORE SPACE(3) TO LALN
STORE SPACE(40) TO LAU
STORE SPACE(100) TO LTI
STORE SPACE(10) TO LED
STORE SPACE(35) TO LPU
STORE SPACE(4) TO LYR
STORE SPACE(11) TO LPG
STORE SPACE(50) TO LSER
STORE SPACE(100) TO LSUBJECT
STORE DATE() TO LIND
  DO WHILE .NOT. EOF()
  DO CASE
  CASE 'Z020'$DATA
  STORE SUBSTR(DATA,6,14) TO LISBN
*  CASE 'Z010'$DATA
 * STORE SUBSTR(DATA,6,3) TO LREF
```

```
 * STORE UPPER(LREF) TO LREF
   CASE 'Z082'$DATA
   STORE SUBSTR(DATA,6,15) TO LCL
   CASE 'Z049'$DATA
   STORE SUBSTR(DATA,6,3) TO LALN
   STORE UPPER(LALN) TO LALN
   CASE 'Z100'$DATA
   STORE SUBSTR(DATA,6,40) TO LAU
   STORE UPPER(LAU) TO LAU
   CASE 'Z245'$DATA
   STORE SUBSTR(DATA,6,100) TO LTI
   STORE UPPER(LTI) TO LTI
   CASE 'Z250'$DATA
   STORE SUBSTR(DATA,6,10) TO LED
   STORE UPPER(LED) TO LED
   CASE 'Z260'$DATA
   STORE SUBSTR(DATA,6,35) TO LPU
   STORE UPPER(LPU) TO LPU
   CASE 'Z270'$DATA
   STORE SUBSTR(DATA,6,4) TO LYR
   CASE 'Z300'$DATA
   STORE SUBSTR(DATA,6,11) TO LPG
   STORE UPPER(LPG) TO LPG
   CASE 'Z490'$DATA
   STORE SUBSTR(DATA,6,50) TO LSER
   STORE UPPER(LSER) TO LSER
OTHERWISE
ENDCASE
   IF 'Z650'$DATA
   STORE SUBSTR(DATA,6,100) TO LSUBJECT
   STORE UPPER(LSUBJECT) TO LSUBJECT
   STORE LAC + 1 TO LAC
SELECT 2
APPEND BLANK
   REPLACE AC WITH LAC
   REPLACE ISBN WITH LISBN
   REPLACE REF WITH LREF
   REPLACE CL WITH LCL
   REPLACE ALN WITH LALN
   REPLACE AU WITH LAU
   REPLACE TI WITH LTI
   REPLACE ED WITH LED
   REPLACE PU WITH LPU
   REPLACE YR WITH LYR
   REPLACE REF WITH LREF
   REPLACE PG WITH LPG
   REPLACE SER WITH LSER
   REPLACE SUBJECT WITH LSUBJECT
   REPLACE IND WITH LIND
   STORE SPACE(10) TO LISBN
STORE "REF" TO LREF
*  STORE SPACE(3) TO LREF
   STORE SPACE(15) TO LCL
   STORE SPACE(3) TO LALN
   STORE SPACE(40) TO LAU
```

```
      STORE SPACE(100) TO LTI
      STORE SPACE(10) TO LED
      STORE SPACE(35) TO LPU
      STORE SPACE(4) TO LYR
      STORE SPACE(11) TO LPG
      STORE SPACE(50) TO LSER
      STORE SPACE(100) TO LSUBJECT
    SELECT 1
    ENDIF
    SKIP
    ENDDO
    CLOSE DATABASES
    CLEAR
    USE RAWCAA
    ZAP
    USE BOOKS
    APPEND FROM CAA
    CLOSE DATABASES
    SET SAFETY ON
    RETURN
```

```
*****CHECKOUT.PRG
***LAST REVISION 08/13/86
***CALLED BY MENU.PRG
***WRITTEN BY L. S. KUNTZ
CLEAR
DO WHILE .T.
CLEAR
@ 0,0 TO 23,79 DOUBLE
STORE " " TO CHOICE
@1,1 SAY DTOC(DATE())
@3,25 SAY  "MILS LOAN TRANSACTIONS MENU"
@7,20 SAY "DETERMINE BORROWER'S CODE "
@9,20 SAY "CHARGE MATERIAL TO BORROWER "
@11,20 SAY "PRINT LIST ITEMS CHARGED TO BORROWER "
@13,20 SAY "MATERIALS RETURNED "
@15,20 SAY "LOAN RENEWED "
@17,20 SAY "ACCESSION NUMBER TO BORROWER "
@19,20 SAY "RETURN TO MAIN MENU "
@21,20 SAY "SELECT BY PRESSING FIRST LETTER " GET CHOICE
PICT "A"
READ
STORE UPPER(CHOICE) TO CHOICE
CLEAR
DO CASE
   CASE CHOICE = "D"
        DO BORCODE
   CASE CHOICE = "C"
        DO CHARGE
   CASE CHOICE = "P"
        DO LISTCHG
   CASE CHOICE = "M"
        DO BKRETURN
   CASE CHOICE = "L"
        DO RENEW
   CASE CHOICE = "A"
        DO AC_BOR
   CASE CHOICE = "R"
        CLEAR
        CLOSE DATABASES
        RETURN TO MASTER
OTHERWISE
   @22,1 SAY "ERROR - PRESS D, C, P, M, L, A, OR R"
   ?? CHR(7)
   STORE 1 TO XX
       DO WHILE XX<35
       STORE XX+1 TO XX
       ENDDO
ENDCASE
ENDDO
```

```
****BORCODE.PRG
***TO DETERMINE CORRECT BADGE NUMBER
ANSWER = .T.
DO WHILE ANSWER
   STORE"           " TO COND
   CLEAR
   USE BORROWER INDEX LNBOR
   @10,10 SAY "ENTER INDIVIDUAL'S LAST NAME " GET COND
   READ
      IF "" = COND
         @10,20 SAY "YOU HAVE PRESSED THE RETURN KEY."
         @12,20 SAY "IF YOU WANT TO LOCATE A PERSON'S
BADGE NUMBER,"
         @14,20 SAY "PRESS 'L' AT THE NEXT MENU."
         @16,20 SAY "OTHERWISE, MAKE ANOTHER SELECTION."
         WAIT
         RETURN
      ENDIF
   SEEK COND
   DO WHILE LN = COND
      CLEAR
      ?
      ?
      ?
      ? "NAME          ",RK, IN, LN
      ?
      ? "DEPARTMENT    ",DP
      ? "ROOM          ",RO
      ? "PHONE         ",PH
      ?
      ? "BADGE NUMBER ",BC
      SKIP
      WAIT
   ENDDO
CLEAR
@23,20 SAY "LOCATE MORE BADGE NUMBERS (Y/N)? " GET
ANSWER PICTURE 'Y'
READ
CLEAR
CLOSE DATABASES
ENDDO
RETURN
```

```
****CHARGE.PRG
***TO CHECKOUT MATERIALS TO PATRONS
@ROW (), 0 SAY "CHECKING MATERIAL OUT "
ANSWER = .T.
DO WHILE ANSWER
   CLEAR
   STORE DATE() TO DATE
   USE UNCLCIRC INDEX ACCIRC, BCCIRC
   STORE SPACE(6) TO MAC
   STORE SPACE(4) TO MBC
   STORE DATE() TO MDB
   STORE DATE + 31 TO MDD
   STORE "PRESENTLY CHECKED OUT" TO MPCO
   STORE SPACE(9) TO MNU
   @9,10 SAY "PLACE MATERIAL ON LOAN"
   @11,11 SAY "ACCESSION NUMBER: " GET MAC PICTURE
"999999"
   @13,14 SAY "BADGE NUMBER: " GET MBC PICT "A999"
   @15,15 SAY "COPY NUMBER: " GET MNU
   @17,13 SAY "DATE BORROWED: " GET MDB
   @19,18 SAY "DATE DUE: " GET MDD
   READ
   APPEND BLANK
REPLACE AC WITH &MAC, BC WITH MBC, DB WITH MDB, DD WITH
MDD, PCO WITH MPCO, NU WITH MNU
@21,20 SAY "MATERIAL LOANED"
   STORE SPACE(6) TO MAC
   STORE SPACE(4) TO MBC
   STORE DATE() TO MDB
   STORE DATE + 31 TO MDD
   STORE "PRESENTLY CHECKED OUT" TO MPCO
   STORE SPACE(9) TO MNU
@23,20 SAY " CONTINUE WITH MORE LOANS (Y/N)? " GET
ANSWER PICTURE 'Y'
READ
CLEAR
ENDDO
CLOSE DATABASES
RETURN
```

```
***LISTCHG.PRG
* LIST OF ITEMS CHARGED TO BORROWER
ANSWER = .T.
DO WHILE ANSWER
   CLEAR
   STORE "     " TO COND
   SELECT 1
   USE UNCLCIRC INDEX BCCIRC
   SELECT 2
   USE BOOKS INDEX ACBKS
@10,10 SAY "ENTER BORROWER'S BADGE NUMBER (R---) (Y---)
" GET COND PICT "A999"
   READ
   SELECT 1
   SET RELATION TO AC INTO BOOKS
   SEEK COND
      DO WHILE BC = COND
         CLEAR
         ?
         ?
         ? "CALL NUMBER       ",B->CL
         ? "TITLE             ",B->TI
         ? "DATE BORROWED     ",DB
         ? "DATE RETURNED     ",DR
         SKIP
         WAIT
      ENDDO
@23,20 SAY " LIST MORE LOANED ITEMS (Y/N)? " GET ANSWER
PICTURE 'Y'
READ
CLEAR
ENDDO
CLOSE DATABASES
RETURN
```

```
***BKRETURN.PRG
**TO INDICATE RETURN OF LIBRARY MATERIALS
ANSWER = .T.
DO WHILE ANSWER
   STORE SPACE(6) TO MAC
   USE UNCLCIRC INDEX ACCIRC, BCCIRC
   CLEAR
   @ROW (), 0 SAY "CHECKING MATERIALS IN "
   ? "TYPE IN THE ACCESSION NUMBER OF THE ITEM
RETURNED."
   ? "IF THERE ARE NO MATCHES IN THE DATABASE, YOU WILL
"
   ? "BE ALLOWED TO TRY AGAIN.  IF THERE ARE MATCHES, "
   ? "YOU WILL BE ASKED WHICH ONE TO PROCESS."
   @10,20 SAY "ENTER ACCESSION NUMBER " GET MAC PICTURE
"999999"
   READ
   SEEK &MAC
      IF (EOF() .OR. BOF ())
         ELSE
      DISPLAY WHILE AC = &MAC
INPUT "ENTER RECORD NUMBER TO CHECK IN OR 0 FOR NONE OF
THESE.  " TO EDCHOICE
         IF EDCHOICE <>0
            GOTO EDCHOICE
            STORE SPACE(21) TO MPCO
            STORE DATE() TO MDR
            REPLACE PCO WITH MPCO, DR WITH MDR
         ENDIF EDCHOICE <> 0
         ENDIF #=0
CLEAR
@23,20 SAY "CHECK IN MORE MATERIALS (Y/N)? " GET ANSWER
PICTURE 'Y'
READ
ENDDO
CLOSE DATABASES
RETURN
```

```
***RENEW.PRG
**TO RENEW LOAN PERIOD ON LIBRARY MATERIALS
@ROW (), 0 SAY "RENEWING LOAN "
ANSWER = .T.
DO WHILE ANSWER
   CLEAR
   STORE DATE() TO DATE
   USE UNCLCIRC INDEX ACCIRC, BCCIRC
   STORE SPACE(6) TO MAC
   STORE SPACE(4) TO MBC
   STORE DATE() TO MDB
   STORE DATE + 31 TO MDD
   STORE "PRESENTLY CHECKED OUT" TO MPCO
   STORE SPACE(9) TO MNU
@9,10 SAY "RENEW LOAN PERIOD"
@11,11 SAY "ACCESSION NUMBER: " GET MAC PICTURE "999999"
@13,14 SAY "BADGE NUMBER: " GET MBC PICT "A999"
@15,15 SAY "COPY NUMBER: " GET MNU
@17,13 SAY "DATE BORROWED: " GET MDB
@19,18 SAY "DATE DUE: " GET MDD
READ
APPEND BLANK
REPLACE AC WITH &MAC, BC WITH MBC, DB WITH MDB, DD WITH
MDD, PCO WITH MPCO, NU WITH MNU
@21,20 SAY " LOAN RENEWED "
    STORE SPACE(6) TO MAC
    STORE SPACE(4) TO MBC
    STORE DATE() TO MDB
    STORE DATE + 31 TO MDD
    STORE "PRESENTLY CHECKED OUT" TO MPCO
    STORE SPACE(9) TO MNU
@23,20 SAY " CONTINUE WITH MORE RENEWALS (Y/N)? " GET
ANSWER PICTURE 'Y'
READ
CLEAR
ENDDO
CLOSE DATABASES
RETURN
```

```
***AC_BOR.PRG
**TO SHOW TO LIBRARY STAFF WHO HAS LIBRARY MATERIAL
CHECKED OUT
ANSWER = .T.
DO WHILE ANSWER
   STORE SPACE(6) TO COND
   CLEAR
   SELECT 1
   USE BORROWER INDEX BCBOR
   SELECT 2
   USE UNCLCIRC INDEX ACCIRC
   CLEAR
@10,20 SAY "ENTER ACCESSION # TO SEE WHO HAS IT " GET
COND PICTURE '999999'
READ
   SET RELATION TO BC INTO BORROWER
   SEEK &COND
      SET HEADINGS OFF
      DISP OFF AC, A->BC, A->LN, A->IN, A->RK WHILE AC =
&COND
      ?
      ?
@22,20 SAY "PRINT MORE LOANED ITEMS (Y/N)? " GET ANSWER
PICT "Y"
READ
CLEAR
ENDDO
CLOSE DATABASES
RETURN
```

```
*********PERSONNEL.PRG
******************** UPDATES BORROWER FILE *******
*********LAST REVISION: 11/12/85
***CALLED BY MENU.PRG
SET TALK OFF
CLEAR ALL
DO WHILE .T.
CLEAR
@ 0,0 TO 23,79 DOUBLE
STORE " " TO CHOICE
@2,1 SAY DTOC(DATE())
@4,25 SAY "MILS PERSONNEL TRANSACTIONS MENU"
@6,20 SAY "ADD NEW PERSONNEL"
@10,20 SAY "EDIT PERSONNEL RECORD"
@12,20 SAY "DELETE PERSONNEL"
@14,20 SAY "RETURN TO MAIN MENU"
@16,20 SAY "SELECT BY PRESSING FIRST LETTER " GET CHOICE
PICT "A"
READ
STORE UPPER(CHOICE) TO CHOICE
DO CASE
   CASE CHOICE = "A"
        CLEAR
        USE BORROWER INDEX LNBOR, BCBOR
        @3,5 SAY "ADD NEW PERSONNEL TO BORROWERS' FILE"
        GO BOTTOM
        APPEND BLANK
        @5,5 SAY "ENTER BADGE NUMBER"
        @7,5 SAY "(Y000-TOP SECRET)"
        @9,5 SAY "(R000-SECRET)"
        @11,5 SAY "(V000-VISITOR) " GET BC PICT "!999"
        @13,5 SAY "ENTER LAST NAME " GET LN PICT
"!!!!!!!!!!!!!!!"
        @15,5 SAY "ENTER INITIALS  " GET IN PICT "!!!!!"
        @17,5 SAY "ENTER RANK      " GET RK
        @19,5 SAY "ENTER DEPARTMENT" GET DP PICT "!!!!!"
        @21,5 SAY "ENTER PHONE     " GET PH PICT "99999"
        @23,5 SAY "ENTER ROOM      " GET RO PICT "999"
        READ
        CLEAR
        WAIT
   CASE CHOICE = "E"
        CLEAR
        USE BORROWER INDEX BCBOR, LNBOR
        @5,10 SAY "ENTER BADGE NUMBER OF THE PERSON TO
BE CHANGED."
              ACCEPT TO CH
              SEEK CH
        IF BC <> CH
@7,10 SAY "THIS BADGE NUMBER IS NOT IN THE FILE."
@8,10 SAY "RETURN TO THE MENU TO ADD NEW NAMES, OR"
@9,10 SAY "TO TRY A DIFFERENT NUMBER."
@10,10
        WAIT
        RETURN
```

```
        ENDIF
        CLEAR
        @23,1 SAY "MAKE NECESSARY CHANGES; PRESS CONTROL
W WHEN DONE."
              EDIT
              WAIT
              CLEAR
   CASE CHOICE = "D"
        CLEAR
        USE BORROWER INDEX BCBOR, LNBOR
@5,10 SAY "ENTER BADGE NUMBER OF THE DEPARTING PERSON."
              ACCEPT TO REM
              SEEK REM
        IF BC <> REM
@7,10 SAY "THIS PERSON IS NOT IN THE BORROWERS' FILE."
@8,10 SAY "RETURN TO THE MENU TO ADD NEW NAMES, OR"
@9,10 SAY "TO TRY A DIFFERENT BADGE NUMBER."
@10,10
        WAIT
        RETURN
        ENDIF
        CLEAR
        @3,5 SAY "THE RECORD CHOSEN IS AS FOLLOWS: "
             @5,5 SAY BC
             @7,5 SAY LN
             @9,5 SAY IN
             @11,5 SAY RK
             @13,5 SAY DP
             @15,5 SAY PH
             @17,5 SAY RO
       @19,5 SAY "DELETE THIS RECORD? ENTER 1 TO DELETE
RECORD, OR"
@20,5 SAY "PRESS ANY OTHER KEY TO RETURN TO MENU."
             WAIT TO NUMB
                  IF NUMB = "1"
                  DELETE
                  PACK
                  CLEAR
                  RETURN
                  ENDIF
             WAIT
   CASE CHOICE = "R"
        CLOSE DATABASES
        CLEAR
        RETURN TO MASTER
OTHERWISE
   @23,1
   @23,1 SAY "ERROR - PRESS A, E, D, OR R "
   ?? CHR (7)
   STORE 1 TO XX
       DO WHILE XX, 35
       STORE XX + 1 TO XX
       ENDDO
ENDCASE CHOICE
ENDDO
```

```
*****MANAGEMENT.PRG
****LAST REVISION 08/11/86
***CALLED BY MENU.PRG
SET TALK OFF
CLEAR
DO WHILE .T.
CLEAR
STORE " " TO OPTION
@2,1 SAY DTOC(DATE())
@1,10 SAY "MILS MANAGEMENT ACTIVITIES MENU"
@7,20 SAY "PRINT VOUCHER REGISTER "
@9,20 SAY "MONTHLY RECEIVING REPORTS "
@11,20 SAY "RETURN TO MAIN MENU "
@13,10 SAY "SELECT OPERATION BY PRESSING FIRST LETTER "
GET OPTION PICT "A"
READ
STORE UPPER(OPTION) TO OPTION
DO CASE
   CASE OPTION = "P"
        DO REG
   CASE OPTION = "M"
        DO RECEIVIN
   CASE OPTION = "R"
        CLEAR
        RETURN TO MASTER
OTHERWISE
   @23,1
   @23,1 SAY "ERROR = SELECT P, M, OR R "
   ?? CHR(7)
   STORE 1 TO XX
       DO WHILE XX<35
       STORE XX+1 TO XX
       ENDDO
ENDCASE
ENDDO
```

```
********REG.PRG
******************** PRODUCE THE VOUCHER REGISTRY
********LAST REVISION: 04/09/86
***CALLED BY MANAGEMENT.PRG
CLEAR
USE VOUTEMP
APPEND FROM ONORDER FOR IND > CTOD("09/01/86") .OR. IND
> CTOD("01/01/87")
REPLACE ALL TY WITH "RR"
REPLACE ALL VN WITH 1
INDEX ON STR(-
YEAR(IND),8)+STR(MONTH(IND),8)+STR(DAY(IND),8)+VENDOR TO
REGVOU
STORE 2715 TO BAL
STORE 60 TO LINE
STORE 870000 TO MVN
SET DEVICE TO PRINT
SET TALK OFF
DO WHILE .NOT. EOF()
    IF LINE > 50
       EJECT
       @1,1 SAY "VOUCHER REGISTER OF BOOKS"
       @1,28 SAY "ACCOUNT NUMBER"
       @1,44 SAY "FISCAL YEAR"
       @1,56 SAY "LOCATION OF ARMY LIBRARY"
       @3,31 SAY "L1-50.1"
       @3,47 SAY "FY87"
       @3,57 SAY "CAA LIBRARY"
       @4,57 SAY "BETHESDA, MD 20814-2797"
       @6,1 SAY "VOUCHER"
       @6,13 SAY "DATE"
       @6,22 SAY "TYPE OF"
       @6,32 SAY "TO OR FROM"
       @6,46 SAY "DEBIT"
       @6,54 SAY "CREDIT"
       @6,63 SAY "BALANCE"
       @6,73 SAY "REMARKS"
       @7,1 SAY "NUMBER"
       @7,11 SAY "RECORDED"
       @7,22 SAY "VOUCHER"
       @8,1 SAY "======="
       @8,11 SAY "========"
       @8,22 SAY "======="
       @8,32 SAY "=========="
       @8,46 SAY "====="
       @8,54 SAY "======"
       @8,63 SAY "======="
       @8,73 SAY "======="
     STORE 10 TO LINE
   ENDIF
   @ LINE, 11 SAY IND
   @ LINE, 22 SAY TY
   @ LINE, 32 SAY VENDOR
   @ LINE, 46 SAY CP
   @ LINE, 54 SAY CR
```

```
    @ LINE, 73 SAY VTICKNU
    IF CP > 0
       STORE BAL + CP to BAL
       @ LINE, 63 SAY BAL PICTURE "9,999"
    ELSE
       STORE BAL - CR TO BAL
       @ LINE, 63 SAY BAL PICTURE "9,999"
    ENDIF
    IF VN = 1
       STORE MVN + 1 TO MVN
       @ LINE, 1 SAY MVN PICTURE "999999"
    ENDIF
    @ LINE, 73 SAY RM
    STORE LINE + 1 TO LINE
  SKIP
  @ LINE,1 SAY " "
  ENDDO
  SET DEVICE TO SCREEN
  EJECT
  SET PRINT OFF
  USE
  USE VOUTEMP
  ZAP
  ERASE REGVOU.NDX
  RETURN
```

```
********RECEIVING.PRG
***** TO PREPARE BLANKET PURCHASE AGREEMENT OBLIGATION
RECORD
****LAST REVISION 04/09/86
***CALLED BY MANAGEMENT.PRG
CLEAR
SET TALK OFF
DO WHILE .T.
   USE ONORDER
   INDEX ON VENDOR + STR(-
YEAR(IND),8)+STR(MONTH(IND),8)+STR(DAY(IND),8) TO
BLANKET
   GO TOP
   SET PRINT ON
REPORT FORM BLANKET$ FOR IND >CTOD("09/01/86") .OR. IND
>CTOD("01/01/87")
?
?
SET PRINT OFF
EJECT
CLOSE DATABASES
ERASE BLANKET.NDX
RETURN
```

```
****PERIODIC.PRG
****LAST DATE REVISED 08/05/86
*****TO MANAGE THE PERIODICALS
***CALLED BY MENU.PRG
**WRITTEN BY L. S. KUNTZ
CLEAR
SET EXACT ON
DO WHILE .T.
STORE " " TO CHOICE
CLEAR
@0,0 to 23,79 double
@1,3 SAY DTOC (DATE())
@1,70 SAY TIME()
@3,25 SAY "PERIODICAL MENU"
@5,20 SAY "CHECK-IN PERIODICALS"
@7,20 SAY "EDIT PERIODICAL RECORDS"
@9,20 SAY "DELETE PERIODICAL RECORDS "
@11,20 SAY "PRINT WEEKLY LIST"
@13,20 SAY "RETURN TO MAIN MENU"
@15,20 SAY "SELECT OPERATION BY PRESSING FIRST LETTER "
GET CHOICE PICT "A"
READ
STORE UPPER(CHOICE) TO CHOICE
DO CASE
   CASE CHOICE = "C"
        DO SERCHEC
   CASE CHOICE = "E"
        DO SEREDIT
   CASE CHOICE = "D"
        DO SERDELETE
   CASE CHOICE = "P"
        DO WEEKLY
   CASE CHOICE = "R"
        CLEAR
        CLOSE DATABASES
        RETURN TO MASTER
OTHERWISE
   @22,1 SAY "ERROR - PRESS C, E, D, P, OR R "
   ?? CHR(7)
   STORE 1 TO XX
       DO WHILE XX<35
       STORE XX+1 TO XX
       ENDDO
ENDCASE
ENDDO
```

```
***SERCHEC.PRG
**CHECK IN SERIALS AS RECEIVED
**CALLED BY PERIODIC.PRG
**WRITTEN BY L. S. KUNTZ
***LAST DATE REVISED 02/09/87
CLEAR
MORE = .T.
DO WHILE MORE
   SELECT 1
   USE RECSER INDEX RECISSN, RECD
   SELECT 2
   USE SERIALS INDEX ISSN
   STORE "    -    " TO COND
   @10,10 SAY "LOOK FOR WHAT ISSN NUMBER? " GET COND
PICT "9999-999X"
   READ
   SEEK COND
      IF ISSN <> COND
         @7,10 SAY "THERE IS NO SUCH ISSN NUMBER IN THE
SERIALS FILE"
         WAIT
         RETURN
      ENDIF
      IF ISSN = COND
         DISP OFF TI
      ENDIF
   STORE "Y" TO CORRECT
@23,20 SAY " IS THIS THE CORRECT TITLE (Y/N)? " GET
CORRECT PICTURE 'Y'
READ
   IF CORRECT = "N"
      LOOP
   ENDIF
CLEAR
SELECT 1
SEEK COND
STORE COND TO MISSN
STORE DATE() TO MRECD
STORE SPACE(10) TO MVOL
STORE SPACE(10) TO MISSUE
STORE SPACE(20) TO MCOVER
@5,5 SAY "INPUT VOLUME NUMBER " GET MVOL PICT
"999999999"
@7,5 SAY "INPUT ISSUE NUMBER" GET MISSUE PICT
"9999999XX"
@9,5 SAY "INPUT DATE FROM COVER OF PERIODICAL " GET
MCOVER
READ
APPEND BLANK
REPLACE ISSN WITH MISSN, RECD WITH MRECD, VOL WITH MVOL,
ISSUE WITH MISSUE, COVER WITH MCOVER
CLEAR
STORE COND TO MISSN
STORE DATE() TO MRECD
STORE SPACE(10) TO MVOL
```

```
STORE SPACE(10) TO MISSUE
STORE SPACE(20) TO MCOVER
CLEAR
@23,20 SAY "CONTINUE (Y/N)? " GET MORE PICTURE 'Y'
READ
ENDDO
CLOSE DATABASES
RETURN
```

```
****SEREDIT.PRG
**TO EDIT SERIALS CHECKED IN
**CALLED BY PERIODIC.PRG
**WRITTEN BY L. S. KUNTZ
**LAST REVISION 04/04/87
CLOSE DATA
CLEAR
SET SAFETY OFF
MORE = .T.
DO WHILE MORE
   USE SERIALS INDEX ISSN
   STORE "     -     " TO COND
   @10,10 SAY "LOOK FOR WHAT ISSN NUMBER? " GET COND
PICT "9999-999X"
   READ
   SEEK COND
      IF ISSN <> COND
         @23,10 SAY "THERE IS NO SUCH ISSN NUMBER IN THE
SERIALS FILE"
         WAIT
         CLEAR
         LOOP
      ENDIF
      IF ISSN = COND
         DISP OFF TI
      ENDIF
   STORE "Y" TO CORRECT
   ?
   @23,10 SAY "IS THIS THE CORRECT TITLE (Y/N)? " GET
CORRECT PICT 'Y'
   READ
      IF CORRECT = "N"
         CLEAR
         LOOP
      ENDIF
   USE RECSER INDEX RECISSN, RECD
   SEEK COND
      IF (EOF() .OR. BOF())
         ELSE
         DISP VOL, ISSUE, COVER, RECD WHILE ISSN = COND
         CLOSE DATABASES
      ENDIF
  SELECT 1
  USE RECSER
  SET INDEX TO RECISSN, RECD
  COPY STRU EXTENDED TO TEMPSTRU
  SELECT 2
  USE TEMPSTRU
  SELECT RECSER
     DO WHILE .T.
        YOURREC = 0
        @15,10 SAY "RECORD NUMBER TO EDIT? (PRESS ESCAPE
TO QUIT) "
        @ ROW(), COL() GET YOURREC PICTURE '@Z' RANGE 1,
RECCOUNT()
```

```
            READ
               IF YOURREC = 0
                  EXIT
               ENDIF
            GO YOURREC
            SELECT 2
            NUMFIELDS = RECCOUNT()
            CLEAR
            LIST FIELD_NAME
            SELECT RECSER
            CHOICE = 0
            DOMORE = .T.
            FIELDSET = SPACE(254)
         DO WHILE DOMORE
      @22,10 SAY "WHICH FIELD DO YOU WANT TO EDIT? "  GET
      CHOICE PICT "9" RANGE 1, NUMFIELDS
            READ
            SELECT TEMPSTRU
               IF CHOICE = 0
                  EXIT
               ENDIF
            GO CHOICE
               IF FIELD_TYPE<> "*"
                  @CHOICE, 20 SAY '--' + CHR(16)
                  @CHOICE, 29 SAY TRIM(FIELD_NAME)
                  STORE FIELD_NAME TO MEMFIELD
                  REPLACE FIELD_TYPE WITH "*"
           FIELDSET = TRIM(TRIM(FIELDSET) + MEMFIELD) + ","
               ENDIF
      @23,20 SAY "ANY MORE FIELDS (Y/N)?" GET DOMORE PICT "Y"
              READ
         ENDDO
      CLEAR
      SET EXACT ON
         IF "" <> FIELDSET
             SELECT RECSER
             FIELDSET = LEFT( FIELDSET, LEN( TRIM(
   FIELDSET)) - 1 )
             CHANGE NEXT 1 FIELDS &FIELDSET
          ENDIF
     SET EXACT OFF
     SELECT TEMPSTRU
     REPLACE ALL FIELD_TYPE WITH "  "
     SELECT RECSER
     CLEAR
   ENDDO
   @23,20 SAY "INPUT ANOTHER ISSN NUMBER TO EDIT (Y/N)? "
   GET MORE PICTURE 'Y'
   READ
   CLOSE DATA
   ENDDO
   CLOSE DATABASES
ERASE TEMPSTRU.DBF
CLEAR
RETURN
```

```
***SERDELETE.PRG
***TO DELETE CHECKED IN SERIAL RECORDS
***LAST REVISION 02/09/87
***WRITTEN BY L. S. KUNTZ
CLEAR
STORE "Y" TO MORE
STORE "     -     " TO MAC
USE RECSER INDEX RECISSN, RECD
DO WHILE MORE = "Y"
@10,10 SAY "ENTER ISSN NUMBER TO BE DELETED " GET MAC
PICT "9999-999X"
READ
     SEEK MAC
       IF (EOF() .OR. BOF())
         ELSE
DISPLAY TRIM(VOL), TRIM(ISSUE), TRIM(COVER) WHILE ISSN =
MAC
STORE 0000 TO DECHOICE
@15,10 SAY " ENTER RECORD NUMBER TO DELETE, 0 FOR NONE
OF THESE." GET DECHOICE PICT "9999"
READ
   IF DECHOICE <> 0
   GOTO DECHOICE
DELETE
   ENDIF
ENDIF
@23,20 SAY "DELETE ANOTHER ISSN (Y/N)? " GET MORE
PICTURE 'Y'
READ
CLEAR
ENDDO
CLOSE DATABASES
RETURN
```

```
***WEEKLY.PRG
**PRINT WEEKLY LIST OF SERIALS RECIEVED
**WRITTEN BY L. S. KUNTZ
**LAST REVISION 02/09/87
CLEAR
SET SAFETY OFF
USE RECSER INDEX RECISSN, RECD
@5,10 SAY "WORKING ON REMOVING DELETED RECORDS "
SET TALK ON
SET ESCAPE OFF
PACK
CLEAR
SET TALK OFF
SET ESCAPE ON
SET INDEX TO RECD
STORE DATE() - 7 TO LOOKFOR
SELECT 1
USE SERIALS INDEX ISSN
SELECT 2
USE RECSER INDEX RECISSN
SET RELATION TO ISSN INTO SERIALS
@15,5 SAY "ALINE TOP OF NEXT PAGE IN PRINT TO BE EVEN
WITH RIBBON"
WAIT
SET PRINT ON
? CHR(27) + CHR(69)
REPORT FORM WEEKLY FOR RECD >= LOOKFOR
? CHR(27) + CHR(70)
EJECT
SET PRINT OFF
CLOSE DATABASES
RETURN
```

APPENDIX P

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Inmagic/INMAGIC

Blackwell Library Systems/Bookline

APPENDIX Q

ACKNOWLEDGEMENTS AND TRADEMARK STATEMENT

The following individuals assisted in the development of MILS:

Library Staff:

Margaret Martinez

Janice Beattie

Eloise Stone

Harry Thomas

Hardware Assistance:

Major Dave Stevens

Debra Leshinski

Programing Assistance:

William K. Wright (voucher registry program and general debugging)

Mike Longest (FORTRAN program to produce keyword files)

Trademarks

dBASE III and dBASE III Plus of Ashton-Tate

WordStar and CorrectStar of MicroPro International

PC-DOS of International Business Machines

FORTRAN 77 of Microsoft Incorporated

GLOSSARY

AD	prefix on DTIC accession numbers
BRS	Bibliographic Retrieval Services
CAA	US Army Concepts Analysis Agency; combined arms army
DIALOG	DIALOG Information Services, Inc.
DOS	disk operating system
DTIC	Defense Technical Information Center
FEDLINK	Federal Library Automation Office
ILL	interlibrary loan
ILS	integrated library system
IRC	Information Resource Center
ISBN	International standard book number
ISSN	International standard serial number
KWOC	key-word-out-of-context
LAN	local area network
LMI	Logistics Management Institute
M300	OCLC's IBM workstation
MARC	machine readable cataloging
MILS	Microcomputer Integrated Library System
NEXIS	Mead Data Central data base
OCLC	Online Computer Library Center
PC	personal computer
TIC	technical information center

END

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