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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



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Comments or suggestions should be addressed to:

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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.					
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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

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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



**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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**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	Character	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	Character	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 programming 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-programmer 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 sub-systems: 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 UCLC; (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 forty-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.

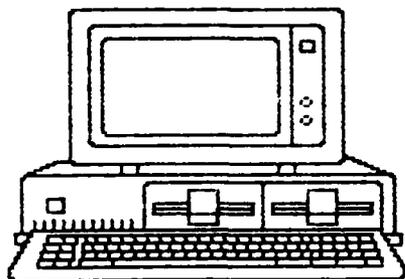
b. Because about 50 percent of the classified documents are not in a data base from which the TIC can download, the bibliographic information must be keyed in by the TIC staff. Experience has shown that if accessions are in the area of 15 to 20 items a day, one person can manage the workload in no more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



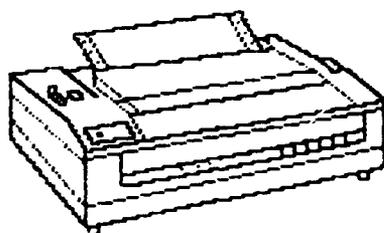
linked by dial up  
access to

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  
 lxx\* 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  
     \$d\* 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	

Structure for database: C:KWIT.dbf                   KEYWORDS FROM TITLES  
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

Structure for database: C:SUBJECT.dbf               KEYWORDS FROM SUBJECT HEADINGS  
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  
 Number of data records: 180  
 Date of last update : 07/21/86

UNCLASSIFIED DOCUMENTS

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	
9	RN	Character	20	
10	IND	Date	8	
** Total **			190	

AD NUMBER  
 REPORT NUMBER  
 DATE OF INPUT

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

PERIODICALS

Field	Field Name	Type	Width	Dec
1	TI	Character	100	
2	PU	Character	10	
3	ISSN	Character	13	
4	FREQ	Character	2	
5	NOTES	Memo	10	
6	DATE	Date	8	
7	VOL	Character	10	
8	ISSUE	Character	10	
9	COST	Numeric	6	2
10	SOURCE	Character	5	
11	COVERDATE	Character	20	
** Total **			195	

INTERNATIONAL STANDARD SERIALS NUMBER  
 FREQUENCY  
 NOTES  
 DATE RECEIVED  
 VOLUME NUMBER  
 ISSUE NUMBER  
 COST  
 VENDOR  
 DATE ON COVER

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

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 dBase III Limitations  
 and Specifications
 

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*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 (memo)
Fields per record	128 maximum

*FIELD SIZE*

Character fields	254 bytes maximum
Date fields	6 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	$1 \times 10^{-307}$

*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 MISS |
| 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: 021848  
ACCESSION #: AI #: ORGANIZATION:  
TITLE:  
AUTHOR:  
PUBLICATION DATE: PAGING:  
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

CAA-TP-86-10

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
EPSON 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	DOCUMENTS
WITH HARD DISK	
640K MEMORY	BOOLEAN CONNECTORS
CAPACITY . . LIMITED ONLY BY	FULL SCREEN INPUT/EDIT
DISK SIZE	
	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 control C to abort; otherwise, if you do not abort, the MILS batch file will continue. The MILS.BAT file is displayed below along 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 appear 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

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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 Micro-computer 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

MENU.PRGSEARCH.PRGAUTHORS.PRG

BOOKS.DBF	AUBKS.NDX
	ACBKS.NDX

TEMP.DBF

AUTHDOC.PRG

DOCUMENT.DBF	AUDOC.NDX
TEMP.DBF	ACDOC.NDX

TITLES.PRGONEWD.PRG

KWIT.DBF	TIKWIT.NDX
BOOKS.DBF	ACBKS.NDX
TEMP.DBF	

ONEDOC.PRG

CKWIT.DBF	CTIKWIT.NDX
DOCUMENT.DBF	ACDOC.NDX
TEMP.DBF	

TWOWD.PRG

KWIT.DBF	TIKWIT.NDX
TEMP1.DBF	
TEMP2.DBF	
ANSWER.DBF	
BOOKS.DBF	ACBKS.NDX

TWOWDDOC.PRG

CKWIT.DBF	CTIKWIT.NDX
TEMP1.DBF	
TEMP2.DBF	
ANSWER.DBF	
DOCUMENT.DBF	ACDOC.NDX

THREWD.PRG

KWIT.DBF	TIKWIT.NDX
TEMP.DBF	
TEMP1.DBF	
TEMP2.DBF	

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.PRGONORDER.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.PRGBORCODE.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 ECBOR.NDX

MANAGEME.PRGCIRREPORT.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 RECISN.NDX RECD.NDX  
SERIALS.DBF ISSN.NDX

SEREDIT.PRG  
SERIALS.DBF ISSN.NDX  
RECSER.DBF RECISN.NDX RECD.NDX  
TEMPSTRU.DBF

SERDELETE.PRG  
RECSER.DBF RECISN.NDX RECD.NDX

WEEKLY.PRG  
RECSER.DBF RECISN.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.PRGM
***** 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 TOWD
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 DOC SER  
PICTURE 'Y'  
READ  
    IF DOC SER = "N"  
        RETURN TO MASTER  
    ENDIF  
    IF DOC SER = "Y"  
        CLOSE DATA  
        CLEAR  
        DO ONEWD  
    ENDIF
```

```

***TWOVD.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 TWOVDDOC
    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
```

```

***THREWD.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 ACBKS
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
  ?
  ?
  ?
  ?"
  ?"CALL NUMBER      ",E->REF
  ?"                  ",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 "
    @18,20 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 THREWD
        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

```

```

**TWOSE.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

```

***THRESH.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 RND0C
  @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
**ORGD OC.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 DOC SER  
PICTURE "Y"  
READ  
  IF DOC SER = "N"  
    RETURN  
  ENDIF  
  IF DOC SER = "Y"  
    CLOSE DATA  
    CLEAR  
    DO ORGANI  
  ENDIF
```

AD-A103 230

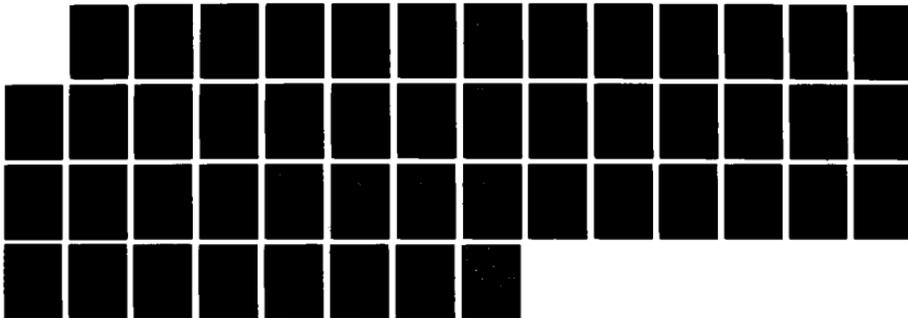
MICROCOMPUTER INTEGRATED LIBRARY SYSTEM (MILS) THE  
ONLINE INTEGRATED TECH. (U) ARMY CONCEPTS ANALYSIS  
AGENCY BETHESDA MD L S KUNTZ SEP 86 CAR-TP-86-10

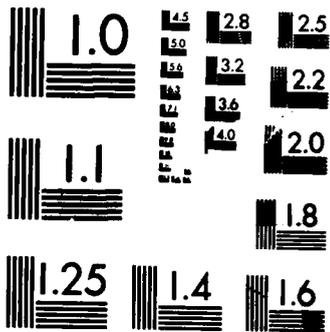
2/2

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
  "999.999999999999"
  @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 MADD

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 SHSUBJ  
 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 DIOC( 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 08/11/88
***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
    01,1 SAY "VOUCHER REGISTER OF BOOKS"
    01,28 SAY "ACCOUNT NUMBER"
    01,44 SAY "FISCAL YEAR"
    01,56 SAY "LOCATION OF ARMY LIBRARY"
    03,31 SAY "L1-50.1"
    03,47 SAY "FY87"
    03,57 SAY "CAA LIBRARY"
    04,57 SAY "BETHESDA, MD 20814-2797"
    06,1 SAY "VOUCHER"
    06,13 SAY "DATE"
    06,22 SAY "TYPE OF"
    06,32 SAY "TO OR FROM"
    06,46 SAY "DEBIT"
    06,54 SAY "CREDIT"
    06,63 SAY "BALANCE"
    06,73 SAY "REMARKS"
    07,1 SAY "NUMBER"
    07,11 SAY "RECORDED"
    07,22 SAY "VOUCHER"
    08,1 SAY "====="
    08,11 SAY "====="
    08,22 SAY "====="
    08,32 SAY "====="
    08,46 SAY "====="
    08,54 SAY "====="
    08,63 SAY "====="
    08,73 SAY "====="
    STORE 10 TO LINE
  ENDIF
  0 LINE, 11 SAY IND
  0 LINE, 22 SAY TY
  0 LINE, 32 SAY VENDOR
  0 LINE, 46 SAY CP
  0 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 EM
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 SERKREDIT
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
"99999999XX"
@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 RECSEI 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 RECSEI 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 RECSEI 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**

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**WordStar and CorrectStar of MicroPro International**

**PC-DOS of International Business Machines**

**FORTAN 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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