

/DEVELOPEMENT OF A BIBLIOGRAPHY DATABASE PROGRAM/

by

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A MASTER'S THESIS

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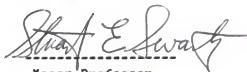
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## Chapter 1

## INTRODUCTION

Concrete Fracture Mechanics is a relatively new and quickly developing field of experimentation and analysis. Kansas State University has been involved in the research of concrete fracture mechanics mainly through the efforts of Professor S.E. Swartz. As with any serious research program, published articles of developments in experimentation, analysis and applications are invaluable. Moreover, an efficient and accurate method to accumulate, categorize and examine the published literature is of utmost importance.

During the summer and fall of 1985 an opportunity was obtained to complete a comprehensive literature search in fulfillment of a project for the Naval Civil Engineering Laboratory. During this project a method to process the data was developed.

It is the purpose of this paper to present a method used in the accumulation and organization of the pertinent literature in Concrete Fracture Mechanics. Sources of published literature references and abstracts are described and a computer based, user-friendly bibliography database program used to categorize and search the information is discussed.

## Chapter 2

## ACCUMULATION OF PERTINENT LITERATURE REFERENCES

Two types of literature searches are used in review of published research: the manual search and the computer search. In both methods a list of synonyms of keywords relating to the topic at hand is needed.

In the manual search, indexes and abstracts are consulted and the relevant references recorded on index cards. For Concrete Fracture Mechanics the Engineering Index would yield the greatest number of pertinent references. An aid in the use of the Engineering Index is the Engineering Index Thesaurus which lists related words and the subheadings in the Index where the references may be found. Other indexes of value in the Concrete Fracture Mechanic literature search are the International Civil Engineering Abstracts and the Information Service in Mechanical Engineering Bulletin (ISMEC).

Information of value to be recorded on the index cards would be the complete reference, keywords and phrases from the abstract of the article and any personal notes. To do an extensive search of the literature manually would consume a great quantity of time and could be incomplete due to the possibility of overlooked pertinent articles.

The alternate method of literature searching is the computer search. This system makes use of databases of bibliographic entries compiled by commercial information retrieval services. The university library has access to this information retrieval service computer database by means of a modem connection through an IBM microcomputer. An employee of the library operates the computer terminal to do the search through a sequence of logical commands, e.g., "ss beam and crack" searches for

references whose abstracts, keywords list or title contains both the words beam and crack. The operator may use the logical operands AND, OR and NOT or combinations thereof with key words for title and descriptor fields and can cover a specified period of time over which articles were published. The researcher is required to fill out a sheet of information about the topic, for use by the operator and may attend the search to give necessary advice. As with all attempts to make life easier there is a cost incurred for the computer search. This cost depends on the database employed, the complexity of the search and the output form, and may run as high as fifty dollars for as many references.

For the Concrete Fracture Mechanics search references were obtained using the library's computer search facilities; an already published, annotated bibliography on the subject; and various collections of literature including material from the Lund Institute of Technology and the Swedish Detonic Research Foundation.

Use of the library's computer search facilities enabled a general selection of references from 7 different databases: COMPENDEX, TRIS, NTIS, FRIP, ISMEC, EI Meetings and Dissertations Abstracts.

The COMPENDEX database is the machine - readable version of the Engineering Index. This database provides abstracted information from approximately 3500 journals, publications of engineering societies and organizations, papers from conference proceedings, selected government reports and books in 26 different languages for the years 1970 to present.

TRIS is the Transportation Research Information Service database providing all types of transportation research information from the

United States Department of Transportation and the Transportation Research Board for the years 1970 to present.

NTIS is the National Technical Information Service database which consists of government sponsored research, development and engineering over the years 1964 to present.

FRIP is the Federal Research in Progress database. This file contains data for only two years after a project is completed.

ISMEC is the Information Service in Mechanical Engineering database covering all aspects of mechanical engineering in 250 journals published throughout the world for the years from 1973 to present.

The EI Meetings database provides coverage of over 2000 published proceedings of conferences, meetings and symposia each year. It has been available since 1982 and is updated with approximately 8000 records each month.

The Dissertation's Abstracts database contains more than 800,000 dissertations dating back to 1861. More than 30,000 dissertation citations and 2500 masters thesis citations are added each year covering most U.S. universities.

The computer search used several select descriptors to determine a subset of each database which pertains to concrete cracking and fracture.

The published, annotated bibliography was the one by S. Mindess entitled "The Cracking and Fracture of Concrete: An Annotated Bibliography 1928-1981" appearing in the volume Fracture Mechanics of Concrete, edited by Folker H. Wittmann, Elsevier Science Publishers B. V., 1983. It contained 405 citations with abstracts for the years prior to 1982.

The complete search for concrete fracture mechanics resulted in 851 references.



## Chapter 3

## ORGANIZATION OF THE PERTINENT LITERATURE

3.1 Equipment

After accumulating a great quantity of bibliographic information, a need arose to scan and categorize this information quickly. A decision was made to utilize a database manipulation software package available for a microcomputer.

The data manipulation software package selected for this was DBASE III by Ashton-Tate. A number of different packages were investigated. DBASE III was selected primarily because of the availability in the College of Engineering of a data-manipulation program using DBASE II oriented toward use with a bibliography. Since DBASE III is an advanced - and faster - version of this, it was purchased using funds available from a related project.

This software is a relational, data base management system for 16-bit micro-computers. DBASE III requires the following: an IBM PC or IBM 100% compatible PC; 256K bytes of memory(RAM); MS-DOS or PC-DOS version 2.0 or greater; two 360K floppy disk drives or one 360K floppy disk drive and a hard disk drive; and an 80 column capacity printer. It is being implemented on the Civil Engineering Department's Zenith Z150 computer. It has full relational and programming features for interactive use and programmed applications development. Its capabilities include 128 fields, 4000 bytes per record and up to one billion records per file with fast sorting, indexing and searching.

DBASE III consists of several file configuration types and an assortment of commands to implement the creation, use and maintenance of

these files. [1]

According to the DBASE III Manual from Ashton-Tate, DBASE III adheres to the relational model for database management systems. A relational database is viewed as data arranged in rows and columns to form a rectangular table. The rows are called records and the columns are called fields. Each table is called a relation or database file. Cross referencing between database files is included as a capability of DBASE III. Each database file has the file type extension of dbf.

DBASE III utilizes several other file types to facilitate the organization of DBASE III commands and retrieval of data. Data organization file types are the index file and the text output file. Command file types are the format file and the command or program file type. A memory file also plays a useful role in database management. The following descriptions are paraphrased from the DBASE III manual. [1]

An index file provides a means to present and use the data arranged in a logical order instead of the physical order. The physical order is the order in which the data was entered into the database file. The logical order appears to arrange the records alphabetically, numerically or chronologically based on the contents or substrings of the contents of any field. This is a very useful function of DBASE III and can be used to create printed listings in a specified order or used to seek keywords in an indexed field quickly. The file type extension for an index field is ndx.

Text output files can be used to interface DBASE III with other software such as WORDSTAR. These files are ASCII and can be read to or copied from a database file. ASCII is an abbreviation for American

Standard Code for Information Interchange. This is a universally readable code for computers and is understandable by disk operating systems. Conversely, database files are not ASCII and cannot be printed or manipulated by systems other than DBASE III. The file type extension for a text file is txt.

Command or program files contain programs made of arrangements of DBASE III commands to perform a useful function. These are ASCII files and can be created in DBASE with the MODIFY COMMAND entry or in the non-document mode of WORDSTAR. The file type extension is prg.

A format file contains DBASE III commands arranged so as to create a custom screen display. Format files have the file type extension, fmt, and are ASCII.

Memory files use the file type extension of mem. These files can contain up to 256 memory variables.

DBASE III commands deal in easy to understand concepts using an English vocabulary with many commands similar to those used in FORTRAN or BASIC. Commands can be activated interactively by entry at the DBASE III's dot prompt or by batch through program files. Following is a paraphrase of the manual description of some of the more important commands featured by DBASE III.

USE.....opens an existing database file for viewing and other manipulations.

QUIT.....closes all open files and returns control to the operating system.

SET INDEX TO.....used after USE, opens an associated named index file.

LOCATE.....searches the active database file for a specified record.

REPLACE.....alters the contents of existing specified fields.

IF...ENDIF.....enables conditional processing of commands.

DO WHILE...ENDDO.....allows sets of commands to be repeated conditionally.

### 3.2 Preliminary Preparations to Use the Program

Using the above commands and the various files arranged in a systematic order, a program was developed to easily categorize and quickly scan the accumulated references.

It must be noted again that this program and the DBASE III software can be used only on an IBM compatible microcomputer. This excludes the Zenith 100. The Z150 and Z158 are 99% compatible as opposed to 100%, but are sufficiently compatible for using DBASE III. DBASE III is presently at residence on the hard disk of the KSU Civil Engineering Department's Z150.

Two media are available to store DBASE III and all the herein described bibliography program files: hard disk and 5 1/4" floppy disk. Microcomputers equipped with either two floppy disk drives or a floppy disk drive and a hard disk drive are required, as noted previously.

#### (a) Description of Program Installation

At present, DBASE III is on Drive C of the hard disk of the Civil Engineering Department's Z150 Microcomputer. The bibliography program that was developed consists of four program files, five format files and two utility database files. ENTRY.PRG is on drive C, while NEWDB.PRG, PROC.PRG, BIBLI.PRG, SAYDATA.FMT, GETDATA.FMT, RPTS.FMT, SHOTWO.FMT,

MTAIN.FMT, BIBSTRUC.DBF and KEYSTRUC.DBF are on Drive D, subdirectory BIBLI (hereinafter referred to as D:/BIBLI). Each of these program files is listed in Appendix II. To install the programs on a different hard disk, copy the programs from the floppy disk to any prearranged drive. The particular database file and associated index and keyword files may be located on that or another hard disk drive or the floppy disk drive.

To install the program on a two-floppy disk drive system proceed as follows: place the disk having DBASE.COM, DBASE.OVL, CONFIG.DB and ENTRY.PRG with the bibliography program and format files, including BIBSTRUC.DBF and KEYSTRUC.DBF, in drive A. The drive B disk would contain the particular database and associated index and keyword files.

#### (b) Description of General Program Flowchart

A general flowchart for the program operation is shown in Fig. 3.1. The following discussion refers to this flowchart. Operation begins by turning the Z150 power on. As the computer warms up the terminal screen will display C>. At this prompt the user will type DBASE and hit the return key. At this moment control passes to the DBASE software. It must be noted that using DBASE is similar to using an interactive version of BASIC in that the user must get "into" the software before using the related commands. At the entry of DBASE the user is "in" DBASE, however, a program of DBASE commands will instantly be initiated to guide the user in using the bibliography program. The computer will ask the user for the disk drive designation and subdirectory that the bibliography programs are store on. In the program, ENTRY.PRG, commands direct the screen to query the user if the bibliography program is desired. A response of Y or y will pass control toward that program. N or n will allow other

uses of DBASE III.

ENTRY.PRG then will ask the user if creation of a new bibliography database file is desired. If affirmative, direction will be given to create a new database through the program, NEWDB.PRG, on D:/BIBLI. This will be described later. If the response is negative, control will pass directly to the main bibliography program, BIBLI.PRG, and on to the facility program, PROC.PRG, utilizing different format files at the appropriate times. The screen will display the title of the program and query the user for the name of the database file. All associated index and keyword files will automatically be called up. The computer will search for index file names having the first seven characters identical to the database file name entered and an eighth character referring to the contents of the index files. At completion of this entry the database file will be arranged in order by year and alphabetically for the primary author's last name per each year. The first (oldest) record will be displayed with the Main Menu. Selected commands from the Menu will pass control to the appropriate subprograms within PROC.PRG and back to BIBLI.PRG.

This has been a brief overview of the program operation. A more detailed description of creating a new database, database and index file specifications, screen displays and command operations follows.

### (c) Creating a New Bibliography Database

When y or Y is the user's response to the screen's question whether a new database is to be created, control passes to the program NEWDB.PRG. This program creates a new database and associated index and keyword

files. The program will query the user for a name for the database file without the extension dbf. The user must respond by typing a file name such as E:CONCRET. Using the structure shown in Fig. 3.2, the program will create a database file from the structure file BIBSTRUC.DBF. The figure shows the field name, type and width used in the bibliography database. The FLAG field can contain any group of characters to mark a particular record for a particular manipulation, printing, for instance. The field NEW is a logical field, that is, it may contain only one character, y or n, or t or f corresponding to true or false. The program uses this to keep track of the most recent records. The YEAR field provides for entry of the reference year of publication. The FOREIGN field is another logical field to mark whether a reference is in English. COPY is a logical field marking a reference as one being in the user's publication file. REFNO is a numeric field containing the assigned reference numbers. This is a decimal number as opposed to integer number to provide for future additions to the bibliography database falling between existing references in the chronological/alphabetical by author listing.

Index files are necessary for the proper organization of the database and proper running of the program. Commands in the program, NEWDB.PRG, automatically create four index files corresponding to the bibliography database file and one corresponding to the keyword database file. One index file is keyed on the YEAR field and then the first five letters of the AUTHORS field. When a database file is associated to this index file the data is arranged by year and by author per each year. Another index file is keyed on the AUTHORS field only, for use in a quick search for primary authors. An index file keyed on the first twenty

characters of the TITLE and the first five characters of the AUTHORS field provides for duplicate reference searching. The file indexed on the REFNO field provides for quick searching by reference number.

A keywords database file is also set up by NEWDB.PRG. The field names, type and width are shown in Fig. 3.3. The character field WD contains a keyword or phrase up to thirty characters long. KEYS, KEYS2 and KEYS3 are fields to contain the reference numbers of those references corresponding to that particular keyword. Manipulations such as adding keywords or editing keywords or reference numbers and listing the file on the printer is accomplished through use of an option on the Main Menu in the program.

### 3.3 Using the Bibliography Program

#### (a) Description of the Log On Procedure

When the Z150 power is turned on, among other things the characters C> appear on the screen. The user must respond by typing DBASE and the return key. As noted before, control passes to ENTRY.PRG. The program will ask for the designation of the drive that the bibliography programs are on. See Fig. 3.4. If the program is on a floppy disk in a hard disk system, A is the correct response. For the hard disk system the user may determine to place the program and work on drives C, D, E or F. One of these letters will be the correct response.

Next, the computer will ask the user which subdirectory will be worked in, Fig. 3.4. If using a floppy disk, a simple return entry key is appropriate. If a subdirectory is used on the hard disk system, the user must type in that existing subdirectory name.

Following this, the computer will ask if the user wants to use the



bibliography program, Fig. 3.4. A response of y will direct the program toward its use. N will lead the user to create a new database or other uses of DBASE.

The next screen will query the user if creation of a new database is desired. See Fig. 3.5. At the entry of y a database with the aforementioned specifications will be created. See Fig. 3.6. Also, the necessary index and keyword files will be created and the corresponding assigned names displayed as shown in Fig. 3.7. The user may then add references to the database. See Fig. 3.8. A description of adding references is found under the command descriptions of the Main Menu, below. Following reference additions or a negative response to the screen's question, control will pass to the main program or to DBASE.

Provided the user desires to use the program and enters the appropriate responses, the title of the bibliography program will be displayed as shown in Fig. 3.9. The screen will prompt the user to make sure the printer is switched on. Then, the user will be instructed to enter the database file name. If the user's database file is on a drive directory or subdirectory other than that which he specified for the bibliography program, the new drive and/or subdirectory must be included in all file name entries. After the file name is entered the first record will be displayed.

#### (b) Description of the Main Menu

The display contains the Authors, Title, Reference and Keywords field for each article. See Fig. 3.10. The FLAG entry on the screen can contain any 5 character code to facilitate printing the reference or creating a text file of those citations of interest.

At the lower right of the screen the reference number, the status and an entry location labeled OPTION is displayed. STATUS displays DELETED if the record is marked for deletion.

OPTION is the prompt for a command.

(c) Main Menu Commands Description

a....add The add option enables the addition of new records to the database. After typing a, the screen will give the option of displaying the keywords list as shown in Fig. 3.11. At the end of the list or after typing n, the screen will show the edit menu and the different field names. A description of the edit menu follows.

The edit menu appears during operations of add or edit while using the program and provides an aid in remembering edit commands. See Fig. 3.12. The edit menu is made up of four boxes at the top of the screen. The far left box describes two types of cursor movement for editing or adding. The numeric keys at the right side of the keyboard have words below the numbers which refer to edit functions. The horizontal arrows provide cursor movement within a field horizontally by character. The home and end keys provide horizontal movement of the cursor within a field by words, thereby being much quicker.

The left of center box on the edit menu describes movement functions to new fields or screens. The vertical arrows beneath 8 and 2 on the numeric keys are depressed to move to new fields within a record or to the next record when in the top or bottom field. Pgup and Pgdwn on the 9 and 3 keys roll the screen up or down to the rest of record or to the next record. It must be noted that when a file is indexed, the records

are arranged according to the indexed term in numerical or alphabetical order by year and author. As a result, the record numbers at the top of the screen apply to the physical order but not the logical order per index use. Depressing the F1 key at the left of the keyboard will erase the edit menu.

The right of center box describes deleting functions. Depressing the DEL key (decimal key in the numeric keypad) will erase the character at the cursor. Depressing the control key, designated Ctrl, and the letter y simultaneously, will delete an entire field. Ctrl T will erase a word or portion of word beyond the cursor. Ctrl U will mark a record for deletion in its entirety. To restore a record that has been marked for deletion simply Ctrl U again.

In the far right box, four commands are described. If a letter or word has been omitted from a word or phrase, the INS key (zero key on the numeric keypad) will allow insertion of new text. INSERT will appear at the top of the screen signifying the insert mode. If not in the insert mode, text will be overwritten.

Exit, save and returning to the program main menu is accomplished by depressing Ctrl and End (the 1 key on the numeric pad) simultaneously. Typing the ESC key while editing will abort the edit and return control to the main menu. Ctrl Pgdn does not apply to this program.

f...forward Forward moves the screen display to the next reference in the logical order of the database and index.

p...print Print will print the displayed reference at the line

printer. For printing of a string of references use the report option.

b...backward Moves the screen display to the previous reference.

h...help Does not help.

q...quit Entry of this command will return the user to DBASE III control and the dot prompt. To exit DBASE III type quit at the dot prompt.

d...delete/recall Typing delete will mark a reference for deletion. If the record is already deleted it will restore the reference. The status with respect to deletion is shown on the main menu at STATUS. As a safety measure, one more step is required to eliminate a reference from the database. This is accomplished through use of the maintenance option.

l...locate This is a very useful tool for finding articles with certain keywords, titles, authors or references. Type the letter l on the main menu to enable locating. The screen will display two additional options: locate entry by principal author and search for entry by a field as shown on Fig. 3.13. The first option enables a quick search for a particular name listed first in the authors field of any record. Type the letter l to use this option and then type in the first five characters of the name when prompted. See Fig. 3.14. The index file indexed on the first 5 letters of the Author field will be used. An option to automatically print out the found references is available for the L response and the S

response. See Fig. 3.15. The second option, S, provides a means to look for a particular word within any field. When S is chosen the screen displays a choice of fields to search: authors field, keyword field, title field or reference field. After choosing the field to search the screen will prompt for a character string to search for as shown in Fig. 3.16. If the keyword field is chosen the screen will display a message prompting for a logical operand and three character strings (Fig. 3.17). If all three strings are not needed hit return when prompted for the second or third string. After a record is located that contains the desired string a locate menu prompts for continuance of the search, return to main menu, print the record or set flag as shown in Fig. 3.18.

r....report     The report option is enabled by typing r. A Report Options Menu is displayed which offers six more options dealing with the flag field and one option dealing with printing strings of references. See Fig. 3.19. Flags can be used to mark certain references to be copied to a text file for later printing. Option 7 provides for printing a range of references by the reference number at the line printer. See Fig. 3.20.

e....edit     This option will place the user in the edit mode for the current reference. The edit menu has previously been discussed.

m....maintenance     The Maintenance Menu is enabled by typing m on the main menu. It offers 7 options dealing with deletions, new entries or duplicate entries as shown in Fig. 3.21. Option 1 provides for verifying

references marked for deletion. This is another safety measure before fully removing a reference. Option 2 will actually remove those references marked for deletion. A warning will be displayed and an opportunity for aborting the purge given. See Fig. 3.22. Option 3 gives the opportunity to flag duplicated references. However, as can be seen in Fig. 3.23, the two files are similar only in the first five letters of the Authors field and the first twenty letters of the Title field. Option 4 provides for verifying new references. This option must be used to keep the new status current and make sure that references have been entered correctly. Options 5, 6, and 7 are self-explanatory.

s...set flag This option will enable the user to type in a code for later use with the report option.

g...go to reference This option provides for quick moving from one reference to another within the database. To operate, enter g. The screen will query the user for a reference number. See Fig. 3.24. Enter the number with any appropriate decimal digit and return.

k...keywords file functions This option provides for ascending the keywords file. It must be understood that this file is different from the keywords field. In the keywords file all the possible keywords used in the keywords field are listed with the corresponding reference numbers where the keywords are found. To operate, enter k. The computer will respond by displaying four options available to the user. See Fig. 3.25. By using option 1 the user can add keywords to the list and add those reference numbers that have that keyword. Option 2 provides for editing

a particular keyword. Entering 2 will cause the display to prompt for a keyword. The keyword to be edited must be entered exactly as it is in the file. The computer will display the record containing the keyword with an edit menu. Option 3 provides for a printout of the entire keywords file. Option 4 returns to the main menu.

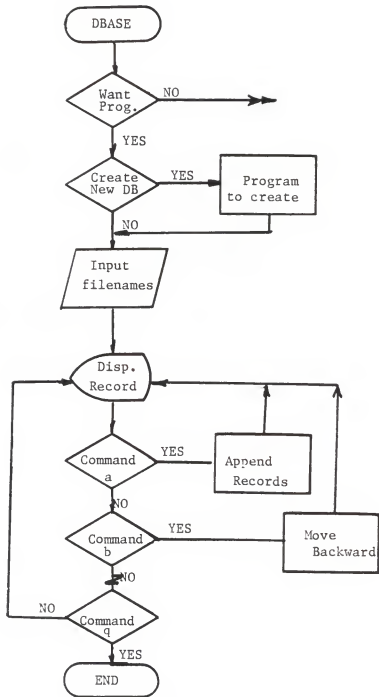


Figure 3.1 General Program Flowchart



Structure for database : d:\bibli\bibl.dbf				
Number of data records : 853				
Date of last update : 01/01/80				
Field	Field name	Type	Width	Dec
1	TITLE	Character	240	
2	AUTHORS	Character	160	
3	REFERENCE	Character	240	
4	KEYWORDS	Character	240	
5	FLAG	Character	5	
6	NEW	Logical	1	
7	YEAR	Numeric	4	
8	FOREIGN	Logical	1	
9	COPY	Logical	1	
10	REFNO	Numeric	5	1
** Total **			904	

Figure 3.2 Bibliography Database Structure

```
Structure for database : d:\bibli\biblk.dbf
Number of data records : 141
Date of last update : 01/01/80
```

Field	Field name	Type	Width	Dec
1	WD	Character	30	
2	KEYS	Character	250	
3	KEYS2	Character	250	
4	KEYS3	Character	250	
**	Total	**	781	

Figure 3.3 Keywords Database Structure

ENTER DRIVE DESIGNATION THAT YOU WILL WORK FROM d

ENTER SUBDIRECTORY TO WORK FROM. IF NONE HIT RETURN bibli

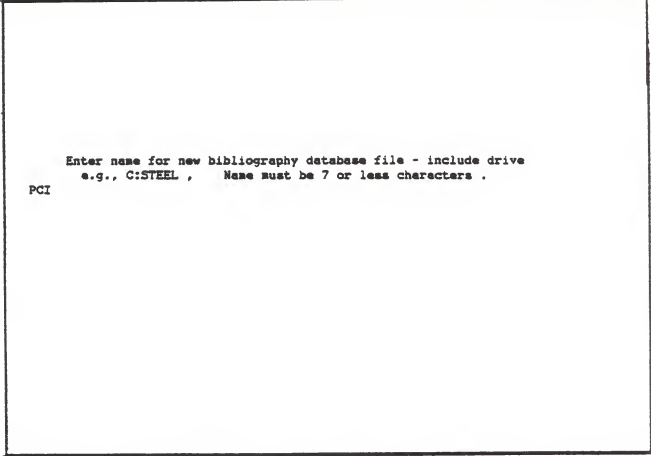
DO YOU WANT TO USE THE BIBLIOGRAPHY PROGRAM ? (Y/N)...

Figure 3.4 Initial Screen Display



DO YOU WANT TO CREATE A NEW BIBLIOGRAPHY DATABASE FILE ? (Y/N)

Figure 3.5 Screen Display



Enter name for new bibliography database file - include drive  
e.g., C:STEEL , Name must be 7 or less characters .

PCI

Figure 3.6 Screen Display at New Database Creation

Name for index file to be keyed on year and author will be PCIy.ndx

Name for index file to be keyed on author will be PCIa.ndx

Name for index file to be keyed on title will be PCIt.ndx

Name for index file to be keyed on reference no.

will be PCIr.ndx

Figure 3.7 Screen Display at New Database Creation



Get ready to enter data.....

Press any key to continue...

Figure 3.8 Screen Display to Enter Data into New Database

B I B L I O G R A P H Y  
D A T A B A S E

• • • C O N F I R M   T H A T   P R I N T E R   I S   O N   • • •

Enter Filename with Drive  
Designation but without File Extension  
e.g., E:CONCRET, note: must be 7 characters or less

The index files must be on the same drive  
and directory as designated above to database.

BIBL

Figure 3.9 Screen Display at Bibliography Program Introduction



-----  
 AUTHORS: Richart, F.E., A. Brandtzeag and R.L. Brown

-----  
 TITLE: A Study of the Failure of Concrete Under Combined Compressive Stresses

-----  
 REFERENCE: Bulletin No. 185, Engineering Experiment Station, University of Illinois, 1928

-----  
 KEYWORDS: bond,compress,cracking,microcrack,strain,tensile,experimental

-----  
 FLAG:

```

=====
e)dd      b)ackward  d)elete/recall  e)dit          REFERENCE NO. 1.0
f)orward h)elp      l)ocata         m)aintenance   STATUS: Ok
p)rint   q)uit     r)eport        s)et flag      OPTION
g)o to reference no.  k)eyword file functions
                      **** MAIN MENU ****
  
```

Figure 3.10 Screen Display with Main Menu and First Record

```
      DISPLAY KEYWORDS (y,n)
ASTN
CLWL
CLWL-DCB
CTOD
DCB
Gc
Gic
Griffith
J-integral
Jic
Kc
Kic
LEFM
LPD
R-curve
SEM
SEM
acoustic emission
aggregate shape
application
Press any key to continue...
```

Figure 3.11 Screen Display During Add Option

Record No. 1

CURSOR ← - - →	UP DOWN	DELETE	Insert Mode: Ins
Char: ← →	Field: ↑ ↓	Char: Del	Exit: ^End
Word: Home End	Page: PgUp PgDn	Field: ^Y	Abort: Esc
	Help: F1	Record: ^U	Memo: ^PgDn

TITLE

AUTHORS

REFERENCE

KEYWORDS

FLAG

NEW

YEAR

FOREIGN

COPY

REFNO

Figure 3.12 Screen Display of Edit Menu During Add Option

- L. LOCATE ENTRY BY PRINCIPAL AUTHOR
- S. SEARCH FOR ENTRY BY ANY FIELD

Select 1 or s

Figure 3.13 Screen Display During Locate Option

- L. LOCATE ENTRY BY PRINCIPAL AUTHOR
- S. SEARCH FOR ENTRY BY ANY FIELD

Select 1 or s

L

Enter up to the first five characters of the last name  
of the principal author.

Swart

Figure 3.14 Screen Display to Locate Entry by Principal Author

- L. LOCATE ENTRY BY PRINCIPAL AUTHOR
- S. SEARCH FOR ENTRY BY ANY FIELD

Select 1 or s

L

Enter up to the first five characters of the last name  
of the principal author.

Swart

Do you wish to automatically print out the references found by  
the search ? (y/n)

Figure 3.15 Screen Display for Automatic Printing in Locate Option

- L. LOCATE ENTRY BY PRINCIPAL AUTHOR
- S. SEARCH FOR ENTRY BY ANY FIELD

Select 1 or 2

S

- a. author search
- k. keyword search
- t. title search
- r. reference search

Choose a, k, t, or r

A

Enter exact search string <return>Bazent

Figure 3.16 Screen Display for S Option in Locate Function

This routine will search through keywords for up to three strings, as

string1 .AND. (string2 .AND. or .OR. string3)

You will be asked for three strings and the logic .AND. or .OR.

Null characters may be entered for strings, as they will return TRUE

Which logic for second operand: (a/o) for (AND/OR)?

Figure 3.17 Screen Display for Locate Keyword Option



-----  
AUTHORS: Swertz, S.E., K-K. Hu and G.L. Jones

-----  
TITLE: Compliance Monitoring of Crack Growth in Concrete

-----  
REFERENCE: Journal of the Engineering Mechanics Division, ASCE, Vol. 104, 1978,  
pp. 789-800

-----  
KEYWORDS: Kc,beas,bond,compliance,concrete,crack growth,fracture,fracture toughn  
ess,experimental,

-----  
FLAG:  
-----

c. continue  
s. set flag

r. return

p. print

-----  
REFERENCE NO.278.0

STATUS: Ok

OPTION

LOCATE MENU

Figure 3.18 -Screen Display of Locate Menu

## REPORT OPTIONS

1. Remove all flags.
2. Copy new entries to text file (with keywords).
3. Copy flagged entries to dBASE file.
4. Copy flagged entries to text file (without keywords).
5. Change flag character.
6. Return to main menu.
7. Print string of References.

SELECT AN OPTION:

Figure 3.19 Screen Display of Reports Option Menu

This option provides for a print out of a number of references between the following reference numbers

Enter first reference number of string 23  
Enter last reference number of string 28

Figure 3.20 Screen Display of Printing Reports Option

```
.....
*
*                               FILE MAINTENANCE MENU                               *
*.....
*
*                               1. Verify Deleted Entries                          *
*                               2. Remove Entries Marked For Deletion              *
*                               3. Flag Duplicate Entries                          *
*                               4. Verify New Entries                              *
*                               5. Quit To dBASE III                              *
*                               6. Quit To DOS                                     *
*                               7. Return To Main Menu                            *
*.....
*
*                               PLEASE CHOOSE AN OPTION                          *
*.....
```

Figure 3.21 Screen Display of File Maintenance Menu

\*\*\*\*\* WARNING \*\*\*\*\*

This will PERMANENTLY remove any deleted entries.

It is recommended that this command be aborted and that the COPY command be used under native dBASE [see manual].

Type 'y' to continue. Type any other key to abort.

Figure 3.22 Screen Display of Maintenance Option 2 -

Delete Entries

```

.....
CITATION A:
Reference No.: 395.0 Status:
Authors: Someyeji, S.

Title: A Discussion of the Papers: Fracture Energy of Concrete: Practical Perf
ormance and Experimental Results; Methods of Determination, by P.E. Petersson, (
Reference: Cement and Concrete Research, Vol. 10, 1980, pp. 471-474
.....
CITATION B:
Reference No.: 480.0 Status:
Authors: Someyeji, S.

Title: A Discussion of the Paper, A Model Law for the Notch Sensitivity of Britt
le Materials by S. Ziegeldorf, H.S. Muller and H.K. Hilsdorf, (Cement and Concre
Reference: Cement and Concrete Research, Vol. 11, 1981, pp. 479-482
.....

C(ontinue) D(elte) P(rint) E(dit) Q(uit)

CITATION: A COMMAND: C
*** S I M I L A R F I L E S ***

```

Figure 3.23 Screen Display of Maintenance Option 3 - Find  
Duplicate Entries During Maintenance



Enter no. of reference to display... 10.0

Figure 3.24 Screen Display for Go To Reference Option

1. Add keywords to the keywords list
2. Edit keywords or indexed references list
3. Print out keywords list
4. Return to Main Menu

Enter Option1

Figure 3.25 Screen Display of Keywords File Function



## Chapter 4

## SUMMARY AND CONCLUSIONS

In Chapter 2, two methods of accumulating references were described: the manual method and the computer search. The computer search was described as being quicker and more efficient, yet more costly of the two methods. Several commercially available databases relevant to civil engineering were described.

In Chapter 3, a quick and easy way to categorize and scan the accumulated references by use of the microcomputer was described. DBASE III was purchased for this purpose and a user-friendly computer program developed. This program has all the capabilities to scan a database of great length for keywords and printout the corresponding references. The operation of the program was described in detail.

This program will be quite useful, as literature accumulation, categorization and scanning will continue to be a vital part of research at the university.

## APPENDIX I

## REFERENCES

1. dBASE III User Manual, Ashton-Tate, 1984.

APPENDIX II  
BIBLIOGRAPHY PROGRAM LISTINGS

- (a) ENTRY.PRG
- (b) NEWDB.PRG
- (c) BIBLI.PRG
- (d) PROC.PRG
- (e) FORMAT FILES

## ENTRY.PRG LISTING

```

CLEAR
STORE " " TO DR
@ 5,10 SAY "ENTER DRIVE DESIGNATION THAT YOU WILL WORK FROM"
M"GET DR
READ
SET DEFA TO &DR
STORE " " TO SUB
@ 7,10 SAY "ENTER SUBDIRECTORY TO WORK FROM. IF NONE HIT RETURN"
GET SUB
READ
IF SUB <>" "
DES=DR+"":\"+SUB
SET PATH TO &DES
ENDIF
SET DEFA TO &DR
STORE " " TO ANS
@ 10,10 say "DO YOU WANT TO USE THE BIBLIOGRAPHY PROGRAM ?
(
Y/N)... "GET ANS
READ
CLEAR
STORE " " TO ANS2
@ 10,10 SAY "DO YOU WANT TO CREATE A NEW BIBLIOGRAPHY DATABASE
FILE ? (Y/N)"
GET ANS2
read
IF UPPER(ANS2)="Y"
DO D:\BIBLI\NEWDB
ENDIF
IF UPPER(ANS)="Y"
DO BIBLI
ENDIF

```

## NEWDB.PRG LISTING

```
clear
store "          " to fname
@10,5 SAY "Enter name for new bibliography database
file - include
drive"
@11,5 SAY " e.g., C:STEEL.DBF. Name must be 7 or less char
acters
."
ACCEPT TO FNAME
CREATE &FNAME FROM BIBSTRUC
STORE "          " TO BFNAME,AFNAME,TFNAME,CFNAME,KFNAM
E
bfname=fname+"y"
afname=fname+"a"
tfname=fname+"t"
cfname=fname+"r"
kfname=fname+"k"
CREATE &KFNAME FROM KEYSTRUC
USE &KFNAME
KYIND=FNAME+"I"
INDEX ON WD TO &KYIND
CLEAR
@10,5 SAY "Name for index file to be keyed on year and
au
```

```
thor will be "+bfname+".ndx"
@13
,5 say "Name for index file to be keyed on author will b
e
"+afname+".ndx"
@15,5 say "Name for index file to be keyed on title will b
e
"+tfname+".ndx"
@17,5 say "Name for index file to be keyed on reference no.
"
@19,5 say "will be "+cfname+".ndx"
use &fname
index on str(year,4)+substr(authors,1,5) to &bfname
index on substr(authors,1,6) to &afname
index on substr(title,1,20)+substr(authors,1,5) t
o &tfname
index on refno to &cfname
set index to &bfname,&afname,&tfname,&cfname
clear
@10,5 say "Get ready to enter data...."
@11,5 SAY " "
@12,5 SAY " "
wait "Press any key to continue..."
append
DO BIBLI
```



## BIBLI.PRG LISTING

```

*!!*      dBASE CONVERT - dBASE III File Conversion Aid v1.09 12/17/84
*
SET HEADING OFF
SET SAFETY OFF
* main.prg
SET PROCEDURE TO PROC
public del,dn,fn,sno,command,reference,authors,title,fla
g,keywords,mode,refe,title,auth,bibl
do init
set intensity off
*!! Logical constant converted.
do while .t.
restore from add
  do delcheck
    set format to saydata
    store "a)dd      b)backward d)delete/recall e)dit
      " to prompt1
    store "f)orward h)elp      l)ocate      m)
aintenance" to prompt2
    store "p)rint q)uit      r)eport      s)e
t flag " to prompt3
    STORE "g)o to reference no. k)keyword file fun
ctions" to prompt4
    store "**** MAIN MENU ****" to mode
    store " " to command
*!! 'set screen on' is no longer valid.
set device to screen
*!! set screen on
  do delcheck
read
do case
  case upper(command) = "S"
    do flag
  case upper(command) = "A"
    do add
  case upper(command) = "B"
    skip -1
  case upper(command) = "D"
    do delete
  case upper(command) = "E"
    do edit
    do delcheck
  case upper(command) = "F"
    skip
  case upper(command) = "G"
    do refno

```

```
case upper(command) = "H"  
  do help  
case upper(command) = "K"  
  do kywd  
case upper(command) = "M"  
  do maintain  
case upper(command) = "R"  
  do reports  
case upper(command) = "L"  
  do locate  
case upper(command) = "Q"  
  CLOSE PROCEDURE  
  cancel  
case upper(command) = "P"  
  do print  
endcase  
enddo  
CLOSE PROCEDURE
```

## PROC.PRG LISTING

```

procedure refno
clear
set head off
set safety off
restore from add
close format
STORE 0.0 TO NU
set index to &refe,&bibl,&auth,&title
@ 10,10 say "Enter no. of reference to display
..."get nu
READ
set format to saydata
go top
seek nu
return
procedure verifyne
*!* dBASE CONVERT - dBASE III File Conversion Aid
v1.09 12/17/84
*
SET HEADING OFF
SET SAFETY OFF
* verifynew.prg
CLEAR
go top
locate for new
*!! Logical constant converted.
store .t. to more
do while more .and. (.not. EOF())
    set format to saydata
    store "VERIFY NEW RECORDS" TO mode
    store "a)ccept, c)ontinue, d)elete/recall
" TO prompt1
    store "e)dit, p)rint, q)uit" TO prompt2
    store " " to prompt4
    store " " to prompt3
    store " " to command
    do delcheck
    read
    store UPPER(command) to command
    do case
        case command = "A"
*!! Logical constant converted.
            REPLACE new WITH .f.
            CONTINUE
        case command = "E"
            do eddit
        case command = "Q"
*!! Logical constant converted.
            store .f. to more
            case command = "C"

```

```

        continue
    case command = "P"
        do print
    case command = "D"
        do delete
    endcase
enddo
*!! Logical constant converted.
store .t. to more
store "4" to command
return
procedure editit
*!!*      dBASE CONVERT - dBASE III File Conversion Aid  v
1.09 12/17/84
*
SET HEADING OFF
SET SAFETY OFF
* editit.prg
set format to
set menu on
set intensity on
edit
do delcheck
return
procedure add
*!!*      dBASE CONVERT - dBASE III File Conversion Aid  vl.
09 12/17/84
*
SET HEADING OFF
SET SAFETY OFF
* add.prg
close format
restore from add
store " " to nn
*!! Logical constant converted.
store .t. to more
CLEAR
@ 4,6 say "DISPLAY KEYWORDS (y,n)"
set console off
wait to nn
set console on
if UPPER(nn) = "Y"
    sele 3
    use &ky index &kyi
    disp off wd while .not. eof()
    use
    sele 1
endif
set intensity on
set menu on

```

```

append
release nn
return
procedure maintain
*!!*      dBASE CONVERT - dBASE III File Conversion Aid
v1.09 12/17/84
*
SET HEADING OFF
SET SAFETY OFF
* maintain.prg
*!! Logical constant converted.
store .t. to more
do while more
  set format to mtain
  store " " to command
  read
  do case
    case command = "1"
      do verifyde
    case command = "2"
      do purge
    case command = "3"
      do dupchk
    case command = "5"
      CLEAR
      set DEVICE to screen
      clear ALL
      cancel
    case command = "6"
      set console off
      quit
    case command = "7"
*!! Logical constant converted.
      store .f. to more
      case command = "4"
        do verifyne
      endcase
  enddo
release more
store " " to command
return
procedure newtext
*!!*      dBASE CONVERT - dBASE III File Conversion Aid v1
.09 12/17/84
*
SET HEADING OFF
SET SAFETY OFF

```

```

* newtext.prg
CLEAR
?
?
*!! There will be no automatic colon following this prompt at
ring.
accept "OUTPUT FILE NAME (without extension) "
  to ofn
*!! There will be no automatic colon following thi
a prompt string.
accept "OUTPUT DRIVE (a, b, c, etc.) " to ofd
CLEAR
store ofd+":"+trim(ofn) to ofn
set alternate to &ofn
set alternate on
set talk off
go top
do while .not. EOF()
if new
    ? trim(authors)
    ? trim(title)
    ? trim(reference)
    ? trim(keywords)
endif
skip
enddo
set alternate off
release ofn
release ofd
store " " to command
return
procedure locate
*!!*      dBASE CONVERT - dBASE III File Conversion Aid
v1.09 12/17/84
*
SET HEADING OFF
SET SAFETY OFF
* locate.prg
private prompt1,prompt2,prompt3,prompt4
CLEAR
restore from add
go top
store " " to ano
store " " to command
store " " to pra
?
?

```



```

?
?
? "      L. LOCATE ENTRY BY PRINCIPAL AUTHOR"
? "      S. SEARCH FOR ENTRY BY ANY FIELD
"
?
? "      Select l or s"
set console off
wait to ano
set console on
store UPPER(ano) to ano
store ano to pw
? "                                     "+ano
if ano = "L"
?
?
? " Enter up to the first five characters of the last nam
e"
? " of the principal author."
accept to pra
store substr(pra,1,5) to pra
*!! EOF() will be true if NO FIND, and RECNO() wil
l equal BOTTOM, not 0.
SET INDEX TO &AUTH
SEEK PRA
    if (EOF() .OR. BOF())
        ? "NO FIND"
        ?

```

```

? "STRIKE ANY KEY TO CONTINUE"

set console off
    wait
    set console on
    go top
endif
else
?
?
? "      a. author search"
? "      k. keyword search"
? "      t. title search"
? "      r. reference search"
?
? "      Choose a, k, t, or r"
set console off
wait to ano
set console on
store UPPER(SNO) to ano
?"                               "+ano
?
if ano="K"
?"DISPLAY KEYWORDS(Y/N)"
SET CONSOLE OFF
wait to dkw
set console on
if upper(dkw)="Y"
    if .not. file(ky+".dbf")
        clear
        @ 2,10 say "SORRY, KEYWORD FILE NOT IN USE"
        @ 4,15 SAY "STRIKE ANY KEY TO CONTINUE"
        SET CONSOLE OFF
        wait
        set console on
    else
sale 3
use &ky index &kyi
disp off wd while .not. eof()
use
sele 1
    clear
    endif
endif
clear
store " " to opnd
store " " to ag1
store " " to sg2
store " " to sg3
?
?"This routine will search through keywords for up to three
e
strings, as"

```

```

?
?"      string1 .AND. (string2 .AND. o
r .OR. string3)"
?
?"You will be asked for three strings and the logic .AND.
or
.OR."
?
?"Null characters may be entered for strings, as they will r
eturn
TRUE"
?
?
?"Which logic for second operand: (a/o) for (AND/OR)?"
set console off
wait to opnd
set console on
clear
?
accept "Enter string1 " to sg1
?
accept "Enter string2 " to sg2
?
accept "Enter string3 " to sg3
clear
@ 4,20 say "SEARCHING"
if upper(opnd)="A"
locate for sg1@(keywords) .and. (sg2@(keywords) .and.
sg3
@(keywords))
endif
if upper(opnd)="O"
locate for sg1@(keywords) .and. (sg2@(keywords) .or.
a
g3@(keywords))
endif
?chr(7)
endif for sno
if sno="A"
accept " Enter exact search string <return>" to pra
store upper(pra) to pra
locate for pra@(upper(authors))
?chr(7)
endif
if sno="T"
accept " Enter exact search string <return>" to pra
store upper(pra) to pra
locate for pra@(upper(title))
?chr(7)
endif
if sno="R"
accept " Enter exact search string <return>" to pra
store upper(pra) to pra

```

```

locate for pra$(upper(reference))
?chr(7)
endif
endif
store " " to ans
?
?" Do you wish to automatically print out the references
found by"
?" the search ? (y/n)"
accept to ans
store upper(ans) to ans
if ans<>"Y"
do while .t.
store refno to rnum
do delcheck
clear
set format to saydata
store 'LOCATE MENU' to mode
store "          c. continue      r. return      p. print"
to
prompt2
store " " to prompt1
store " " to prompt4
store "          s. set flag" to prompt3
store " " to command
read
if upper(command)="C"
if pw="S"
continue
ENDIF
IF PW="L"
SKIP 1
ENDIF
?chr(7)
if eof() .OR. (SUBSTR(AUTHORS,1,5)<>PRA .AND. PW="L")
clear
?'          **** NO FIND ****'
?
?'          STRIKE ANY KEY TO CONTINUE'
SET CONSOLE OFF
wait
set console on
endif
loop
endif
if upper(command)="S"
do flag
endif
if upper(command)="R"
release pra,sno,opnd,sg1,sg2,sg3
set index to &bibl,&title,&auth,&refe

```

```

    return
  endif
  if upper(command)="P"
    do print
  endif
enddo
endif
if ans="Y"
do while .not. eof()
if substr(authors,1,5)<>pra .and. pw="L"
exit
endif
do print
if pw="L"
skip 1
endif
if pw="S"
continue
endif
enddo
endif
set index to &bibl,&title,&auth,&refe
RETURN
PROCEDURE INIT
*!!*      dBASE CONVERT - dBASE III File Conversion Aid  v
1.09 12/17/84
*
SET HEADING OFF
SET SAFETY OFF
* init.prg
set talk off
set DELIMITER off
set bell off
set margin to 5
set console off
set DEVICE to print
set print on
? chr(15)
set print off
set DEVICE to screen
set console on
store " " to sno
store " " to dn
store " " to fn
CLEAR
?
?
*!! Unrecognized command.
?"
-----"

```

```

*!!
Unrecognized command.
?" | |"

*!! Unrecognized command.
?" | BIBLIOGRAPHY
|"
*!! Unrecognized command.
?" | DATABASE |
"
*!! Unrecognized command.
?" | _____|"

?
?
?
? " * * * CONFIRM THAT PRINTER IS
ON * * * "
?
?
? " Enter Filename with Drive"
? " Designation but with
out File Extension"

```

```

? " e.g., E:CONCRET, note: must be 7 cha
rec
ters or less"
?
?" The index files must be on the same
drive " and directory as designated
?"
above to database."
?
accept to fn
?
," Have data and index files been"
" set console off
" wait to zz
" set console on
" if !(zz) = "Y"
" store "d" to dn
bibl=fn+"y"
auth=fn+"a"
title=fn+"t"
refe=fn+"r"
ky=fn+"k"
kyi=fn+"i"
store fn to dn
use &dn
?" Name of index file keyed on year and
author "
"
"accept to bibl
?" Name of index file keyed on authors..
....."
"accept to auth
?" Name of index file keyed on title...
....."
"accept to title
?" Name of index file keyed on referenc
e no...."
"accept to refe
set index to &bibl,&title,&auth,&refe
if .not. file ('add.mex')
store ' ' to c
store 'ok' to del
store 1 to index
do while index <=79

```

```

store c+ ' ' to c
store index+1 to ind
ex
enddo
store c to skeywords
store c+c to sreference
store c+c to sauthors
store c+c to stitle
store ' ' to sflag
store '@' to flg
release c, index
save to add
*!! Unrecognized command.
endif
SAVE TO ADD
RETURN
PROCEDURE FLAG
*!!* dBASE CONVERT - dBASE III File Conversion Aid v
1.09 12/17/84
*
SET HEADING OFF
SET SAFETY OFF
* flag.cad
* sets flag symbol
if flag = " "
CLEAR
@ 10,1 say "Enter characters for flag "
?
accept to flg
replace flag with flg
else
replace flag with " "
endif
RETURN
PROCEDURE PURGE
*!!* dBASE CONVERT - dBASE III File Conversion Aid v1.
09 12/17/84
*
SET HEADING OFF

```



```

SET SAFETY OFF
* purge.prg
CLEAR
?
? "***** WARNING *****"
?
?
? "This will PERMANENTLY remove any deleted entries."
?
? "It is recommended that this command be abort
ed and that"
? "the COPY command be used under native dBASE [see
manual]."
?
? "Type 'y' to continue. Type any other key to abort."
set console off
wait to next
set console on
if UPPER(next) = "Y"
    CLEAR
    ?
    ?
    ? "Records are now being removed from file."
    pack
endif
release next
RETURN
PROCEDURE DELCHECK
*!!*      dBASE CONVERT - dBASE III File Conversion Aid
v1.09 12/17/84
*
SET HEADING OFF
SET SAFETY OFF
* delcheck.prg
if DELETED()
    store "Deleted" to del
else
    store "Ok" to del
endif
RETURN
PROCEDURE FLAGCH
*!!*      dBASE CONVERT - dBASE III File Conversion Aid
v1.09 12/17/84
*
SET HEADING OFF
SET SAFETY OFF

```

```
* flagch.prg
* changes flag symbol
CLEAR
*!! There will be no automatic colon following this prom
pt string.
accept "ENTER NEW FLAG SYMBOL " TO flg
store " " to command
CLEAR
RETURN
PROCEDURE REMFLG
*!!*          dBASE CONVERT - dBASE III File Conversion Aid v1
.09 12/17/84
*
SET HEADING OFF
SET SAFETY OFF

* remflg.prg

CLEAR
@ 4,10 say "FLAGS ARE BEING REMOVED"
go top
do while .not. EOF()
if flag <> " "
    replace flag with " "
endif
skip
enddo
RETURN
PROCEDURE DELETE
*!!*          dBASE CONVERT - dBASE III File Conversion Aid
v1.09 12/17/84
*
```

```

SET HEADING OFF
SET SAFE
TY OFF
* delete.prg
if DELETE()
    recall
else
    delete
endif
RETURN
PROCEDURE FLAGDB
*!!*      dBASE CONVERT - dBASE III File Conversion Aid  v
1.09 12/17/84
*
SET HEADING OFF
SET SAFETY OFF
* flagdb.prg
CLEAR
?
?
*!! There will be no automatic colon following this prompt at
ring.
accept "OUTPUT FILE NAME (without extension) "
    to ofn
*!! There will be no automatic colon following thi
a prompt string.
accept "OUTPUT FILE DRIVE (a, b, c, etc.) " to ofd

CLEAR
store ofd+": "+trim(ofn) to ofn
set talk off
copy to %ofn for flag <> "      "
release ofn
release ofd
store " " to command
RETURN
PROCEDURE REPORTS
*!!*      dBASE CONVERT - dBASE III File Conversion Aid
v1.09 12/17/84
*
SET HEADING OFF
SET SAFETY OFF
* reports.prg
*!! Logical constant converted.
store .t. to more

```

```

do while more
set format to rpts
store " " to command
read
do case
    case command = "1"
        do remflg
    case command = "2"
        do newtext
    case command = "3"
        do flagdb
    case command = "4"
        do flagtext
    case command = "5"
        do flagch
    case command = "6"
*!! Logical constant converted.
        store .f. to more
    case command = "7"
        do prntlist
endcase
enddo
release more
store " " to command
RETURN
PROCEDURE DUPCHK
*!!*      dBASE CONVERT - dBASE III File Conversion Aid v
1.09 12/17/84
*
SET HEADING OFF
SET SAFETY OFF
*dupchk.prg
*D.J.Roufa-8/16/84
save to dup
restore from add
set index to &title
go top
*!! Logical constant converted.
store .t. to more
do while more .and. (.not. EOF())
CLEAR
?
?
?
*!! Unrecognized command.
?* SEARCHING FOR DUPLICATED RECORDS...."
store " * * S I M I L A R   F I L E S * * " to mode

```

```

store "C(ontinue) D(elete) P(rint) E(dit) Q(uit)" to prompt1
*
store substr(authors,1,5) to authors1
store SUBSTR(title,1,20) to title1
skip
if upper(SUBSTR(title,1,20)) = upper(title1) .and. (
.not. EOF()) .and. upper(substr(authors,1,
5))=upper(authors1)
do duprea
endif
enddo
set index to &bibl,&auth,&title,&refe
rest from dup
store " " to command
RETURN
PROCEDURE DUPREM
*!!*      dBASE CONVERT - dBASE III File Conversion Aid  v1
.09 12/17/84
*
SET HEADING OFF
SET SAFETY OFF
* duprea.prg
* d.j. roufa - 16-8-84
store authors to authors2
store title to title2
store reference to reference2
store REFNO to recnus2
do delcheck
store del to del2
skip-1
store authors to authors1
store reference to referenc1
store title to title1
store REFNO to recnum1
do delcheck
store del to dell
*!! Logical constant converted.
store .t. to more
do while more
set format to shotwo
store "C" to command
store "A" to aorb
read
store UPPER(command) to command
store UPPER(aorb) to aorb
if aorb = "B"
skip
endif
do case
case command = "Q" .or. command="C"

```

```

*!! Logical constant converted.
  store .f. to more
  case command = "E"
  do eddit
  case command = "D"
  do delete
  if aorb = "A"
  store "Deleted" to del1
  else
  store "Deleted" to del2
  endif
  case command = "P"
  do print
  endcase
if aorb = "A"
  skip
endif
enddo
if command = "C"
*!! Logical constant converted.
  store .t. to more
endif
?
?reno
?
RETURN
PROCEDURE PRINT
*!!* dBASE CONVERT - dBASE III File Conversion Aid v1.
09 12/17/84
*
SET HEADING OFF
SET SAFETY OFF
* print.prg
set console off
set DEVICE to print
set print on
?
? refno
?
if len(trim(authors)) > 120
  ? SUBSTR(authors,1,120)
  ? SUBSTR(trim(authors),121)
else
  ? trim(authors)
endif
if len(trim(title)) > 120
  ? SUBSTR(title,1,120)
  ? SUBSTR(trim(title),121)
else
  ? trim(title)
endif

```



```

*!! There will be no automatic colon following this prompt a
tring.
accept "OUTPUT FILE DRIVE (a, b, c, etc.) " t
o ofd
CLEAR
store ofd+" "+trim(ofn) to ofn
set alternate to &ofn
set alternate on
set talk off
go top
do while .not. EOF()
if flag <> " "
    ? trim(authors)
    ? trim(title)
    ? trim(reference)
    ?
endif
skip
enddo
release ofn
release ofd
set alternate off
RETURN
PROCEDURE VERIFYDE
*!!*      dBASE CONVERT - dBASE III File Conversion Aid
v1.09 12/17/84
*
SET HEADING OFF
SET SAFETY OFF
* verifydel.prg
CLEAR
?
?
?
? " SEARCHING FOR DELETED RECORDS..."
locate for DELETE()
*!! Logical constant converted.
store .t. to more
do while more .and. (.not. EOF())
    set format to saydata
    store "VERIFY DELETES" to mode
    store "c)ontinue, a)dit, d)elete/recall, q)u
it" to prompt2
    store " " to prompt1
    store " " to prompt3
    store " " to prompt4
    store " " to command
do delcheck

```



```

    read
    store UPPER(command) to comm
and
    do case
        case command = "D"
            do delete
        case command = "E"
            do edit
        case command = "Q"
    !!! Logical constant converted.
        store .f. to more
        case command = "C"
            continue
    endcase
enddo
!!! Logical constant converted.
store .t. to more
store "2" to command
RETURN
procedure prntlist
*prntlist.prg
set heading off
set safety off
restore from add
clear
store 000.0 to fst,lst
?
?
?" This option provides for a print out of a number of "
?" references between the following re
ference numbers"
?
input  " Enter first reference number of string  " to f
at

```

```

input " Enter last reference number of string " to lst
set
index to &refe
seek fst
do while .not. eof()
if refno=lst+1
exit
endif
do print
skip 1
enddo
set index to &bibl,&auth,&title,&refe
return
procedure kywd
SET HEADINGS OFF
RESTORE FROM ADD
CLOSE FORMAT
CLEAR
use &ky index &kyi
DO WHILE .T.
clear
?
?
?
?"          1. Add keywords to the keywords list"
?"          2. Edit keywords or indexed refer
ences list"
?"          3. Print out keywords list"
?"          4. Return to Main Menu"
?
?
?
store 0 to var
input "Enter Option" to var
do case
  case var=1
    append
  case var=2
    store " " to kd
    clear
    @10,5 say "Enter keyword to edit " get kd

    read
    seek kd
    edit
  case var=3
    go top
    list trim(wd),trim(keys),trim(keys2),trim(keys3) to p
rint

```

```
      case var=4
use &fn index &bibl,&auth,&title,&re
fe
      return
endcase
enddo
use &fn index &bibl,&auth,&title,&refe
return
```

## FORMAT FILES LISTING

- (a) REPORTS.FMT
- (b) SAYDATA.FMT
- (c) GETDATA.FMT
- (d) SHOTWO.FMT
- (e) MTAIN.FMT

REPORTS.FMT

\* REPORTS.

```

*
@a "9"
@ 2,2 SAY "-----"
"
@ 2,57 SAY "-----"
@ 3,1 SAY "!"
@ 3,79 SAY "!"
@ 4,1 SAY "!" REPORT OPTIONS"
@ 4,79 SAY "!"
@ 5,1 SAY "!"
@ 5,79 SAY "!"
@ 6,1 SAY "!" 1. Remove all flags."
@ 6,79 SAY "!"
@ 7,1 SAY "!"
@ 7,79 SAY "!"
@ 8,1 SAY "!" 2. Copy new entries to text file (with keywords
)."
```

@ 8,79 SAY "!"	
@ 9,1 SAY "!"	
@ 9,79 SAY "!"	
@ 10,1 SAY "!"	3. Copy flagged entries to dBASE file."
@ 10,79 SAY "!"	
@ 11,1 SAY "!"	
@ 11,79 SAY "!"	
@ 12,1 SAY "!"	4. Copy flagged entries to text file (without
	keywo"
@ 12,56 SAY "rds).	!"
@ 13,1 SAY "!"	
@ 13,79 SAY "!"	
@ 14,1 SAY "!"	5. Change flag character."
@ 14,79 SAY "!"	
@ 15,1 SAY "!"	
@ 15,79 SAY "!"	
@ 16,1 SAY "!"	6. Return to main menu."
@ 16,79 SAY "!"	
@ 17,1 SAY "!"	
@ 17,79 SAY "!"	
@ 18,1 SAY "!"	7. Print string of References."
@ 18,79 SAY "!"	
@ 19,1 SAY "!"	
@ 19,79 SAY "!"	
@ 20,1 SAY "!"	SELECT AN O

```

PTION:"
@ 20,58 get command picture "9"
@ 20,79 say "!"
@ 21,1 say "!"-----
```

SAYDATA.FMT

```

*!*          dBASE CONVERT - dBASE III File Conver
&
ion Aid v1.09 12/17/84
* saydata.fat
@ 1,0 say "-----"
--"
@ 1,50 say "-----"
@ 2,0 say "AUTHORS:"
@ 2,9 say authors
@ 5,0 say "-----"
-----"
@ 5,50 say "-----"
@ 6,0 say "TITLE:"
@ 6,7 say title
@ 9,0 say "-----"
-----"
@ 9,50 say "-----"
@ 10,0 say "REFERENCE:"
@ 10,11 say reference
@ 13,0 say "-----"
-----"
@ 13,50 say "-----"
@ 14,0 say "KEYWORDS:"
@ 14,10 say keywords
@ 16,0 say "-----"
-----"
@ 16,50 say "-----"
@ 17,0 say "FLAG:"
@ 17,6 say flag
@ 18,0 say "-----"
-----"
@ 18,50 say "-----"
@ 19,2 say prompt1
@ 19,56 say "REFERENCE NO."
@ 19,69 SAY refno
@ 20,2 say prompt2
@ 20,56 SAY "STATUS: "
@ 20,66 SAY del
@ 21,2 say prompt3
@ 21,56 say "OPTION"
@ 21,63 get command
@22,2 say prompt4
@ 23,30 say mode

```



GETDATA.FMT

```

*!*#      dBASE CONVERT - dBASE III File Conversion Aid  v1.0
9
12/17/84
* getdata.fat
@ 1,0 say "-----"
"
@ 1,50 say "-----"
@ 2,0 say "AUTHORS:"
@ 2,9 get authors
@ 5,0 say "-----"
-----"
@ 5,50 say "-----"
@ 6,0 say "TITLE:"
@ 6,7 get atitle
@ 9,0 say "-----"
-----"
@ 9,50 say "-----"
@ 10,0 say "REFERENCE:"
@ 10,11 get areference
@ 13,0 say "-----"
-----"
@ 13,50 say "-----"
@ 14,0 say "KEYWORDS:"
@ 14,10 get akeywords
@ 16,0 say "-----"
-----"
@ 16,50 say "-----"
@ 17,0 say "FLAG:"
@ 17,6 get aflag
@ 18,0 say "=====
=====
@ 18,50 say "=====
@ 19,2 say prompt1
@ 20,2 say prompt2
@ 21,2 say prompt3
@ 22,2 say prompt4
@ 23,53 say "REFERENCE NO.:"
@ 23,69 SAY CODE
@ 24,33 say code
@ 24,53 say "STATUS: "
@ 24,63 say del

```

SHOTWO.FMT

```

*!!*      dBASE CONVERT - dBASE III File Conversion Aid v1.
09 12/17
/84
* shotwo.fmt
* djr - 8-16-84
@ 1,0 say "*****"
@ 1,40 say "*****"
*****"
@ 2,0 say "CITATION A: "
@ 3,20 say "Reference No.: "
@ 3,35 say recnum1
@ 3,60 say "Status: "
@ 3,68 say deleted1
@ 4,0 say "Authors: "
@ 4,9 say authors1
@ 6,0 say "Title: "
@ 6,7 say title1
@ 8,0 say "Reference: "
@ 8,11 say reference1
@ 10,0 say "*****"
@ 10,40 say "*****"
*****"
@ 11,0 say "CITATION B: "
@ 12,20 say "Reference No.: "
@ 12,35 say recnum2
@ 12,60 say "Status: "
@ 12,68 say deleted2
@ 13,0 say "Authors: "
@ 13,9 say authors2
@ 15,0 say "Title: "
@ 15,7 say title2
@ 17,0 say "Reference: "
@ 17,11 say reference2
@ 19,0 say "*****"
@ 19,40 say "*****"
*****"
@ 21,10 say prompt1
@ 23,20 say "CITATION: "
@ 23,30 get aorb
@ 23,50 say "COMMAND: "
@ 23,59 get command
@ 24,27 say mode

```

MTAIN.FMT



```
@ 16,79 say "*"
@ 17,0 say "*"
@ 17,79 say "*"
@ 18,0 say "*"
@ 18,79 say "*"
@ 19,0 say "*****"
*****"
@ 19,50 say "*****"
@ 20,0 say "*"
@ 20,79 say "*"
@ 21,0 say "*"           PLEASE CHOOSE AN OPTION"
@ 21,48 get command
@ 21,79 say "*"
@ 22,0 say "*"
@ 22,79 say "*"
@ 23,0 say "*****"
*****"
@ 23,50 say "*****"
```

DEVELOPEMENT OF A BIBLIOGRAPHY DATABASE PROGRAM

by

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B.S., Southern Illinois University, 1980

-----  
AN ABSTRACT OF A MASTER'S THESIS

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## Abstract

Literature accumulation, categorization and scanning is and will continue to be a vitally important part of research at the university. Both manual and computer methods of accumulating references are discussed. Many of the commercially available engineering computer search databases are also discussed.

An available program using the database management software, DBASE III, was improved upon to result in a user friendly program for use on an IBM compatible microcomputer. This program enables quick scanning and easy categorization of the accumulated bibliographic references.