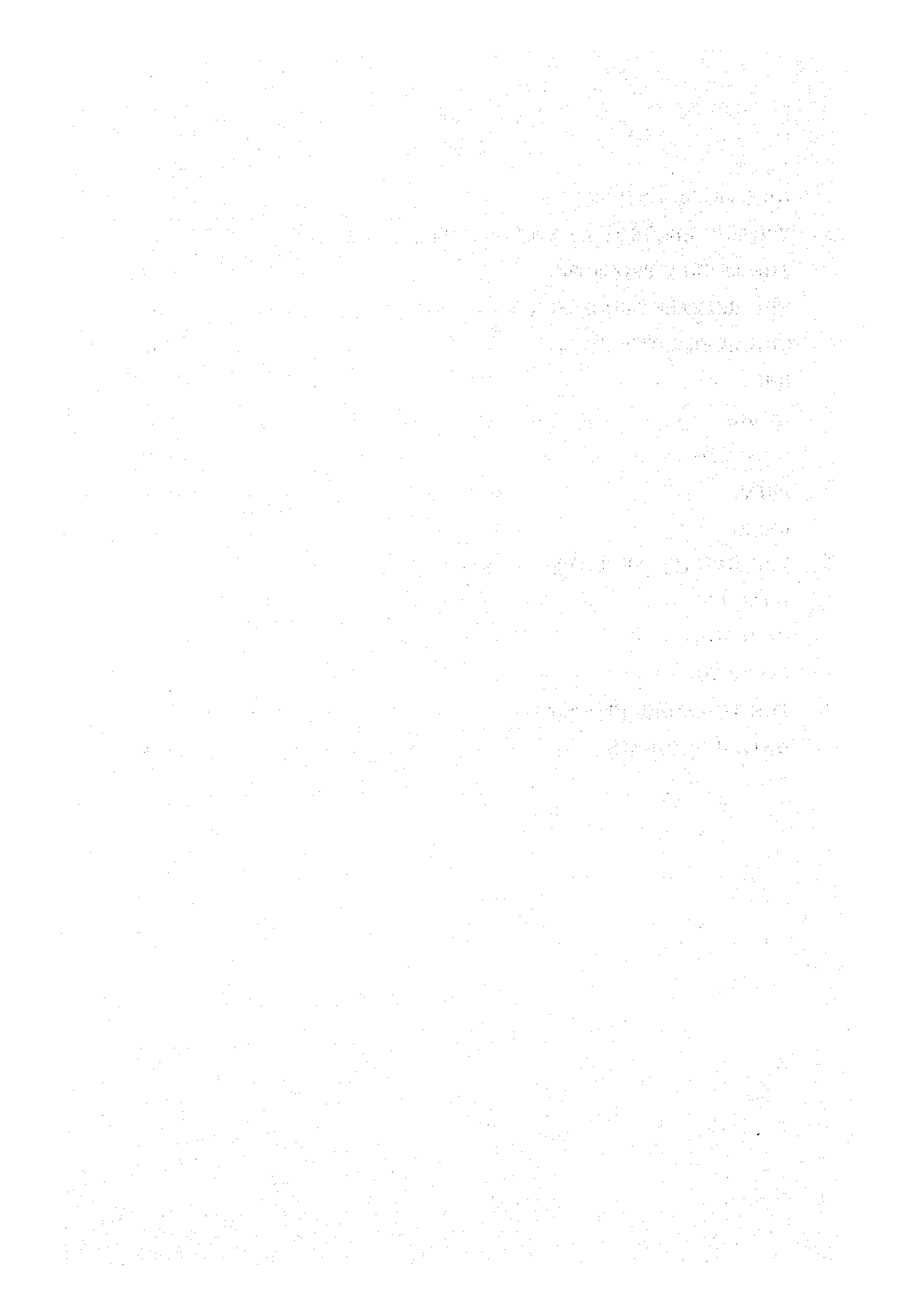


第Ⅳ部 MINISIS講習用マニュアル

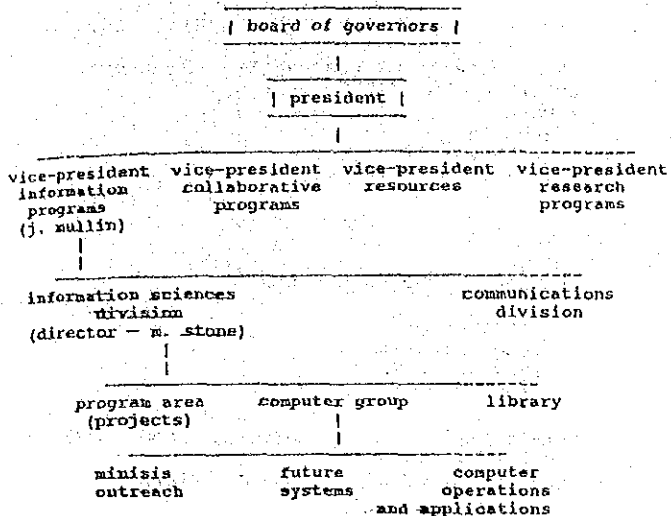


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INTERNATIONAL DEVELOPMENT RESEARCH CENTRE



MINISIS

- GENERALIZED INFORMATION MANAGEMENT SYSTEM
- RUNS ON HEWLETT-PACKARD 3000 MINICOMPUTERS
- FUNCTIONALLY COMPATIBLE WITH ISIS FAMILY OF INFORMATION SYSTEMS
- USER CAN INTERFACE MINISIS DATA BASES WITH OTHER DATA STRUCTURES ON H-P 3000 SYSTEM
- MULTILINGUAL
- CAPABLE OF HANDLING NON-ROMAN ALPHABETS
- MODULAR - MANY DIFFERENT PROCESSORS WHICH PERFORM DIFFERENT OPERATIONS ON DATA
- GENERALIZED - FUNCTIONS THE SAME WAY WITH DIFFERENT DATA

2

MINISIS

- ALLOWS INTERACTIVE CREATION, MAINTENANCE AND MANAGEMENT OF DATA BASES WITHOUT PROGRAMMING
- ALLOWS FOR THE DEFINITION OF DIFFERENT USER VIEWS OF SAME INFORMATION
- DIFFERENT DATA BASES MAY BE JOINED SO THAT THE USER SEES ALL OF THE DATA IN ONE PLACE
- SECURITY MAY BE APPLIED TO RESTRICT USER'S ACCESS TO BOTH DATA AND PROCESSORS

TYPICAL MINISIS APPLICATIONS

LIBRARY MANAGEMENT

ACQUISITIONS

- INITIAL DATA ENTRY
- PURCHASE ORDERS
- ORDER MONITORING

CATALOGUING

- MODIFICATION OF DATA
- VERIFICATION OF INDEXING TERMS

REFERENCE

- SEARCHING TO SATISFY SELECTION CRITERIA
- AUTHOR, TITLE, SUBJECT INDEXES
- CURRENT AWARENESS (SDI)

SERIALS REGISTRATION

- FINDS OVERDUE, MISSING ISSUES

4

TYPICAL MINISIB APPLICATIONS (continued)PROJECT INFORMATION

- MAINTAIN TEXTUAL AND FINANCIAL DATA ABOUT PROJECTS
- RETRIEVAL OF DATA BY ANY SELECTION CRITERIA
- REPORTS SORTED ON ANY FIELD SUCH AS:
  - PROJECT IDENTIFIER
  - PROJECT NAME
  - ACTIVITY
  - AREA OF INTEREST
  - RESPONSIBLE PERSON
- FINANCIAL REPORTS
  - TOTALS
  - SUBTOTALS
  - AVERAGES
  - MAXIMA / MINIMA

5

TYPICAL MINISIB APPLICATIONS (continued)MAILING LIST

- RETRIEVAL OF DATA BY ANY SELECTION CRITERIA
- PRODUCTION OF MAILING LABELS AND LISTS SORTED ON ANY FIELD
  - NAME
  - ADDRESS
  - ORGANIZATION
  - SUBJECT OF INTEREST

PERSONNEL / STUDENT RECORDS

- MAINTENANCE OF
  - BIOGRAPHICAL DATA
  - FINANCIAL DATA
  - ACADEMIC DATA
- RETRIEVAL OF DATA BY ANY SELECTION CRITERIA
- REPORTS MAY BE SORTED ON ANY FIELD

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THINGS TO DO WITH DATA

1. PUT DATA INTO MACHINE-READABLE FORM.
2. MAKE CHANGES TO EXISTING DATA.
3. RETRIEVE SUBSETS BASED ON SELECTION CRITERIA.
4. SORT DATA IN ALPHABETICAL (ASCII) SEQUENCE.
5. PERFORM SIMPLE ARITHMETIC OPERATIONS ON DATA.
6. PRINT DATA IN A SPECIFIC FORMAT.
7. EXCHANGE DATA WITH OTHER INSTITUTIONS.

THE DATA BASE MANAGER AND THE END-USERTHE END-USER

- SOMEONE WHO WANTS TO MANIPULATE DATA
- USER WANTS TO ENTER DATA, CHANGE IT, DISPLAY IT IN DIFFERENT WAYS, SEARCH FOR SPECIFIC PIECES OF INFORMATION AND PERHAPS PERFORM ARITHMETIC OPERATIONS ON THE DATA
- ENTRY, MODIFY, PRINT, INDEX, QUERY, COMPUTE ARE END-USER PROCESSORS

THE DATA BASE MANAGER

- CREATES FRAMEWORK IN WHICH END-USER CAN MANIPULATE DATA
- FRAMEWORK IS CALLED DATA BASE
- USES THE DATADef PROCESSOR TO CREATE DATA BASES

THE 3 LEVELS OF DATA

THE EXTERNAL LEVEL

- END-USER
- "DATA BASE" CONSISTS ONLY OF INFORMATION OF INTEREST TO THE USER

THE CONCEPTUAL LEVEL

- DATA BASE MANAGER
- DEFINES RELATIONSHIPS BETWEEN PHYSICAL AND LOGICAL DATA BASES

THE INTERNAL LEVEL

- MINISIS SYSTEMS PROGRAMMER
- PHYSICAL DESCRIPTION OF DATA

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THE FUNCTIONS OF THE DATA BASE MANAGER

- DEFINES RELATIONSHIP BETWEEN EXTERNAL AND INTERNAL LEVELS OF DATA
- EXAMINES END-USER'S REQUIREMENTS AND DETERMINES HOW TO ACCOMMODATE THEM
- IF DATA DOES NOT EXIST
- MUST DEFINE PHYSICAL FILE STRUCTURES AND LOGICAL RELATIONSHIPS
- CONTROLS ACCESS TO "USER VIEWS"
- LOADS EXTERNAL DATA BASES AND CREATES EXCHANGE TAPES OF LOCAL DATA
- RESPONSIBLE FOR MAINTENANCE OF DATA INTEGRITY
- PERFORMS MAINTENANCE FUNCTIONS ON DATA BASE, INVERTED FILES AND AUXILIARY FILES

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A DEFINITION OF TERMS

- USER WANTS TO STORE INFORMATION ABOUT SOMETHING
- USER CAN DEFINE ENTITY SUCH AS:
  - BOOK
  - REPORT
  - PROJECT
- EACH ENTITY MAY BE DESCRIBED IN TERMS OF PIECES OF INFORMATION
  - EG: AUTHOR
  - TITLE
  - DESCRIPTORS
- THESE PIECES OF INFORMATION ARE FIELDS
- FIELDS FOR AN ENTITY ARE GROUPED TOGETHER IN A RECORD

A DEFINITION OF TERMS (continued)

- LENGTH OF FIELD, TYPE (ALPHANUMERIC OR NUMERIC), REPEATABILITY ARE SOME ATTRIBUTES OF THE FIELD
- MANY RECORDS MAKE UP A DATA BASE
  - DATA BASE
  - |
  - RECORD
  - |
  - FIELD
- EACH RECORD HAS A UNIQUE IDENTIFIER
  - ISN (INTERNAL SEQUENCE NUMBER)
  - OR
  - KEY VALUE
- DATA BASE MANAGER MAY DEFINE VARIABLE OR FIXED LENGTH FIELDS, DEPENDING UPON THE APPLICATION

IDENTIFICATION OF FIELDS

MINISIS FIELDS HAVE 3 IDENTIFIERS:

- 1) TAG
  - LETTER (EXCEPT Y) FOLLOWED BY 3 DIGITS
- 2) MNEMONIC
  - SHORT NAME FOR FIELD
  - UP TO 6 ALPHANUMERIC CHARACTERS
- 3) FIELD NAME
  - FULL NAME OF FIELD
  - USED FOR PROMPTING DURING DATA ENTRY
  - UP TO 34 CHARACTERS INCLUDING BLANKS AND CONTROL CHARACTERS

TAG AND/OR MNEMONIC MAY BE USED IN ALL APPLICATIONS PROGRAMS TO IDENTIFY A FIELD

TYPES OF FIELDS1) ELEMENTARY

- FIELD IS NOT BROKEN DOWN INTO OTHER PARTS
  - EX: TITLE
  - ABSTRACT
  - ORDER PRICE
- LAST DIGIT OF TAG MUST BE 0
  - EX: A010
  - B700
  - X120

2) SUBFIELDED

- USED IF SEVERAL DATA ITEMS ARE TO BE GROUPED TOGETHER, BUT STILL REFERRED TO INDIVIDUALLY
- GROUP HEADER FIELD TAG MUST END IN 0
- COMPONENT FIELDS MUST HAVE TAGS WITH THE 3 FIRST CHARACTERS AND ENDING IN NOT 0

/3

/4

2) SUBFIELDED (continued)

SUBFIELDED FIELD	MNEMONIC	TAG
SUBFIELD 1	PERSON	T100
SUBFIELD 2	NAME	T101
SUBFIELD 3	ADDR	T102
	PHONE	T103

IF DATA IS: NAME - T.A.G. GAVIN  
 ADDR - 37-655 WALKLEY RD  
 PHONE - 523-1073

THEN INTERNALLY DATA IS STORED  
 T.A.G. GAVIN37-655 WALKLEY RD523-1073

BUT THE USER CAN REFERENCE T103 AND ACCESS  
 523-1073

ISNINTERNAL SEQUENCE NUMBER

- UNIQUE IDENTIFIER FOR A RECORD IN CERTAIN TYPES OF MINISIS DATA BASES
- ASSIGNED AT ENTRY TIME AUTOMATICALLY OR BY TERMINAL OPERATOR
- A RECORD HAS THE SAME ISN FROM THE TIME IT IS CREATED UNTIL IT IS REMOVED FROM THE DATA BASE BY THE RELEASE PROCESSOR



TYPES OF DATA BASES

THERE ARE 2 TYPES OF MINIBIS DATA BASES:

- 1) MASTER-XREF
- 2) KSAM

1) MASTER-XREF

- MOST COMMON TYPE
- VARIABLE LENGTH FIELDS AND RECORDS
- IF FIELD DOES NOT EXIST FOR A RECORD NO SPACE IS OCCUPIED
- 2 PHYSICAL FILES - MASTER AND XREF

1) MASTER-XREF (continued)

XREF		MASTER (data)	
ISN	PNTR	RECORD FOR ISN 1	RECORD FOR ISN 2
0	.		
1	.		RECORD FOR ISN 3
2	.		
3	.		
4	.		
.	.		

PNTR CONTAINS RELATIVE PHYSICAL RECORD NO. AND DISPLACEMENT OF RECORD IN MASTER FILE

- PHYSICAL RECORD SIZE
- MASTER - 4096 BYTES
- XREF - 10 BYTES

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FORMAT OF MASTER RECORDS

-----  
 | LEADER | DATA DIRECTORY | DATA FIELDS ...  
 -----

LEADER

- FIXED SIZE (12 BYTES)
- ISN, NUMBER OF DIRECTORY ENTRIES, RECORD SIZE, FLAGS FOR INTERNAL USE

DATA DIRECTORY

- VARIABLE LENGTH
- 8 BYTES / ENTRY
- ONE ENTRY FOR EACH FIELD PRESENT IN RECORD
- FORMAT AS FOLLOWS:
  - DATA FIELD TAG
  - DATA FIELD LOCATION (DISPLACEMENT)
  - DATA FIELD LENGTH

DATA FIELDS

- CONTIGUOUS STRING OF CHARACTERS

2) KSAM

- FIXED LENGTH DATA FIELDS
- ONE FIELD IS THE UNIQUE IDENTIFIER OF THE RECORD (THE KEY)
- NO ISN FOR RECORD
- USED FOR VALIDATION OR LOOK-UP FILES
- SOMETIMES USED FOR INVERTED FILES

KEY FIELD		OTHER DATA FIELDS ...	
4 BYTES USED BY SYSTEM		2 BYTES USED BY SYSTEM	

BOTH MASTER-XREF AND KSAM DATA BASES ARE CREATED BY THE DATADEF PROCESSOR

INVERTED FILES

- SECONDARY DATA FILE CONTAINING INDEX TO KEYWORDS
- USED FOR FAST-ACCESS RETRIEVAL
- B-TREE MOST COMMON TYPE OF INVERTED FILE
- KSAM FILE CAN ALSO BE USED AS AN INVERTED FILE IF CONTROLLED VOCABULARY IS REQUIRED
- IF INVERTED FILE DOES NOT EXIST:
- TO FIND ALL RECORDS WITH AUTHOR JONES MINISIS MUST LOOK AT FIRST RECORD IN DATA BASE
- COMPARE CONTENTS OF AUTHOR FIELD TO JONES
- REPEAT FOR EVERY RECORD IN DATA BASE
- VERY TIME CONSUMING FOR LARGE DATA BASES
- CALLED FREE TEXT SEARCH OR SEQUENTIAL SEARCH

INVERTED FILES (continued)

- SEARCH WOULD BE MUCH FASTER USING A LIST OF RECORDS WITH JONES IN AUTHOR FIELD

INVERTED FILE

```

        BROWN  2, 23, 107, ...
KEY ---> JONES  3, 17, 210, ...

        SMITH  1, .....
    
```

ISN LIST

TO FIND ALL RECORDS WITH AUTHOR JONES:

- LOOK IN INVERTED FILE FOR KEYWORD JONES
- READ ISN LIST TO FIND ALL RECORDS WHICH HAVE JONES IN AUTHOR FIELD

MINISIS HANDLES DEFINITION (ACCORDING TO USER SPECIFICATIONS) AND CREATION OF INVERTED FILES

USER VIEWS - RD, PS, AND DB

- EACH ENTITY NEED HAVE ONLY 1 PHYSICAL RECORD
- THAT RECORD DEFINITION CONTAINS ALL DATA FIELDS FOR THAT ENTITY
- THE DATA BASE MANAGER MAY DEFINE DIFFERENT USER VIEWS OF THE RECORD FOR DIFFERENT APPLICATIONS

EXAMPLE:

```

RD LIBRARY
ACQUISITIONS  PRICE
VIEW          VENDOR
              ORDER DATE
              AUTHOR
PS ACQUIS    TITLE           INDEXER'S
              PUBLISHER      VIEW
              ABSTRACT
              DESCRIPTORS   PS INDX
              CLASSIFICATION
    
```

RD - RELATION DEFINITION

- RD ---> 1 TO 1 <-- MASTER FILE
- DEFINES ALL FIELDS THAT COULD POSSIBLY EXIST IN THAT DATA BASE
- MAXIMUM OF 256 UNIQUE FIELDS
- NO INITIAL RESTRICTION

PS - PROJECTED SUBSET

- PROJECTION OR USER'S VIEW OF 1 RD
- PROJECT LIST OF UP TO 256 FIELDS FROM RD
- OPTIONAL
  - INITIAL RESTRICTION
  - RENAMING OF TAGS
  - REDEFINITION OF FAST ACCESS ATTRIBUTES
  - FLATTENING OF A REPEATABLE FIELD

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DB - DATA SUBMODEL

USER VIEWS MAY SHOW MORE THAN 1 DATA BASE

FOR EXAMPLE

LIBRARY (MASTER-XREF)  
- DATA ABOUT DOCUMENTS

VENDOR (KSAM)  
- DATA ABOUT BOOK VENDORS WITH UNIQUE  
VENDOR CODE

LIBRARY	VENDOR		
AUTHOR TITLE VENDOR CODE	VENDOR CODE (KEY)	VENDOR NAME	VENDOR ADDRESS VENDOR CITY
ABCD ...	AAQR	NAME	ADDRESS ..
XBBP ...	ABCD	NAME	ADDRESS ..
ABCD ...	BCDQ	NAME	ADDRESS ..
:	:	:	:
:	XBBP	NAME	ADDRESS

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DB - DATA SUBMODEL (continued)

- A JOIN OF RD'S AND/OR PS'S

EXAMPLE:

BIBLIO (M-X)

ISN: 100  
A100: CANADA TODAY  
A200: ABCD  
A300: \$12.00  
A700: 55

VNDR (KSAM)

V100: ABCD  
V200: ABC PUBLISHING  
V300: OTTAWA

STAFF (M-X)

ISN: 55  
S210: J. SMITH  
S220: DEPT OF HISTORY

RESULT

ISN: 100  
A100: CANADA TODAY  
A200: ABCD  
A300: \$12.00  
A700: 55  
V100: ABCD  
V200: ABC PUBLISHING  
V300: OTTAWA  
S210: J. SMITH  
S220: DEPT OF HISTORY

<-- BIBLIO

<-- VNDR

<-- STAFF

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DB - DATA SUBMODEL (continued)

- LIBRARY AND VENDOR ARE SEPARATELY MAINTAINED DATA BASES
- A USER VIEW OF LIBRARY MAY USE VENDOR AS AN AUTHORITY FILE AT ENTRY TIME TO VALIDATE THE DATA THAT IS ENTERED IN THE VENDOR CODE FIELD
- MINISIS WILL LOOK IN THE VENDOR FILE TO ENSURE THAT THE CODE EXISTS
- IF IT DOES NOT EXIST, TERMINAL OPERATOR WILL BE INFORMED
- THERE MAY BE A VIEW THAT JOINS LIBRARY AND VENDOR TOGETHER
- THE VENDOR CODE FIELD IS USED TO LINK THE CORRESPONDING RECORD FROM VENDOR WITH EACH MASTER RECORD FROM LIBRARY
- THE USER THEN HAS ACCESS TO ALL FIELDS IN VENDOR AS WELL AS IN LIBRARY
- THIS STRUCTURE IS CALLED A DS OR DATA SUBMODEL

WRITING RECORDS TO A MINISIS DATA BASE  
(THE ENTRY PROCESSOR)

1. IF DATA EXISTS IN ISO 2709 FORMAT  
 - USE ISOCONV
2. IF DATA EXISTS ON TAPE OR DISC IN  
 NON-ISO 2709 FORMAT  
 - USE BATCHIN
3. IF DATA DOES NOT EXIST IN A  
 COMPUTER-READABLE FORMAT  
 - USE ENTRY

USING ENTRY, BATCHIN AND ISOCONV:

- RECORDS ARE CREATED
- ISNS ARE ASSIGNED
- ON-LINE INVERSION IS EXECUTED

THE ENTRY PROCESSOR

- INTERACTIVE ONLY
- MORE OPTIONS ARE AVAILABLE
- DATA EXISTS IN A NON-COMPUTERISED FORMAT
- EG. WORKSHEETS, DOCUMENTS

\* \* \* \* \*

RUNNING THE ENTRY PROCESSOR

SEQUENCE OF DIALOGUE IS:

- 1) SELECT DATA BASE
- 2) ENTER FIELDS
- 3) SELECT NEXT RECORD OR END
- 4) SELECT ANOTHER DATA BASE OR END

1) SELECTING A DATA BASE

- YOU WILL BE ASKED FOR THE  
 NAME OF THE DATA BASE
- IF IT IS A MASTER DATA BASE  
 WITH AUTO-GENERATION OF ISNS  
 YOU WILL BE GIVEN THE NEXT ISN TO BE  
 ISSUED FOR THIS DATA BASE
- IF IT IS A MASTER DATA BASE WHICH  
 IS NOT CONFIGURED WITH AUTO-NUMBERING  
 YOU WILL BE ASKED TO ENTER AN ISN
- IF IT IS A KSAM DATA BASE, YOU MAY  
 BEGIN IMMEDIATELY TO ENTER FIELDS

2) ENTERING FIELDS

- FIELDS MAY BE FLAGGED FOR PROMPTING  
 IN THE DATA BASE DEFINITION
- YOU WILL BE PROMPTED TO ENTER  
 THESE FIELDS
- THE FULL NAME OF THE FIELD IS DISPLAYED

EX: TITLE OF DOCUMENT  
 ? (enter data)  
 TITLE OF DOCUMENT  
 ? (field repeats, therefore  
 prompt repeats until a null  
 response is returned)  
 AUTHOR  
 ?

- FIELDS MAY BE PROMPTED IN SPECIFIC GROUPS  
 ACCORDING TO BIBLIOGRAPHIC LEVEL:
- C --- COLLECTIVE AND ANALYTIC
- S --- SERIAL AND ANALYTIC
- A --- ANALYTIC AND MONOGRAPH
- M --- MONOGRAPH

TO TERMINATE PROMPTING, USE \*\*\*

AFTER PROMPTING ENDS, ENTRY ASKS:

ENTER FUNCTION

(ADD/DEL/LIST/CL/NEXT/END/QUIT/SKIP)

FIELD FUNCTIONS ARE:

ADD <field id>

- AFTER PROMPTING HAS TERMINATED,  
YOU MAY ADD MORE FIELDS

EX: ADD A100

OR: ADD A100,A110,B100 ...

DEL <field id>

- YOU MAY DELETE EXISTING FIELDS

EX: DEL A100

OR: DEL A100,A100,B100,B100 ...

LIST ALL or LIST<field id>

- LIST ALL DISPLAYS THE ENTIRE RECORD

- LIST <field id> DISPLAYS THE FIELD

CL <bibliographic level>

- BEFORE WRITING THE CURRENT RECORD, YOU  
MAY CHANGE THE BIBLIOGRAPHIC PROMPTING  
SEQUENCE OF THE NEXT RECORD BY ENTERING  
CL AND ONE OF S, M, A OR C.

- ALL COMMANDS EXCEPT CL MAY BE ABBREVIATED  
TO THE FIRST LETTER.

3) SELECTING ANOTHER RECORD (or END)

FUNCTIONS ARE:

NEXT

- THE CURRENT RECORD IS WRITTEN  
- YOU WILL BE PROMPTED FOR THE NEXT RECORD  
- IF ISNS ARE AUTO-GENERATED, YOU WILL  
BE GIVEN THE NEXT ISN

SKIP

- THE RECORD IS NOT WRITTEN  
- YOU WILL BE PROMPTED TO ADD A NEW RECORD  
- IF ISNS ARE AUTO-GENERATED, YOU WILL  
BE GIVEN THE SAME ISN

END

- THE RECORD IS WRITTEN  
- YOU ARE NOT PROMPTED FOR ANOTHER RECORD  
- YOU WILL BE ASKED TO SELECT ANOTHER  
DATABASE OR EXIT

QUIT

- LIKE END, BUT THE RECORD IS NOT WRITTEN

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4) SELECTING ANOTHER DATA BASE (OR EXIT)

- YOU MAY CHOOSE TO ENTER RECORDS IN  
ANOTHER DATA BASE

- OR LEAVE THE ENTRY PROCESSOR  
AND RETURN TO THE MINISIS MENU

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FEATURES AVAILABLE IN ENTRY

- ONLINE INVERSION

- VALIDATION OF THE DATA AGAINST  
A KSAM AUTHORITY FILE

- CURRENT DATE FEATURE

- ENTERING ++ WILL SUPPLY THE CURRENT  
DATE IN DD/MM/YY FORMAT  
EX: 01/12/81

- ENTERING +++ WILL SUPPLY THE CURRENT  
DATE IN YYYY-MM-DD FORMAT  
EX: 1981-12-01

- CHECKING FOR NUMERIC DATA

- IF FIELD IS FLAGGED FOR NUMERIC DATA ONLY,  
YOU MAY NOT ENTER NON-NUMERIC CHARACTERS

- CHECKING LENGTH OF FIELD

- IF DATA IS TOO LONG TO FIT THE FIELD,  
IT IS RIGHT-TRUNCATED

- CHECKING INITIAL RESTRICTION

- CHECKING FOR USER-WRITTEN EXIT

- CHECKING FOR DUPLICATE RECORDS
- IF THE FIELD IS FLAGGED FOR INVERSION AND DUPLICATE CHECKING, A SEARCH IS PERFORMED ON THE REST OF THE DATA BASE FOR POSSIBLE DUPLICATE RECORDS
- IF ANY ARE FOUND, THEY MAY BE DISPLAYED AND YOU MAY DECIDE WHETHER OR NOT TO CONTINUE
- RECURSIVE ENTRY
- IF THE FIELD IS FLAGGED FOR VALIDATION AND DATA ENTERED DOES NOT EXIST IN THE AUTHORITY FILE, YOU MAY WRITE THE DATA IN THE AUTHORITY FILE WHILE ENTERING THE CURRENT RECORD
- CHECKING FOR SPACE IN THE DATA FILE
- ALL DATA FILES (MASTER, XREF, KSAM, B-TREE) HAVE A FIXED PHYSICAL LIMIT WHEN BUILT
- AS ENTRY CONTINUES, THE FILES BECOME FULL
- YOU WILL BE WARNED BEFORE THEY OVERFLOW
- THE DATA BASE MANAGER MUST FIND ROOM IN THE FILE, OR EXTEND IT
- MANDATORY FIELDS
- FIELDS IN WHICH DATA MUST BE ENTERED

ENTERING DIACRITICAL CHARACTERS

CHARACTERS TO BE ACCENTED ARE FOLLOWED BY A BROKEN VERTICAL LINE AND THE DIACRITIC:

EX: de|veloppement  
 ni|ñ  
 Zai|"re  
 ro|^le  
 franc|,aise  
 a|`

WHEN RECORDS ARE LISTED ON THE LINE PRINTER THE BROKEN VERTICAL LINE IS STRIPPED OUT AND THE ACCENT IS PRINTED OVER THE ACCENTED CHARACTER

EX: développement  
 niño  
 Zaire  
 rôle  
 française  
 à

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SAMPLE ENTRY DIALOGUE

MINISIS F.02.00 THU, AUG 15, 1986 4:00 PM

VALID FUNCTIONS ARE:

1. COMPUTE    2. ENTRY        3. INDEX       4. LISTDDT  
 5. MODIFY    6. PRINT        7. QUERY      8. EXIT

WHICH FUNCTION DO YOU WANT ? entry

ENTRY F.02.00 THU, AUG 15, 1986 4:00 PM

ENTER DB NAME OR EXIT ? acquis

ISN: 416

TITLE

?Introduction to Computer Programming

TITLE

?

SUPPLIER CODE

?XBBW

CORPORATE AUTHOR

CORPORATE AUTHOR CODE

?

CORPORATE AUTHOR SUB-BODY

?

STATUS

?

LANGUAGE(S) OF TEXT

?

PERSONAL AUTHOR

?Bergman, S.

PERSONAL AUTHOR

?Bruckner, S.

?PERSONAL AUTHOR

?

TITLE OF SOURCE DOCUMENT

?

EDITION

?2ND

PUBLISHER

PUBLISHER NAME

?Addison-Wesley Publishing Co.

PUBLISHER LOCATION

?Manila

PUBLISHER COUNTRY

?PH

ISBN

?

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DATE OF PUBLICATION  
?1980  
COLLATION  
?  
LIBRARY OF CONGRESS CARD NUMBER  
?  
ESTIMATED COST  
?\$17.95  
ACQUISITIONS NOTES  
?  
STATUS CODE DATE  
?\*\*\*  
ENTER FUNCTION (ADD/DEL/LIST/CL/NEXT ....  
?next  
ISN: 417  
TITLE  
?  
  
ENTER FUNCTION (ADD/DEL/LIST/CL/NEXT ....  
?end

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ENTER DB NAME OR EXIT ? supp  
SUPPLIER CODE  
?AABD  
SUPPLIER NAME AND ADDRESS LINE 1  
?Renouf Ltd.  
SUPPLIER NAME AND ADDRESS LINE 2  
?Sparks St. Hall  
SUPPLIER NAME AND ADDRESS LINE 3  
?Ottawa  
SUPPLIER NAME AND ADDRESS LINE 4  
?Canada  
SUPPLIER NAME AND ADDRESS LINE 5  
?  
ENTER FUNCTION (ADD/DEL/LIST/CL/NEXT ....  
?next  
SUPPLIER CODE  
  
ENTER FUNCTION (ADD/DEL/LIST/CL/NEXT ....  
?end  
  
ENTER DB NAME OR EXIT ? exit

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THE MODIFY PROCESSOR

- USED TO MODIFY RECORDS WHICH HAVE BEEN WRITTEN TO THE DATA BASE

ENTRY, BATCHIN OR ISOCONV  
- WRITES THE RECORD

MODIFY

- RECORD IS EDITED OR COMPLETED
- FIELDS ADDED OR DELETED
- ORIGINAL DATA CHANGED
- YOU MAY NOT DELETE A RECORD BY DELETING ALL OF ITS FIELDS IN MODIFY.
- RECORDS ARE DELETED IN THE RELEASE PROCESSOR

MODIFY DIALOGUE

- 1) SELECT A DATA BASE
- 2) SELECT A RECORD
  - 3) SELECT FUNCTION TO EDIT A FIELD
  - 4) END
- 5) SELECT ANOTHER RECORD OR END
- 6) SELECT ANOTHER DATA BASE OR EXIT

1) SELECTING A DATA BASEMODIFY IS ALLOWED ON:

- AN RD - MASTER OR KSAM
- A PS - IF UPDATE ACCESS IS YES
- A DS - IF UPDATE ACCESS IS YES
  - ONLY COMPONENTS WITH UPDATE ACCESS MAY BE UPDATED
  - JOIN FIELDS WILL NOT BE UPDATED

MODIFY IS NOT ALLOWED ON:

- A PS WHERE UPDATE ACCESS IS NO
- A DS WHERE UPDATE ACCESS IS NO
- A THESAURUS KSAM FILE
- IF SECURITY IS ON, ANY DATA BASE NOT IN THE USER'S SECURITY PROFILE

SELECTING A DATA BASE (continued)

- MORE THAN 1 USER MAY MODIFY THE SAME DATA BASE AT THE SAME TIME
- BUT ONLY 1 USER MAY MODIFY THE SAME RECORD AT ANY TIME
- RECORDS ARE LOCKED WHILE THEY ARE BEING MODIFIED
- IF YOU TRY TO MODIFY A RECORD WHICH IS BEING MODIFIED BY ANOTHER USER, THE FOLLOWING MESSAGE WILL APPEAR:
  - \*\* RECORD BEING MODIFIED (M2756)

2) SELECTING A RECORD

- RECORDS MAY BE SELECTED:
  - 1) INDIVIDUALLY
  - 2) GLOBALLY

1) INDIVIDUAL SELECTION

- ISN=nn/mm or ISN=nn
- ISN IS AN INTERNAL SEQUENCE NUMBER
- MAY SELECT 1 RECORD (nn) OR A RANGE OF RECORDS (nn/mm)
- keyname>=keyvalue or keyname=keyvalue
- keyname IS THE TAG OR MNEMONIC OF A KEY IN A KSAM FILE
- keyvalue IS THE DATA IN THE KEY FIELD
- MAY SELECT 1 RECORD (=keyvalue) OR A RANGE (>=keyvalue)
- QUERY FORMULATION
- A QUERY STATEMENT
- BEGINS WITH = AND ENDS WITH \$
- RECORDS ARE EDITED ONE AT A TIME.



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2) GLOBAL SELECTION

- GLOBAL, ISN=nn/nn
- SELECTS A RANGE BY ISNS
- GLOBAL, HITFILE=filename
- filename IS AN OUTPUT FILE FROM QUERY OR INDEX
- GLOBAL, QUERY
- SUPPLY = TO BEGIN A QUERY
- QUERY ENDS WITH \$
- THE SAME CHANGE IS PERFORMED ON ALL RECORDS SELECTED ALTHOUGH THE CHANGE IS SPECIFIED ONLY ONCE. THE CHANGE TAKES PLACE OFFLINE. A BATCH JOB IS STREAMED FROM AN INTERACTIVE SESSION OF MODIFY. CHANGE COMMANDS MAY BE SAVED IN A FILE AND RE-USED.

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3) SELECTING FUNCTIONS TO EDIT THE RECORD

- EDITING IS DONE TO INDIVIDUAL FIELDS IDENTIFIED BY:
  - <field id> ( TAG OR MNEMONIC )

FIELD TYPES

FIELDS MAY BE:

- SINGLE ELEMENTARY
- REPEATABLE ELEMENTARY
- SINGLE SUBFIELD
- SINGLE SUBFIELD
- REPEATABLE SUBFIELD
- REPEATABLE SUBFIELD

SINGLE ELEMENTARY FIELD

- SIMPLEST TYPE
- OCCURS ONLY ONCE - OCCURRENCE #1

REPEATABLE ELEMENTARY FIELD

- MAY OCCUR MORE THAN ONCE
- OCCURRENCES ARE NUMBERED IN ORDER OF ENTRY
- WHEN USER SELECTS FUNCTION:
  - ALL OCCURRENCES DISPLAYED
  - USER IS ASKED TO SELECT OCCURRENCE
  - SELECTION DONE BY OCCURRENCE NUMBER
  - ONLY ONE OCCURRENCE EDITED AT A TIME

5

6

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SINGLE SUBFIELD

- GROUP HEADER FIELD (TAG ENDS IN 0)
- CAN'T CHANGE OR TRANSFER A SUBFIELD

SINGLE SUBFIELD

- WHEN FUNCTION AND SUBFIELD ARE SELECTED, THE ENTIRE SUBFIELD IS DISPLAYED

REPEATABLE SUBFIELD

- CAN'T CHANGE OR TRANSFER
- OTHER FUNCTIONS REQUIRE THAT YOU SELECT THE OCCURRENCE TO BE EDITED

REPEATABLE SUBFIELD

- ALL OCCURRENCES OF SUBFIELD ARE DISPLAYED
- USER SELECTS OCCURRENCE OF SUBFIELD

```

| TWO FUNCTIONS MAY BE USED |
| TO CHANGE OCCURRENCE ORDER |
|
| ADDS - ADDS AN OCCURRENCE |
| TRAS - MOVES DATA FROM |
| ONE OCCURRENCE TO ANOTHER |

```

F02-08-86

FUNCTIONS TO EDIT A FIELD

- ADD - ADD A NEW FIELD
- DELETE - DELETE A FIELD FROM RECORD
- REPLACE - COMBINATION OF DELETE AND ADD
- TRANSFER - MOVE DATA TO ANOTHER FIELD
- CHANGE - CHANGE DATA WITHIN THE FIELD

- COMMANDS MAY BE ABBREVIATED
- ONLY ONE FUNCTION MAY BE USED AT A TIME

```

EX:   ADD A100
OR    ADD A100,B270,A300
BUT NOT ADD A100,CHA A100

```

8

FIELDS WHICH CANNOT BE MODIFIED ARE:

- ISN OF A MASTER RECORD
- KEY FIELD OF A KSAM RECORD
- "JOIN" FIELDS IN A DS
- A MANDATORY FIELD CAN BE CHANGED
- BUT IT CANNOT BE DELETED, TRANSFERRED OR REPLACED.
- A RECORD CANNOT BE MODIFIED IF IT HAS BEEN RELEASED IN THE RELEASE PROCESSOR

THE CHANGE COMMAND

- ALLOWS YOU TO CHANGE CHARACTER STRINGS WITHIN A FIELD
- old string new string
  - replace all instances of old with new
- old string %
  - erase all instances of old in the field
- %old string new string
  - replace only the FIRST instance of old in the field with new
- %old string %
  - delete only the FIRST instance of old
- %new string
  - append new to the end of the field
- DELIMITER IS %
- CAN BE CHANGED BY DELIMITER COMMAND

10

FUNCTIONS TO DISPLAY THE RECORD

- LIST <field id>
  - DISPLAYS AN INDIVIDUAL FIELD
  - IF FIELD REPEATS, ALL OCCURRENCES DISPLAYED
- LIST ALL
  - DISPLAYS THE ENTIRE RECORD
- BROWSE
  - DISPLAYS RECORD OR A RANGE OF RECORDS
- FORMAT <filename>
  - ALLOWS YOU TO SELECT A PRINT FORMAT TO DISPLAY THE RECORD
  - THE DATA BASE MANAGER SHOULD IDENTIFY A SUITABLE PRINT FORMAT AS THE DEFAULT FORMAT FOR LIST ALL AND BROWSE
  - OTHERWISE, THE USER MUST PRECEDE THESE COMMANDS WITH FORMAT <filename>

4) LEAVING THE RECORD

- THESE FUNCTIONS ALLOW YOU TO LEAVE THE RECORD AND SELECT ANOTHER ONE:
- END
  - WRITES THE CHANGED RECORD TO THE FILE
  - ASKS YOU TO SELECT ANOTHER RECORD
- SKIP
  - LIKE END, BUT DOES NOT WRITE THE CHANGED RECORD BACK TO THE FILE
- STOP
  - IF YOU HAVE SELECTED A RANGE OF RECORDS, THIS COMMAND ALLOWS YOU TO LEAVE THE RANGE

5) LEAVING THE DATABASE

- INSTEAD OF SELECTING ANOTHER RECORD YOU MAY REPLY END OR E.

\* \* \* \* \*

6) LEAVING THE MODIFY PROCESSOR

- INSTEAD OF SELECTING ANOTHER DATA BASE YOU MAY EXIT

CHECKING

CHECKING MAY TAKE PLACE IF SO INDICATED IN THE DATA DEFINITION

LENGTH OF FIELD

- IF DATA IS TOO LONG, IT IS RIGHT-TRUNCATED

TYPE OF CHARACTER

- IF ALPHA CHARACTERS ARE ENTERED IN A NUMERIC FIELD, THEY ARE REJECTED

VALIDATION

- DATA ENTERED IS COMPARED WITH KEYS IN AN AUTHORITY FILE
- IF NOT FOUND, THE DATA IS REJECTED
- MORE INFORMATION FROM THE AUTHORITY FILE MAY BE DISPLAYED
- OTHER CHECKING MAY BE DONE FOR:
  - AN INITIAL RESTRICTION
  - A USER-WRITTEN PROCEDURE (EXIT)

13

14

INVERSION

- IF FIELD IS FLAGGED FOR ONLINE INVERSION:
  - WHEN DATA IS ENTERED, KEYS ARE EXTRACTED
  - TYPE, NUMBER AND LENGTH OF KEYS ARE DEFINED IN FIELD DEFINITION
  - KEYS ARE POSTED TO FAST ACCESS FILE
  - CHANGING AND DELETING FIELDS WILL ALSO UPDATE FAST ACCESS FILE
- IF THERE IS NOT ENOUGH SPACE IN THE FAST ACCESS FILE TO ENTER NEW KEYS OR POSTINGS, THE USER WILL BE INFORMED
- THE DATA BASE MANAGER MUST ENLARGE THE FAST ACCESS FILE

WHEN A RECORD IS SELECTED IN MODIFY:

- A COPY IS MADE OF THE RECORD
- AFTER THE USER MAKES CHANGES TO THE COPY, IT IS WRITTEN BACK TO THE DATA BASE
- IF A RECORD IS MASTER FORMAT (VARIABLE) CHANGES MAY MAKE IT LONGER
- THE RECORD IS THEN WRITTEN AT THE END OF THE MASTER FILE
- THE CORRESPONDING XREF RECORD NOW POINTS TO THE NEW RECORD, NOT THE ORIGINAL
- NOW THERE ARE 2 COPIES OF THE RECORD
- WHEN THE ISN IS SUPPLIED DURING RECORD SELECTION, THE NEW RECORD IS OBTAINED
- WHEN THERE ARE ONLY 5 PHYSICAL RECORDS BETWEEN EOF AND LIMIT OF THE MASTER FILE, THE USER WILL BE INFORMED
- THE DB MGR ENLARGES THE FILE OR RECOVERS WASTE SPACE BY RUNNING THE GARBAGE PROCESSOR

## SAMPLE MODIFY DIALOGUE

MINISIS F.02.00 THU, AUG 14, 1986 4:12 PM

VALID FUNCTIONS ARE:

1. COMPUTE 2. ENTRY 3. INDEX 4. LISTDDT  
5. MODIFY 6. PRINT 7. QUERY 8. EXIT

WHICH FUNCTION DO YOU WANT ? modify

MODIFY F.02.00 THU, AUG 14, 1986 4:12 PM

SELECT DATA BASE OR EXIT ? library

TYPE 'HELP' FOR VALID COMMANDS

PLEASE ENTER FUNCTION TO SELECT RECORD

?isn=396

ISN=396

PLEASE SELECT FUNCTION

?1 all

\*\* ISN: 396

STATUS B800: PPRNT

LANG B230: ENGL

DATEP B210: 1980

AUTH B110: Faldman, M.

CORPK B184: 001105

TITLE B080: American Economy in Transition

COLL B200: 696 p.

PUBLN B251: University of Chicago Press

PUBLL B252: Chicago, Ill.

PUBLB B253: US

LCN B100: 80017450

PLEASE SELECT FUNCTION

?a auth

PERSONAL AUTHOR

?Stryker, K.

PLEASE SELECT FUNCTION

?1 auth

PERSONAL AUTHOR

Faldman, M.

Stryker, K.

PLEASE SELECT FUNCTION

?c auth

PERSONAL AUTHOR

1 Faldman, M.

2 Stryker, K.

PLEASE SELECT ONE OF THE OCCURRENCES

?1

PLEASE ENTER CHANGE

?Fa%Fe

PLEASE ENTER CHANGE

?M.%J.

PLEASE ENTER CHANGE

?

Feldman, J.

17

18

PLEASE SELECT FUNCTION

?c B252

PUBLISHER

PUBLISHER LOCATION

1 University of Chicago Press Chicago, Ill. US  
Chicago, Ill.

PLEASE ENTER CHANGE

?,I%, I

PLEASE ENTER CHANGE

?

Chicago, Ill.

PLEASE SELECT FUNCTION

?1 all

\*\* ISN: 396

STATUS B800: PPRNT

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PLEASE SELECT FUNCTION

?e

PLEASE ENTER FUNCTION TO SELECT RECORD

?e

SELECT DATA BASE OR EXIT ? exit

VALID FUNCTIONS ARE:

1. COMPUTE 2. ENTRY 3. INDEX 4. LISTDDT  
5. MODIFY 6. PRINT 7. QUERY 8. EXIT

THE RELEASE PROCESSOR

FUNCTION mod/ret/del  
 ISN=nn/mm  
 KEYNAME=starting key value/ending key value  
 HITFILE=filename  
 DELIMITER "delimiters"  
 VERIFY yes/no  
 FORMAT filename  
 EXIT

RECORD SELECTION

- ISN=nn/mm  
 EX: ISN=1  
     ISN=10/15

- KEYNAME=starting/ending key value  
 EX: W010=ABC  
     W010=ABC/XYZ

- QUERY FORMULATION  
 EX: = FISHERIES  
     OR FORESTS  
     S

- HITFILE=filename  
 EX: HITFILE=MYFILE

FUNCTION mod/ret/del

FUNCTION DEL (DELETE)  
 - LOGICALLY DELETES THE RECORD

FUNCTION RET (RELEASE FOR RETRIEVAL)  
 - LOCKS THE RECORD AGAINST MODIFICATION

FUNCTION MOD (RELEASE FOR MODIFICATION)  
 - UNLOCKS THE RECORD FOR MODIFICATION  
 - BY DEFAULT, RECORDS ARE IN MOD STATE  
 WHEN CREATED

OTHER RELEASE COMMANDS

DELIMITER "delimiters"  
 - ALLOWS YOU TO SPECIFY NON-DEFAULT  
 DELIMITERS FOR DESCRIPTORS

VERIFY yes/no  
 - DISPLAYS EACH RECORD AND ASKS IF  
 YOU WANT THE RECORD PROCESSED  
 - DEFAULTS TO VERIFY no

FORMAT filename  
 - ALLOWS YOU TO SUPPLY A NON-DEFAULT  
 FORMAT FOR VERIFY yes

EXIT  
 - ALLOWS YOU TO SELECT ANOTHER DATA BASE  
 OR RETURN TO THE MENU

EXAMPLE OF RELEASE

ENTER DB NAME OR EXIT - projects

- function del  
 - ISN=5/10  
 - ISN=30  
 - function ret  
 - ISN=100/200  
 - exit

TOTAL RECORDS RELEASED FOR MODIFICATION=0  
 TOTAL RECORDS RELEASED FOR RETRIEVAL=101  
 TOTAL RECORDS DELETED=7

\* \* \* \* \*

RELEASE MAY RUN INTERACTIVELY OR IN BATCH



METHOD OF SEARCHING IS THE SAME FOR ALL TYPES OF KEYS:

>= field id key

QUERY TAG OR WORD, TERM OR PROMPT MNEMONIC ENTIRE FIELD OF INVERTED FIELD

EX: >= A100 MINISIS 1: P=20 T=20

20 RECORDS IN DB WITH MINISIS IN TITLE

SEARCH CAN BE CONTINUED USING BOOLEAN OPERATORS:

- AND OR EOR NOT ADJ IGN

EX: >= A100 MINISIS AND B200 1981 1: P=1 T=1

EX: >= D100 COMPARISON AND D100 COMPUTER 1: P=1 T=1

EX: >= A100 MINISIS 1: P=20 T=20 Q> AND B200 1981 2: P=1 T=1

THE BOOLEAN OPERATORS

AND - NARROWS SEARCH BY FINDING RECORDS WHICH CONTAIN BOTH KEYS

ADJ - SUBSET OF AND - CONFINES SEARCH TO ADJACENT KEYS

OR - WIDENS SEARCH BY FINDING RECORDS WHICH CONTAIN EITHER OR BOTH KEYS

EOR - SUBSET OF OR - FINDS RECORDS WITH EITHER KEY BUT NOT BOTH

NOT - ALL RECORDS WITHOUT KEY - OPERATES ON ENTIRE DB - WITH AND, OPERATES ON PREVIOUS SUBSET

IGN - SUBSET OF NOT - COMPLEMENTARY SEARCH - FINDS SOME KEYS BUT IGNORES OTHERS

EX: >= D100 COMPUTER 1: P=200 T=200 Q> AND NOT A100 MINISIS 2: P=183 T=183

THE SEARCH FORMULATION

- MORE THAN ONE SEARCH MAY TAKE PLACE DURING ONE QUERY SESSION - EACH SEARCH BEGINS WITH = AND ENDS WITH ?

EX: >= D100 COMPARISON 1: P=20 T=20 Q> A100 MINISIS 2: P=40 T=40 Q> 1 AND 2 3: P=1 T=1

EX: >= D100 COMPARISON 1: P=20 T=20 Q> AND A100 MINISIS 2: P=1 T=1 Q> 1 3: P=20 T=20 Q> AND A100 CDS/ISIS 4: P=5 T=5 Q> 2 OR 4 5: P=6 T=6 RECORDS FOUND ARE CALLED HITS

LISTING AND SAVING HITS

- WHEN \$ IS USED TO END THE SEARCH, HITLISTS ARE NOT KEPT - YOU MAY SAVE HITS THAT YOU HAVE FOUND, FOR USE IN PRINT, INDEX, COMPUTE, MODIFY, ISOCONV - YOU MAY LIST RECORDS YOU HAVE FOUND AT YOUR TERMINAL (BROWBE) - YOU MAY LIST RECORDS YOU HAVE FOUND ON THE LINE PRINTER (LIST OFFLINE) - REVERSE ON DISPLAYS RECORDS IN DESCENDING ISN ORDER

LEAVING THE SEARCH FORMULATION

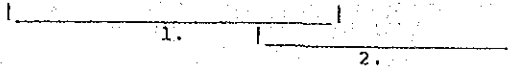
- THIS IS DONE BY SUPPLYING \$ AFTER Q> EX: >= D100 COMPARISON AND B200 1981 1: P=2 T=2 Q> LIST OFFLINE, NOW Q> \$ (BEGIN A NEW SEARCH)

EXIT AT EITHER Q> OR > ALLOWS YOU TO LEAVE QUERY.

ORDER OF EXECUTION  
OF OPERATIONS WITHIN A SEARCH STATEMENT

- 1) ADJ
- 2) IGN
- 3) NOT
- 4) AND
- 5) OR
- 6) EOR

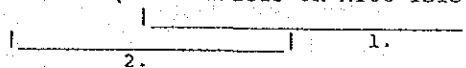
EX: >= B200 1981 AND A100 MINISIS OR A100 ISIS



\*\*\*

PARENTHESES  
WILL CHANGE THE ORDER OF EXECUTION

EX: >= B200 1981 AND (A100 MINISIS OR A100 ISIS)



QUOTATION MARKS

- DISTINGUISH BETWEEN A BOOLEAN OPERATOR AND PART OF A TERM

EX: >= D100 "LAW AND ORDER"

\*\*\*

INITIAL RESTRICTION

- A QUERY STATEMENT IN THE DATA BASE WHICH RESTRICTS ACCESS TO ONLY THOSE RECORDS WHICH SATISFY THE QUERY CRITERIA

EX: >= D100 COMPARISON

P=20	T=19
NO. OF POSTINGS	NO. OF RECORDS WHICH USER MAY SEE

DEFAULT QUERY FIELD

- ANY FIELD DEFINED AS THE DEFAULT QUERY FIELD IN THE DATA BASE
- MAY ALSO BE TEMPORARILY DEFINED IN THE QUERY PROCESSOR
- FIELD TAG OR MNEMONIC DOES NOT HAVE TO BE SUPPLIED IN A SEARCH
- ONLY ONE DEFAULT QUERY FIELD AT A TIME

EX: >= COMPARISON

\*\*\*

RIGHT TRUNCATION

- FINDS AND ORS ALL KEYS BEGINNING WITH SAME CHARACTER STRING
- CHAR. STRING IS TRUNCATED WITH @

EX: >= D100 COMPE  
 COMPANY P=12  
 COMPARISON P=9  
 COMPUTERS P=100  
 COMPUTER SYSTEMS P=50  
 1: P=110 T=110

COMPARISON OPERATORS

- = (EQUAL SIGN) IS DEFAULT OPERATOR
- OTHERS WHICH MAY BE USED ARE:
  - > - GREATER THAN
  - < - LESS THAN
  - >= - GREATER THAN OR EQUAL TO
  - <= - LESS THAN OR EQUAL TO

EX: >= B100 >= "1979"

\*\*\*

SEARCHING ON ISN

- ISNS MAY BE KEYS

EX: >= ISN 1/100  
 >= ISN 2 OR ISN 99

\*\*\*

PRESENT / ABSENT SEARCHING

- PERFORMS A FREE TEXT SEARCH TO FIND FIELDS WHICH OCCUR OR DO NOT OCCUR
- PRESENT - ALL RECORDS WHERE FIELD CONTAINS SOME DATA
- ABSENT - ALL RECORDS WHERE FIELD CONTAINS NO DATA

EX: >= D100 PRESENT  
 >= D100 ABSENT



SPECIAL FEATURES

- THESE FEATURES ARE ALLOWED ONLY WITH CERTAIN TYPES OF INVERTED FILES

## LEFT TRUNCATION

- FINDS AND 'ORS' ALL KEYS ENDING WITH CHARACTER STRING

EX: >= D100 @AMERICA  
 NORTH AMERICA P=100  
 SOUTH AMERICA P=150  
 CENTRAL AMERICA P=99  
 LATIN AMERICA P=20  
 1: P=210 T=210

\* \* \*

## ADJACENCY SEARCHING

- FINDS SPECIFIED KEY ONLY WHEN KEY IMMEDIATELY PRECEDES ANOTHER SPECIFIED KEY IN SAME FIELD

EX: >= D100 NURSING ADJ SKILLS

/3.

SPECIAL FEATURES (continued)

## COMPLEMENTARY SEARCHING

- FINDS SPECIFIED KEY ONLY WHEN IT IS NOT IMMEDIATELY FOLLOWED BY ANOTHER SPECIFIED KEY

EX: >= D100 NURSING IGN NURSING ADJ SKILLS

- OR FINDS ALL KEYS WITH SAME ROOT, EXCEPT SPECIFIED KEY

EX: >= D100 PROGRAM@ IGN PROGRAMMING

\* \* \*

## 'DOT' FEATURE

- FINDS DESCRIPTORS BEFORE OR AFTER BREAK SEQUENCE IN FIELD

EX: >= D100 .HEALTH  
 FINDS PRIMARY DESCRIPTORS  
 >= D100 -HEALTH  
 FINDS SECONDARY DESCRIPTORS  
 >= D100 HEALTH  
 FINDS ALL OCCURRENCES OF KEY

/4.

SDI MODE

- ACTIVATED BY \*SETSDI ON
- ALLOWS SEARCH BY USER-DEFINED PROFILES
- PROFILES ARE RECORDS IN A MINISIS DB

## SDI COMMANDS

- \*EDIT  
 - ALLOWS ON-LINE UPDATE OF USER PROFILES
- KEEP DBNAME=data base  
 - CONVERTS SEARCH STATEMENT TO RECORD IN PROFILE DB
- \*OUTPUT filename  
 - DEFINES OUTPUT FILE WHICH WILL BE PRINTED BY SDIPRINT
- \*XEQ  
 - PERFORMS SDI SEARCH USING USER PROFILE
- IN SDI MODE, ILLEGAL TERMS IN B-TREE FILE ARE CONSIDERED TO HAVE ZERO POSTINGS

USING THE THESAURUS

- TERMINOLOGY CONTROL
- TERMS FOR A CONCEPT
- CONCEPTS ARE RELATED IN A HIERARCHICAL MANNER

EG: TERM - SCHOOL  
 BROADER TERM - EDUCATIONAL INSTITUTION  
 NARROWER TERM(S) - PRIMARY SCHOOL  
                               - SECONDARY SCHOOL  
 RELATED TERM - SCHOOL SYSTEM

EG: >= BT SCHOOL  
 SCHOOL P=53  
 EDUCATIONAL SYSTEM P=79  
 1: P=100 T=100

- A SEARCH USING BT, NT OR RT PLUS A TERM WILL FIND RECORDS CONTAINING THE TERM AND ITS BROADER, NARROWER OR RELATED TERMS

THE MULTILINGUAL THESAURUS

ANY TABLES

- USED TO FIND GROUPS OF TERMS THAT MAY BE USED TOGETHER
- GENERALLY WIDER THAN RT SEARCH

EX: >= ANY AFRICA  
 AFRICA P=400  
 ALGERIA P=60  
 BOTSWANA P=19  
 BURUNDI P=22  
 CAMEROON P=51

1: P=501 T=501

\* \* \*

FORBIDDEN TERMS

- TERMS THAT ARE NOT LEGAL DESCRIPTORS, BUT FOR WHICH A LEGAL DESCRIPTOR MAY BE SUBSTITUTED

EX: > FT on  
 >= YOUTH  
 ADOLESCENCE P=9  
 1: P=9 T=9

- A THESAURUS CAN SUPPORT UP TO 9 LANGUAGES
- WHEN A SEARCH ON ONE TERM IS PERFORMED, THE TERM IS TRANSLATED
- OTHER-LANGUAGE VERSIONS OF THE TERM WILL BE RETRIEVED
- ALL TERMS WILL BE OR'ED

EX: >= BT SCHOOL  
 SCHOOL P=53  
 ECOLE P=3  
 ESCUELA P=1  
 EDUCATIONAL INSTITUTION P=79  
 ETABLISSEMENT D'ENSEIGNEMENT P=3  
 ESTABLECIMIENTO DE ENSEANZA P=2  
 1: P=138 T=138

17.

18.

THESAURUS RULES

COMPARISON OF FREE TEXT AND FAST ACCESS

- INVERTED FIELD MUST BE DEFAULT QUERY FIELD
- KEYS ARE USUALLY TERMS (MAY ALSO BE ENTIRE FIELD)
- FAST ACCESS FILE IS KSAM
- FAST ACCESS FILE IS TYPE THES
- KEYS ARE WRITTEN TO FAST ACCESS FILE THROUGH THLOADER
- POSTINGS ARE USUALLY ENTERED IN FAST ACCESS FILE THROUGH INVERT
- ANY KEYS FOUND - INCLUDING TRANSLATED KEYS - ARE DISPLAYED INDIVIDUALLY WITH POSTINGS

EX: >= SCHOOL  
 SCHOOL P=53  
 ECOLE P=3  
 ESCUELA P=1  
 1: P=57 T=57

FREE TEXT -----> NON-INVERTED FIELD

- PERFORMS ONLY ON PREVIOUS SUBSET
- WILL 'AND' ONLY (CANNOT 'OR')
- WILL MATCH A SUPPLIED CHARACTER STRING
- EX: >= A100 JON  
 WILL FIND JON, JONATHAN, JONES AS WELL AS ITEMS CONTAINING OR ENDING IN JON
- TIME-CONSUMING
- CAN BE HALTED BY CONTROL-Y
- WILL DISPLAY COUNT OF RECORDS PROCESSED AND COUNT OF HITS FOUND
- YOU MAY ELECT TO CONTINUE OR NOT

FAST ACCESS -----> INVERTED FIELD

- RAPID RETRIEVAL
- ALL BOOLEAN OPERATIONS PERMITTED
- THESAURUS-AIDED SEARCH PERMITTED
- SEARCHES FOR A PREVIOUSLY-DEFINED KEY
- EX: >= A100 JON  
 WILL FIND ONLY JON, NOT JONES
- IF KEY IS NOT IN FAST ACCESS FILE, MESSAGE ILLEGAL TERM IS RETURNED

F02-08-86

**BTXTU8** - INFORMATION ABOUT THE DB  
**INVERTED** - DISPLAY TAGS OF INVERTED FIELDS  
**DEFAULT field id** - SPECIFY DEFAULT FIELD  
**DB dbname** - CHOOSE A DB  
**FILES** - LOOK AT DBSRCH FILE  
**USING filename** - USE A KEEP FILE  
**EXIT** - RETURN TO THE MINISIS MENU  
**F** - BEGIN A SEARCH  
**KEEP filename** - SAVE SEARCH STRUCTURE  
**S** - END A SEARCH  
**\*SETSDI on/off** - ACTIVATE SDI MODE

21.

F02-08-86

**RECLIMIT nn** - CONTROL BROWSE COMMAND  
**BROWSE, +nnn, LAST nnn** - DISPLAY HITS AT  
TERMINAL  
**FORMAT filename** - SELECT PRINT FORMAT  
FOR DISPLAY  
**LIST OFFLINE, NOW, +nnn, LAST nnn** - LIST HITS  
OFFLINE  
**\*TITLE1 title line** - PRINT INFORMATION  
**\*TITLE2 title line** ON  
**\*SENDTO name of requestor** OFFLINE LISTING  
**REVERSE on/off** - PRINT RECORDS IN DESCENDING  
ISN ORDER

F02-08-86

**LANG en fr sp** - CHOOSE LANGUAGE  
**REFLECT on/off** - STOP DISPLAY OF TERMS  
**TRANBLATE on/off** - CONTROL TRANSLATION  
**FT on/off** - CONTROL FORBIDDEN TERMS FACILITY

22.

F02-08-86

**DEPLIMIT nn** - CONTROL DISPLAY COMMAND  
**BROWZERO on/off** - CONTROL DISPLAY COMMAND  
**DISPLAY tag key e** - DISPLAY KEYS AND POSTINGS  
IN FAST ACCESS FILE  
**DETAIL on/off** - INFORMATION ABOUT THE QUERY  
**SHOW arith. expression** - PERFORMS ARITHMETIC  
OPERATIONS + - \* /  
SUM AVG MAX MIN  
**DECIMAL nn** - SPECIFIES NO. OF DECIMAL PLACES  
FOR ARITHMETIC OPERATIONS  
**DSF** - DISPLAYS SEARCH STRUCTURE  
**SAVE filename** - SAVES HITLIST IN A FILE  
**STREAM processor;parameter ...** - SENDS OUTPUT  
TO ANOTHER PROCESSOR

F02-08-86

SDI

- SELECTIVE DISSEMINATION OF INFORMATION
- SERVICE TO PROVIDE PEOPLE WITH CURRENT REFERENCES IN THEIR FIELDS OF INTEREST
- "I WANT A LIST, EVERY MONTH, OF THE LATEST ARTICLES PUBLISHED ON ONION OR GARLIC GROWING IN TUNISIA"
  - DR. F. GARDELLI,
  - MINISTERE DE L'AGRICULTURE, TUNIS

F02-08-86

SDI

- SAME QUERY IS RUN FOR EACH PERSON ON A REGULAR BASIS (I.E. MONTHLY)
- QUERIES ARE CALLED PROFILES
- EACH USER CAN HAVE MORE THAN 1 PROFILE
- EACH PROFILE CAN REFER TO MORE THAN ONE DATA BASE
- THERE CAN BE:
  - MANY DATABASES
  - MANY USERS
  - MANY PROFILES

F02-08-86

MINISIS QUERY (BEFORE VERSION F.01)

- STANDARD QUERY PROVIDES SIMPLE FORM OF SDI USING EDITOR-FORMAT KEEP FILES

EXAMPLE

```
> USING GARDELLI      << the KEEP file >>
> =(ONION@ OR GARLIC@) AND GROWING AND TUNISIA
  P = 5                T = 5
Q> LIST OFFLINE, NOW  << print results >>
Q> SAVE GARHIT        << save results for
                       printing later >>
```

IF ANY TERM IS NOT FOUND, QUERY DISPLAYS ILLEGAL TERM MESSAGE. SEARCH STOPS.

-----  
HOW COULD SDI SERVICE BE IMPROVED?

F02-08-86

TO MAKE SDI SERVICE EASIER / MORE INFORMATIVE

- 1) EACH PROFILE ASSOCIATED WITH USER NAME, ADDRESS AND NO. OF COPIES REQUIRED
- 2) IF A TERM NOT FOUND, SEARCH CONTINUES INSTEAD OF RETURNING ILLEGAL TERM
- 3) YOU CAN EDIT SEARCH STATEMENTS ONLINE, AND GIVE EACH SEARCH LINE A NUMBER INDEPENDENT OF MINISIS QUERY LINE NUMBERS

EXAMPLE

```
1 (ONIONS@ OR GARLIC@)
10 1 AND 3 AND TUNISIA
3  AND GROWING
```

- 4) GIVE A WEIGHT TO EACH SEARCH TERM AND DEFINE A THRESHOLD WEIGHT. IF WEIGHT OF TERMS > THRESHOLD THEN RECORDS FOUND ARE OUTPUT TO HITFILE

TO MAKE SDI SERVICE EASIER / MORE INFORMATIVE

- 5) HIGHLIGHT - PRINT BESIDE EACH RECORD  
ALL SEARCH LINES SATISFIED BY THE RECORD

EXAMPLE

WHERE THE SEARCH STATEMENT IS:

2 COW@ OR CATTLE OR STEER@ OR HEIFER  
8 CANADA OR TUNISIA  
10 DAIRY OR MILK OR CHEESE OR BUTTER  
15 (2 OR 8) AND 10

THE OUTPUT RECORD MAY LOOK LIKE:

```

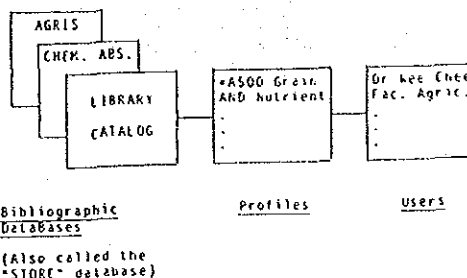
ISN: 768
AUTHOR: FOGWELL, R.
TITLE: Potential profits of synchronizing
       heat in dairy heifers
JOURN: HOARD'S DAIRYMAN (USA)
DATE: 25 May 1980
CODE: 5214; 3580

* COW@ OR CATTLE OR STEER@ OR HEIFER@ *
* DAIRY OR MILK OR CHEESE OR BUTTER *
    
```

TO MAKE SDI SERVICE EASIER / MORE INFORMATIVE

- 6) PRINT USER'S NAME, ADDRESS ETC. WITH THE RESULTS OF THE SEARCH
- 7) INSTRUCT MINISIS TO PRINT MORE THAN ONE COPY OF SEARCH RESULTS AS THE USER REQUESTS

THIS CAN BE ACCOMPLISHED IN MINISIS SDI USING A SET OF DATA BASES:



ELEMENTS OF MINISIS SDI

STORE DATA BASE(S)

- DATA BASE TO BE SEARCHED (I.E. AGRIS)

USER DATA BASE

- DATA BASE OF USER NAMES, ADDRESSES, NUMBER OF COPIES WANTED FOR A SEARCH

PROFILE DATA BASE

- LIKE A KEEP FILE
- DATA BASE OF SEARCH STATEMENTS FOR EACH USER (PROFILES), AND SPECIAL FEATURES FOR SEARCH (I.E. HIGHLIGHTING, WEIGHTING)

ELEMENTS OF MINISIS SDI (continued)

- 1) USE DATADef TO CREATE USER AND PROFILE DATA BASES
- 2) USE ENTRY TO ENTER DATA INTO USER AND PROFILE DATA BASES
- 3) RUN QUERY IN SDI MODE AGAINST STORE DATA BASE

QUERY SDI COMMANDS ARE:

- \*SETSDI ON - TO ENABLE SDI MODE
  - \*XEQ - TO EXECUTE A SEARCH
  - \*EDIT - TO EDIT PROFILE AND USER DATA BASES
  - \*OUTPUT - FILE WHERE HITS ARE SAVED
- 4) RUN SDIPRINT TO PRINT OUTPUT IN QUERY OUTPUT FILE WITH USER'S NAME, PROFILE, HIGHLIGHTING INFORMATION

STORE DATA BASES

- ANY MINISIS DATA BASE THAT SUPPORTS QUERY (NOT NECESSARILY BIBLIOGRAPHIC)
- IF IT IS A LOCAL (IN-HOUSE) DATA BASE, NEW RECORDS SHOULD BE IDENTIFIED
- IF THE DATA BASE IS EXTERNAL, I.E. FROM ANOTHER ORGANISATION, IT MUST BE CONVERTED TO A MINISIS DATA BASE
- CAN HAVE UP TO 256 FIELDS
- TAGS/MNEMONICS ARE USER-DEFINED
- TAGS MUST INCLUDE SPECIAL TAG 2990 FOR LINK TO PROFILE RECORD
- USER DOES NOT ENTER DATA IN THIS FIELD

LOCAL (IN-HOUSE) DATA BASES

- EASIEST WAY TO RUN SDI ON A LOCAL DATA BASE IS THROUGH A PS
- DEFINE A FIELD FOR STATUS OF PROCESSING E.G. ON ORDER, RECEIVED, NEW, DONE
- WHEN RECEIVED MATERIALS ARE READY FOR USE, CHANGE STATUS TO NEW
- USE INITIAL RESTRICTION =STATUS NEW
- RUN THE SDI PROFILE QUERIES
- RUN GLOBAL MODIFY TO CHANGE THE STATUS FROM NEW TO DONE

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EXTERNAL DATA BASES

- TAPES MUST BE CONVERTED TO A MINISIS DATA BASE ON DISC
- ISOCONV CAN CONVERT ISO 2709 TAPES
- OTHERS NEED SPECIAL PROGRAMMING BEFORE (OR IN PLACE OF) ISOCONV
- IDRC HAS PROVIDED CONVERSION TECHNIQUES (PROGRAMS AND/OR CD'S) FOR AGRIS, CHEM ABS, FSTA, CAB, AGRICOLA, BIOSIS
- SOME EXTERNAL DATA BASES HAVE LONG RECORDS (MORE THAN 4K) WHICH MUST BE SPLIT
- CAN BE CONNECTED BY A CHAINED JOIN DS
- MORE EFFICIENT TO USE OFFLINE INVERSION AFTER CONVERSION BY ISOCONV
- SDI USUALLY REQUIRES SEVERAL INVERTED FILES OFTEN WITH LEFT AND ADJACENCY SEARCHING
- CPU TIME AND DISC SPACE REQUIREMENTS VERY HIGH

DISC SPACE AND CPU TIME REQUIREMENTS

TAPE SERVICE	AVERAGE NO. RECORDS PER TAPE	AVERAGE NO. BYTES PER RECORDS	TOTAL BYTES	DISC SPACE FOR MASTER, INVERTED & SPOOL FILES
AGRIS	10,000	1000	10M	30-40M
CHEM ABS	17,000*	700	12M	36-48M
FSTA	1,500	700	850K	3-4K
CAB	12,000	900	12M	36-48M
AGRICOLA	10,000	700	7M	21-28M
BIOSIS	6,000*	1500	9M	27-36M

\* WEEKLY  
DISC SPACE COMPUTED AS 3 \* 5 TIMES AMOUNT ON TAPE  
INCLUDES INVERSION OF MANY FIELDS

MONTHLY SDI (CONVERSION, SEARCHING, PRINTING) ON 100 PROFILES ON 10,000 1K BYTE RECORDS WOULD REQUIRE APPROXIMATELY THE FOLLOWING CPU MINUTES

MODEL	33/39	42/44	64/68
CPU MINUTES	4,000	3,000	300
ELAPSED MINUTES	5,500	4,000	400

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USER DATA BASE

- DATA BASE OF SDI CUSTOMERS
- COULD ALSO BE DATA BASE OF LIBRARY BORROWERS, OR A SUBSET OF IT

CHARACTERISTICS OF USER DATA BASE

- DATA BASE NAME - ANY VALID NAME
- MODEL NAME - SAME AS STORE/PROFILES DB'S
- RD/MASTER FILE - ANY VALID MPE NAMES
- NO BIBLIOGRAPHIC LEVELS
- OPTIONAL AUTONUMBERING
- OPTIONAL DEFAULT QUERY FIELD
- DEFAULT PRINT FORMAT - ANY VALID NAME

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USER DATA BASE - FIELDS

- U020 - USER NAME
- U030 - USER ADDRESS
  - MAY BE ELEMENTARY OR SUBFIELDED
  - MAY BE REPEATABLE
- U040 - NO. OF PROFILE COPIES
  - NUMERIC FIELD (LENGTH 2)
  - NUMBER OF COPIES OF OUTPUT REQUIRED BY THE USER

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USER DATA BASE - FIELDS (continued)

- OTHER FIELDS MAY ALSO BE PRESENT E.G. FOR LOANS CONTROL AND OTHER PURPOSES (E.G. PERSONNEL)

THE PROFILE DATA BASE FIELD P010 USES THE ISN OF THIS RECORD TO PICK UP THE USER NAME AND ADDRESS, IN A DS WITH LEFT OUTER JOIN FROM P010 OF PROFILE TO ISN OF USER

SAMPLE RECORD:

```

-----
| ISN: 10
| U020: GARDELLI, DR. F
| U030: MINISTERE D'AGRICULTURE
|      TUNIS 103, TUNISIE
| U040: 2
-----

```

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PROFILE DATA BASE

- CONTAINS QUERY STATEMENTS FOR EACH USER
- PROFILES MAY EXTEND OVER MORE THAN ONE MINISIS RECORD BY USING A CHAINED JOIN DS

CHARACTERISTICS OF THE PROFILE DB

- DATA BASE NAME - ANY USER DEFINED NAME
- DATA MODEL - SAME AS STORE DATA BASE
- RD/MASTER WITH ANY LEGAL MPE FILENAMES
- NO BIBLIOGRAPHIC LEVELS
- OPTIONAL AUTONUMBERING
- OPTIONAL DEFAULT QUERY FIELD (POSSIBLY P010)
- DEFAULT PRINT FORMAT - ANY VALID NAME
- MUST CONTAIN THESE TAGS:
  - P010, P100, P101, P102, P103, P104, P105
  - P210, P220, P230, P240, P250, P260, P300
  - P301, P302, P303

PROFILES DATA BASE - FIELDS

- P010 - USER NUMBER  
- ISN OF RECORD IN THE USER DATA BASE  
WHERE NAME, ADDRESS OF USER IS STORED
- P100 - JOB INFORMATION  
- REPEATABLE SUBFIELDIED FIELD  
- INFORMATION RELATING TO ALL  
JOBS UNDER WHICH PROFILE IS RUN
- P101 - JOB NUMBER  
- QUERY LOOKS HERE WHEN TOLD  
WHICH JOB TO EXECUTE  
- ALLOWS SEARCHING AGAINST SPECIFIC DB  
E.G. AGRIS = JOB NUMBER 1  
ASFA = JOB NUMBER 2, ETC
- P102 - PROFILE NAME FOR JOB  
E.G. "DISEASES OF CITROUS FRUITS"
- P103 AND P104  
- ADDITIONAL INFO LINES
- P101, P102, P103, P104 MAY BE PRINTED  
ON THE SDI OUTPUT - USING SDIPRINT
- P105 - PRINT FORMAT NAME  
- FORMAT FOR PRINTING RESULTS OF QUERY  
FOR A PARTICULAR STORE DATABASE

PROFILES DATA BASE FIELDS (continued)

- P210 - EXPLANATION  
- SIMILAR TO P103/4 BUT APPLIES TO  
THE WHOLE PROFILE, NOT EACH JOB
- P220 - DEFAULT WEIGHT  
- LINE WEIGHT IF NONE GIVEN IN P303
- P230 - THRESHOLD WEIGHT  
- SUM OF P303 WEIGHTS MUST EXCEED THIS  
VALUE IF RECORD TO BE OUTPUT TO HITFILE
- P240 - HIGHLIGHTING  
- IF "Y" SDIPRINT SHOWS SEARCH LINE(S)  
THAT CAUSED THE RECORD TO BE RETRIEVED
- P250 - NUMBER OF HITS  
- \*NOT PROMPTED  
- NUMBER OF RECORDS RETRIEVED BY THIS PROFILE  
- WRITTEN BY QUERY
- P260 - PRINTING LIMIT  
- MAXIMUM NO. OF RECORDS PRINTED BY SDIPRINT  
- SELECTED BY ISN

PROFILES DATA BASE FIELDS (continued)

- P300 - SEARCH STATEMENT(S)  
- REPEATABLE SUBFIELDIED FIELD
- P301 - SEARCH LINE NUMBER  
- LENGTH 5, TYPE NUMERIC  
- SEQUENTIAL NUMBER  
- ALSO USED IN BACK REFERENCES TO LINES  
E.G. 1 AND 2
- P302 - SEARCH STATEMENT  
- 80 CHARACTERS, MANDATORY  
E.G. = D500 SUGAR AND D600 PHILIPPINES
- P303 - LINE WEIGHT  
- LINE WEIGHT  
- LENGTH 3, TYPE NUMERIC  
- WEIGHT GENERATED BY WORDS IN THIS LINE  
- IF MORE THAN ONE WORD GENERATES A HIT,  
THE WEIGHTS ARE TOTALLED  
- TOTAL MUST EXCEED THRESHOLD (P230)  
FOR RECORD TO BE OUTPUT  
- IF NO VALUE IN P303, THEN VALUE IN  
P220 IS USED  
- IF P220 EMPTY, THEN THRESHOLD IS ZERO

WEIGHTING

- TERMS IN A SEARCH LINE CAN BE GIVEN A  
WEIGHT (IN P303)
- WEIGHT OF A RECORD FOUND BY A SEARCH  
STRATEGY IS:  
WEIGHT OF TERM \* NO. OF TERMS THAT  
ARE IN RECORD FROM SEARCH FORMULATION

EXAMPLE

LINE	WEIGHT	STATEMENT
3	5	=SHEEP OR GOATE OR SMALL ADJ RUMINANT
5	3	MEAT OR LAMB OR CARCASS
7		3 AND 5

IF A RECORD IS FOUND WITH SHEEP (WT=5)  
AND LAMB (WT=3), TOTAL WT=8

IF A RECORD IS FOUND WITH SHEEP (5),  
MEAT (3) AND LAMB (3), TOTAL WT=11



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WEIGHTING (continued)

IN PROFILE DB, WEIGHT IS GIVEN TO A SEARCH LINE IN P303 (LINE WEIGHT) OR P220 (DEFAULT WEIGHT)

- THE HIGHER THE TOTAL LINE WEIGHT, THE MORE RELEVANT THE RETRIEVED RECORD
- RESULTS CAN BE PRINTED IN DESCENDING ORDER OF WEIGHT IE MOST IMPORTANT FIRST
- WEIGHTS ARE IGNORED BY BROWSE COMMAND IN QUERY EVEN WHEN IN SDI MODE

WHY USE WEIGHT AND THRESHOLD?

- TO LIMIT NUMBER OF HITS PRINTED
- TO MAKE SURE A MINIMUM COMBINATION OF TERMS WILL PRODUCE A HIT

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WEIGHTING (continued)

EXAMPLE:

LINE	WEIGHT	STATEMENT
5	1	=TRAFFIC
6	1	SAFETY
7	1	ROADS
9		5 OR 6 OR 7

- SUPPOSE THRESHOLD WEIGHT=2 (P230 IN PROFILE DATA BASE)
- THEN:
  - ONLY THOSE RECORDS WITH FOLLOWING TERMS WILL BE IN THE HITLIST
  - TRAFFIC AND SAFETY
  - TRAFFIC AND ROADS
  - SAFETY AND ROADS
  - TRAFFIC AND SAFETY AND ROADS

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WEIGHTING (continued)

- THRESHOLD WEIGHT CAN BE SET IN PROFILE DB (P230) OR IN SDIPRINT

EXAMPLE

SELECT JOB=1, THRESHOLD EQ 2

- IF THRESHOLD WEIGHT IS 5 IN P230 THEN SELECT CANNOT BE USED TO PRINT RECORDS WITH WEIGHT LESS THAN 5; THEY WILL NOT BE IN SDI OUTPUT FILE

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QUERY

- SDI SEARCHES ARE EXECUTED IN QUERY
- INTERACTIVE OR BATCH
- SELECT THE STORE DATA BASE
- TO ENTER SDI MODE USE THE COMMAND \*SETSDI ON
- SPECIFY THE SDI HITFILE NAME BY \*OUTPUT <filename> (UNLESS TESTING PROFILES)
- SPECIFY WHICH JOB OR PROFILE(S) TO EXECUTE: \*XEQ (JOB=# | PROF=(#/range)) [, <db name>]
- WHERE JOB= GIVES THE JOB NUMBER (P101)  
PROF= GIVES THE PROFILE NUMBER (ISN)  
db name IS THE PROFILE DATA BASE
- EG \*XEQ PROF=1, SDIPROFS  
WILL EXECUTE PROFILE NUMBER 1

QUERY (continued)

- YOU MAY LEAVE SDI MODE WITH \*SETSDI OFF
- ALL QUERY FUNCTIONS ARE VALID IN SDI MODE
- BEST TO RUN AS A BATCH JOB, AS \*XEQ CAN TAKE A VERY LONG TIME
- KEEP DB=<db name>,JOB=#,PROF=# WILL KEEP A STANDARD QUERY IN THE PROFILE DATA BASE
- MUST THEN \*EDIT TO ADD WEIGHTS
- QUERY CALLS SDIREFMT UTILITY TO HANDLE ON-LINE EDITING OF PROFILES

TESTING PROFILES IN QUERY

- IN SDI MODE OF QUERY, PROFILES CAN BE TESTED WITHOUT CREATING AN OUTPUT HITFILE
- THEREFORE, NO NEED FOR \*OUTPUT COMMAND
- \*XEQ(SYNTAX) (JOB=# | PROF=#|RANGE)],[<db name>  
E.G. \*XEQ(SYNTAX) JOB=1,SDIPROFS  
WILL CHECK FOR SYNTAX ERRORS  
IN ALL PROFILES OF JOB NUMBER 1  
IN THE SDIPROFS DATA BASE
- \*XEQ(TEST) (JOB= | PROF=#|RANGE)],[<db name>  
E.G. \*XEQ(TEST) JOB=1,SDIPROFS  
WILL SHOW THE RESULTS OF JOB 1  
PROFILES BUT NOT CREATE ANY OUTPUT
- <db name> NEED ONLY BE SPECIFIED ONCE

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PRINTING SDI OUTPUT

- CANNOT USE MINISIS PRINT PROCESSOR
  - USE SDIPRINT
  - MUST FIRST SET UP A DS OF THE STORE, PROFILE AND USER DATA BASES:
  - ANY DATA BASE NAME
  - SAME DATA MODEL AS STORE DATA BASE
  - WRITE ACCESS - Y
  - DYNAMICALLY CREATE COMPONENT - N
  - DEFAULT QUERY FIELD - ANY
  - DEFAULT PRINT FORMAT - SDI OUTPUT FORMAT
  - INITIAL RESTRICTION - NONE
- |       |      |           |     |          |
|-------|------|-----------|-----|----------|
| STORE |      |           |     |          |
|       | 2990 | LEFTOUTER | ISN | PROFILES |
|       | P010 | LEFTOUTER | ISN | USERS    |
- UPDATE ACCESS NO ON ALL COMPONENTS
  - IF LARGE STORE AND/OR PROFILE RECORDS ARE USED, THE DS SHOULD ALSO INCLUDE THE CHAINED JOINS FOR CONTINUATION

PRINT FORMATS FOR SDI

ALTHOUGH PRINTING IS DONE BY SDIPRINT THE FORMATS ARE CREATED USING PRINT

ISNB

- TO PRINT PROFILE NUMBER, INSERT ISN WITH A CHECKED FIELD ID FROM THE PROFILE DATA BASE

E.G. INSERT ISN  
CHECKED FIELD=P010  
DISPLAY WHILE FIND=Y  
:  
:

- TO PRINT USER NUMBER, INSERT ISN WITH A CHECKED FIELD ID FROM THE USER DATA BASE

E.G. INSERT ISN  
CHECKED FIELD ID=U020  
DISPLAY WHILE FIND=Y

Y-FIELDS

Y010  
- JOB NUMBER

Y020  
- USER NUMBER  
- SAME AS ISN OF USER DATA BASE RECORD

Y030  
- PROFILE NUMBER  
- SAME AS ISN OF PROFILE DATA BASE RECORD

Y040  
- TOTAL WEIGHT OF EACH RECORD

Y050  
- HIGHLIGHTING (SEARCH LINES)

LITERALS  
- LITERALS SHOULD BE TIED TO A PARTICULAR DATA BASE BY CHECKED FIELD ID

THE SDIPRINT PROCESSOR

PRINTS STORE, PROFILE AND USER INFORMATION

MUST BE USED WITH THE DS THAT JOINS THE STORE, PROFILE AND USER DATA BASES

YOU ARE ASKED TO:  
DEFINE COMPONENT NAMES IN THE SDIPRINT DS:

REPLY  
COMPNAME SEARCH=name,USER=name,PROFILE=name

-- DBN COMMAND SHOWS COMPONENT NAMES

SPECIFY THE HITFILE TO BE USED

HITFILE=<result of QUERY \*XEQ>

YOU CAN OPTIONALLY SPECIFY SORTING:-

SORTING=YES,A - SORT BY JOB, USER, PROFILE AND WEIGHT - ASCENDING  
SORTING=YES,D - SORT DESCENDING  
SORTING=NO - NO SORTING (DEFAULT)

SDIPRINT (continued)

FORMAT NAME  
- CHANGES THE OUTPUT PRINT FORMAT

LIST LP/ONL  
- DISPLAYS ON PRINTER (LP-DEFAULT) OR AT TERMINAL (ONL)

RECALL  
- SHOWS COMMANDS ENTERED SO FAR

XEQ  
- BEGINS PRINTING

STATISTICS GIVEN:-  
TOTAL JOB NUMBERS  
TOTAL USER NUMBERS  
TOTAL PROFILE NUMBERS  
TOTAL RECORDS PRINTED

SDIPRINT (continued)

THEN SELECT JOBS/PROFILES TO BE PRINTED:

SELECT (JOB=NUMBER|RANGE|ALL)  
[,PROFILE={NUMBER|RANGE}]  
[,THRESHOLD {GT|GE|LT|LE|EQ|NE}WEIGHT]

SELECT JOB=1  
SELECTS ONLY JOB 1 FROM HITFILE

SELECT JOB=17, PROFILE=11/14  
SELECTS PROFILES 11 TO 14 FROM JOB 17 OF THE HITFILE

SELECT JOB=8, THRESHOLD GE 30  
SELECTS RECORDS FROM JOB 8 WITH WEIGHTS GREATER THAN OR EQUAL TO 30  
NOTE THAT QUERY MAY ALREADY HAVE SELECTED BY WEIGHTS

MINISIS SDI PARAMETERS IN MESS00 FILE

LINE 2727  
- LOCATION OF SDIREFMT PROGRAM FILE

LINES 2660/2672  
- TAGS FOR PROFILE DATA BASE

LINES 2743/2745  
- TAGS FOR USER DATA BASE

INDEX

- EXTRACTS DATA FROM FIELDS IN DATA BASE
- SORTS DATA ACCORDING TO USER SPECIFICATIONS
- SORTED DATA IS OUTPUT TO PSEUDO-FIELDS WHICH CAN BE PROCESSED BY ANOTHER PROCESSOR
- OPERATES ON MASTER AND KSAM DATA BASES
- CAN RUN IN INTERACTIVE OR BATCH MODE

INDEX PROCESSING HAS SEVEN STEPS:

- DATA BASE SELECTION
- RECORD SELECTION
- OUTPUT SELECTION
- KEY AND FIELD SPECIFICATION
- KEY EXTRACTION
- KEY SORTING
- OUTPUT GENERATION

EXECUTION OF EACH STEP DEPENDS ON USER-SPECIFIED OPTIONS

ILLUSTRATION #1: SEQUENCE

STEP 1	DATA BASE SELECTION		
STEP 2	RECORD SELECTION		
STEP 3	OUTPUT SELECTION		
STEP 4	KEY AND FIELD SPECIFICATION		
STEP 5	KEY EXTRACTION	---	INDXWRK
STEP 6	KEY SORTING	---	SORTSCR
STEP 7	OUTPUT GENERATION	---	OUTPUT FILE

DATA BASE SELECTION

- OPERATES ON MASTER OR KSAM DATA BASES
- TYPE OF DATA BASE CAN BE RD, PS OR DS
- ONE DATA BASE PER SESSION OF INDEX

RECORD SELECTION

ISN RANGE                    ISN=nn/mm  
 - FOR MASTER DATA BASE ONLY

KEY RANGE                    keyname>=key value  
 - FOR KSAM DATA BASE ONLY

FAST ACCESS PATH            keyname=key value  
 - FOR BOTH KSAM AND MASTER DATA BASES

HITFILE                     HITFILE=filename  
 - FOR MASTER DATA BASE ONLY

INDEX WORK FILE             INDEX-FILE=filename  
 - FOR MASTER/XREF AND KSAM DATA BASE  
 - EXTRACTION AND PROCESSING ARE NOT REQUIRED  
 - STEP 5 IN ILLUSTRATION #1 IS SKIPPED

OUTPUT SELECTION

OUTPUT=filename  
 - filename MUST BE 6 CHARACTERS OR LESS  
 - OUTPUT CAN BE ON DISC OR TAPE (DEFAULT IS DISC)

OPTIONS

- SORTING=NO - SKIPS STEPS 6 AND 7 IN ILL. #1
- INDXWRK RENAMED TO OUTPUT FILE
- TEMP=YES - OUTPUT FILE IS TEMPORARY
- TAPE=YES - OUTPUT FILE IS CREATED ON TAPE

LAYOUT OF OUTPUT FILE:

	A	B	C	D
	:	:	:	:
RECORD IDENTIFIER	KEY1	KEY2	KEY3	....

A RECORD IDENTIFIER

- ISN FOR MASTER DATA BASES
- PRIMARY KEY VALUE FOR KSAM DATA BASES

B, C, D ... PSEUDO-FIELDS

- LENGTH IS SPECIFIED IN KEY SPECIFICATION

KEY SPECIFICATIONS

- NORMALLY, EACH KEY SPECIFICATION GENERATES A PSEUDO-FIELD IN THE OUTPUT FILE
- TWO TYPES OF KEY SPECIFICATION:
  - KEY=keyname
    - UP TO 5 KEYS PER RUN OF INDEX
  - DATAFIELD=keyname
    - UP TO 15 DATAFIELDS PER RUN OF INDEX
    - NO SORTING IS DONE
- UP TO 15 KEYS AND DATAFIELDS COMBINED
- \*\*\* INDICATES END OF KEY SPECIFICATION

USE=filename[,keyname]

- USE PRE-DEFINED KEY SPECIFICATION
- filename IS AN EDITOR-COMPATIBLE FILE CREATED BY EDITOR OR INDEX
- \*\*\* MUST NOT BE INCLUDED IN FILE

KEY SPECIFICATIONS (continued)

- BASIC KEY SPECIFICATION INCLUDES KEYNAME AND KEY LENGTH

EX: KEY=TITLE'WORDS,LENGTH=40

OTHER KEY OPTIONS

KEY=ISN,D  
SORT RECORDS BY DESCENDING ISN ORDER

KEY=keyname,A/D                      DEFAULT=A  
SPECIFIES IF SORTING IS IN DESCENDING OR ASCENDING SEQUENCE

UPSHIFT=yes/no                      DEFAULT=no  
UPSHIFTED KEY IS GENERATED IN OUTPUT FILE

VALIDATE=root name[,key length]  
KEYS ARE COMPARED TO A VALIDATION FILE used in conjunction with  
SELECT=match/unmatch              DEFAULT=match  
match - ACCEPT ALL KEYS FOUND IN VALIDATION FILE  
unmatch - ACCEPT ALL KEYS NOT FOUND IN FILE

STOPWORD=root name[,key length]  
KEYS FOUND IN STOPWORD FILE ARE REJECTED

5.

KEY SPECIFICATIONS (continued)

BORT-TYPE=udc/numeric/spanish  
SORTS KEY IN NON-ASCII SORTING SEQUENCE

ATTLABEL=yes/no                      DEFAULT=no  
DATA FROM EACH FIELD GOES INTO A DIFFERENT PSEUDO-FIELD IN THE OUTPUT FILE  
EX:    KEY=TITLE,ATTLABEL=yes  
      FIELD=AUTHOR                      Y010  
      FIELD=CORPN                      Y020  
      FIELD=EDITOR                     Y030

KEEP=yes/no                          DEFAULT=yes  
OPTIONS SUCH AS STRIPPING, UDC SORT, SPANISH SORT CREATE AN EXTRA KEY WITH ORIGINAL VALUE FOR SORTING. ALL PROCESSING IS PERFORMED ON THIS EXTRA KEY. NORMALLY, INDEX DROPS THE EXTRA KEY AND USES THE ORIGINAL VERSION IN OUTPUT FILE. IF KEEP=no, THE EXTRA KEY WILL BE USED INSTEAD OF THE ORIGINAL.

THESE OPTIONS WILL CREATE AN EXTRA KEY FOR SORTING:

UDC / SPANISH / NUMERIC SORT  
STRIPPING  
EXIT  
TYPE=S

KEY SPECIFICATIONS (continued)

DELETE=yes/no                      DEFAULT=no  
KEY IS SORTED - BUT NOT OUTPUT TO PSEUDO-FIELD

DELIMITER="characters"              DEFAULT="//"  
ALLOWS YOU TO SPECIFY DELIMITERS FOR TERM PROCESSING

EXIT=exit name:PRE/:POSTPROCESS    DEFAULT=PRE  
INDEX CALLS A USER-WRITTEN EXIT FOR FURTHER PROCESSING

BRKSEQ="characters"                  DEFAULT=" - "  
USED WITH BEFORE=yes/no AT FIELD LEVEL  
- IF BEFORE=yes, KEYS BEFORE BREAK SEQUENCE ARE EXTRACTED  
- IF BEFORE=no, KEYS AFTER BREAK SEQUENCE ARE EXTRACTED  
BREAK SEQUENCE IS A UNIQUE CHARACTER STRING

SUBFLD=yes/no                      DEFAULT=no  
FOR PROCESSING REPEATABLE SUBFIELDLED FIELDS. SUBFLD=yes WILL MATCH OCCURRENCES OF SUBFIELDS SPECIFIED IN DIFFERENT KEYS, WITHOUT GENERATING DUPLICATE KEYS

KEY SPECIFICATIONS (continued)

SHOWOCC=yes/no                   DEFAULT=no  
WRITES OCCURRENCE NO. OF FIELD TO PSEUDO-FIELD

SHORTAG=yes/no                   DEFAULT=no  
WRITES TAG OF FIELD TO PSEUDO-FIELD

SHOWPOB=yes/no                   DEFAULT=no  
WRITES POSITION NUMBER OF KEY IN FIELD TO PSEUDO-FIELD

ALTCHAR=yes/no                   DEFAULT=no  
HANDLES PROBLEMS OF UPSHIFTING FOR EXTENDED AND NON-ROMAN CHARACTER SETS

FIELD SPECIFICATIONS

FIELD SPECIFICATIONS SPECIFY THE SOURCE OF THE KEY.

- AT LEAST ONE FIELD SPECIFICATION PER KEY
- NO MORE THAN 40 FIELD SPECIFICATIONS/SESSION
- FIELD MAY BE ELEMENTARY, SUBFIELD OR SUBFIELD

FIELD=field id  
ALTERNATIVE=field id

ALTERNATIVE IS ALWAYS THE ALTERNATIVE OF THE PRECEDING FIELD

INDEX ONLY USES THE ALTERNATIVE SPECIFICATION IF THE PRECEDING FIELD DOES NOT EXIST. FOR EXAMPLE:

KEY=TITLE, LENGTH=200  
FIELD=TITLEM  
ALTERNATIVE=TITLEA  
ALTERNATIVE=TITLEC  
FIELD=TITLES

INDEX WILL EXTRACT KEY FROM TITLEM AND TITLES. IF TITLEM DOES NOT EXIST, INDEX WILL EXTRACT KEY FROM TITLEA. IF BOTH TITLEM AND TITLEA DO NOT EXIST, INDEX WILL TRY TO EXTRACT KEY FROM TITLEC.

?

FIELD SPECIFICATIONS (continued)

\$DUMMY  
USED TO TEST USER-WRITTEN EXIT.  
INDEX ASSUMES THAT \$DUMMY FIELD HAS A LENGTH OF 1 CHARACTER AND THE FIELD TAG "Z000".

DISP=nn                   DEFAULT=0  
SPECIFIES DISPLACEMENT INTO FIELD WHERE INDEX MUST BEGIN TO LOOK FOR KEY.

OCC=nn/ALL                   DEFAULT=999  
FOR REPEATABLE FIELDS, INDICATES NUMBER OF OCCURRENCES OF FIELD TO BE PROCESSED.

JUSTIFY=left/right           DEFAULT=left  
JUSTIFIES KEY IN OUTPUT FIELD.

BLANK=yes/no                   DEFAULT=no FOR PRIMARY KEY  
                                  =yes FOR 2-5TH KEY  
IF yes, INDEX WILL GENERATE A BLANK KEY IF NO VALUE EXISTS FOR A FIELD OR ITS ALTERNATIVES.

FIELD SPECIFICATIONS (continued)

TYPE=T / W / K / S  
ALLOWS DATA TO BE EXTRACTED IN VARIOUS WAYS.

T - TERM PROCESSING  
A TERM IS A CHARACTER STRING BETWEEN 2 DELIMITERS  
EX: /COMPUTER PROGRAMMING/ IN /COBOL/  
                                  TERM                   TERM

W - WORD PROCESSING  
A WORD IS ANYTHING DELIMITED BY BLANK SPACES.  
INCLUDES FIRST WORD AND LAST WORD IN FIELD.  
EX: COMPUTER PROGRAMMING IN COBOL  
                                  WORD                   WORD WORD WORD

K - KWIC INDEX  
EACH WORD IN FIELD PRODUCES 1 OUTPUT RECORD,  
WITH THE WORD IN QUESTION ALIGNED IN  
THE CENTRE OF THE OUTPUT RECORD.  
EX:  
COMPUTER PROGRAMMING IN COBOL  
                                  COMPUTER PROGRAMMING ..  
COMPUTER PROGRAMMING IN COBOL  
                                  COMPUTER PROGRAMMING IN COBOL

S - SORT SUBFIELD AND OUTPUT SUBFIELD  
FIELD IN KEY





SEQUENCE OF INDEX PROCESSING

- EXTRACT KEY (TYPE T, W, K, S OR FUNC=nn)
- CALL USER EXIT IF PRE-PROCESSING
- STRIPPING
- SPANISH, NUMERIC OR UDC SORTING
- VALIDATION AGAINST AUTHORITY FILE
- STOPWORD ELIMINATION
- CALL USER EXIT IF POST-PROCESSING

- KEYS ARE PROCESSED FROM MINOR TO MAJOR
- NUMBER OF OUTPUT RECORDS GENERATED IS DETERMINED BY NUMBER OF OCCURRENCES OF EACH KEY

## FOR EXAMPLE:

PRIMARY KEY = 3 OCCURRENCES  
 2ND KEY = 2 OCCURRENCES (OCC=ALL)  
 3ND KEY = 4 OCCURRENCES (OCC=ALL)

## NUMBER OF OUTPUT RECORDS:

3 \* 2 \* 4 = 24 RECORDS

KEY SORTING

- INDXWRK RECORDS ARE PASSED TO THE SORT UTILITY
- SORT KEY IS EITHER CHARACTER STRING OR PACKED-DECIMAL NUMBER.  
FOR SORT-TYPE=NUMERIC, DATA IN KEY IS CONVERTED TO A PACKED-DECIMAL NUMBER
- SORT KEYS ARE UPSHIFTED
- SORT UTILITY USES TEMPORARY WORK FILE SORTSCR
- SORTSCR MUST BE A DISC FILE

OUTPUT GENERATION

- SORT UTILITY RETURNS SORTED RECORDS TO INDEX
- SORTED RECORDS ARE WRITTEN TO OUTPUT FILE
- UPSHIFTED CHARACTERS ARE RESTORED TO LOWER-CASE
- OUTPUT FILE MAY BE ON TAPE OR DISC (DEFAULT IS DISC)
- IF YOU WANT TO ROUTE THE OUTPUT FILE TO TAPE, A FILE EQUATION MUST BE SPECIFIED BEFORE RUNNING INDEX
- IF ALTLABEL=yes IS SPECIFIED, KEY IS PUT IN APPROPRIATE PSEUDO-FIELD
- A DATA DEFINITION FILE IS GENERATED TO DESCRIBE CHARACTERISTICS OF PSEUDO-FIELDS (OFFSET, LENGTH ETC.)
- NAME OF DEFINITION FILE IS THE SAME AS THE OUTPUT FILE NAME, FOLLOWED BY "DD"

EX: OUT1,OUT1DD

SAVING SORT KEY DEFINITION

- YOU MAY WANT TO SAVE KEY SPECIFICATIONS AND RE-USE THEM IN ANOTHER SESSION
- IF YOU REPLY yes TO  
DO YOU WISH TO SAVE SORT KEY DEFINITION  
YOU WILL BE ASKED FOR A FILENAME

RUNNING INDEX IN BATCH

- YOU MAY INITIATE A BATCH JOB FROM INDEX
- IF YOU REPLY yes TO  
DO YOU WISH TO RUN INDEX LATER  
INDEX WILL STREAM A BATCH JOB
- OTHERWISE INDEX WILL START EXTRACTION AND PROCESSING IMMEDIATELY

FURTHER PROCESSING OF INDEX OUTPUT

- YOU MAY SPECIFY FURTHER PROCESSING BY REPLYING yes TO  
  
DO YOU WANT OUTPUT PROCESSED BY  
ANOTHER PROCESSOR
- YOU WILL BE ASKED FOR PROCESSOR NAME AND PARAMETERS
- A BATCH JOB FILE IS CREATED AND STREAMED

ILLUSTRATION #2 : GENERATING AN AUTHOR INDEX

- GENERATES A TITLE WITHIN AUTHOR INDEX
- STRIPS LEADING ARTICLES FROM TITLES

```
LIBRARY (1)
ISN=1/99999 (2)
OUTPUT=TEST (3)
KEY=AUTHOR,LENGTH=50 (4)
FIELD=AUTHOR (5)
END
KEY=TITLE,LENGTH=200 (4)
FIELD=TITLE,STRIP=ARTICLE=L (5)
END (6)
***
```

- (1) DATA BASE NAME
- (2) RECORD RANGE
- (3) NAME OF OUTPUT FILE
- (4) KEY SPECIFICATION
- (5) FIELD SPECIFICATIONS
- (6) NAME OF STRIP FILE

ILLUSTRATION #2 (continued)

```
DO YOU WISH TO SAVE SORT KEY DEFINITION? cr
DO YOU WISH TO RUN INDEX LATER? cr
DO YOU WANT OUTPUT TO BE PROCESSED
    BY ANOTHER PROCESSOR? cr
AUTHOR -- Y010 (7)
TITLE -- Y020 (7)
```

(7) ASSIGNMENT OF PSEUDO-FIELDS

LAYOUT OF ARTICLE (THE STRIP FILE)

```
-----
| THE |
| A |
| AN |
|-----|
```

- THIS IS AN UNNUMBERED EDITOR FILE

21.

ILLUSTRATION #3 : GENERATING AN OUTPUT FILE FOR INVERSION

- GENERATE OUTPUT FILE FOR INVERTING TITLE
- EACH WORD OF TITLE FIELD IS A KEY
- REMOVE NON-ALPHANUMERIC CHARACTERS
- STOPWORDS ARE ELIMINATED

```
LIBRARY
ISN=1/200
OUTPUT=TEST (1) (2) (3)
KEY=WORDS,LENGTH=40,STOPWORD=STPO,UPSHIFT=yes,&
KEEP=no (4)
FIELD=TITLE,TYPE=W,STRIP=N (5)
END
***
DO YOU WISH TO SAVE SORT KEY DEFINITION? cr
DO YOU WISH TO RUN INDEX LATER? cr
DO YOU WANT OUTPUT TO BE PROCESSED
    BY ANOTHER PROCESSOR? cr
WORDS --- Y010
```

- (1) KEY LENGTH (MUST BE SAME KEY LENGTH DEFINED IN FIELD DEFINITION)
- (2) STOPWORD PROCESSING
- (3) KEYS IN INVERTED FILE ARE UPPER-CASE
- (4) OUTPUT STRIPPED VERSION OF KEY
- (5) WORD PROCESSING AND STRIPPING

RENUM

- PROVIDES SEQUENTIAL NUMBERING FOR OUTPUT FILE GENERATED BY INDEX
- WRITES NEW FIELD INTO EACH RECORD OR REPLACES EXISTING FIELD IN EACH RECORD, WITH FIELD CONTAINING A SEQUENCE NUMBER

SEQUENCE OF PROCESSING

- ENTER NAME OF A MASTER DATA BASE
- ENTER INDEX FILE NAME
- INDEX FILE SHOULD CONTAIN ONLY 1 OUTPUT RECORD FOR EACH RECORD IN THE DATA BASE
- ENTER BASE NUMBER (STARTING NUMBER) AND OPTIONAL FIELD LENGTH. (DEFAULT=4 char.) IF NUMBER IS SHORTER THAN FIELD LENGTH, IT WILL BE PADDED WITH LEADING ZEROES
- ENTER field id FOR FIELD WHICH WILL CONTAIN SEQUENCE NUMBER AND OPTIONAL REPLACEMENT INDICATOR

THE SEQUENCE NUMBER FIELD SHOULD HAVE FOLLOWING ATTRIBUTES:

- TYPE OF FIELD MUST BE CHARACTER (NOT NUMERIC)
- MUST BE A NON-REPEATABLE FIELD
- MUST BE LONG ENOUGH TO HOLD SEQUENCE NUMBER

COMPUTE

- CAN RUN INTERACTIVELY OR IN BATCH
- PERFORMS ARITHMETIC OPERATIONS ON NUMERIC VALUES IN MINISIS FIELDS
- THESE OPERATIONS CAN BE:
  1. HORIZONTAL - WITHIN RECORD
    - EG: <field1> <op.> <field2> OR <number>
    - ADD, SUBTRACT, MULTIPLY, DIVIDE
  2. VERTICAL - ACROSS RANGE OF RECORDS
    - SUM, AVERAGE VALUE, HIGHEST OR LOWEST VALUE OF FIELD OR HORIZONTAL OPERATION
- RESULT OF OPERATION WRITTEN TO PSEUDO-FIELD (Y-FIELD) IN AN OUTPUT FILE
- THERE MAY BE AS MANY AS 99 PSEUDO-FIELDS
- OUTPUT FILE MAY BE USED AS INPUT
  - TO THE PRINT PROCESSOR
  - IN SUBSEQUENT COMPUTE SESSION
- RESULTS MAY BE WRITTEN TO DB VIA MODIFY

THE COMPUTE COMMANDS

```
HITFILE=filename
ISN=nn/mm
keyname>=key value
keyname=key value
OUTPUT=filename
BREAK field id,field id....
USING filename
IF selection criteria
COMPUTE key name=arithmetic expression
DETAIL yes/no
DECIMAL nn,mm
SHOWCOUNT yes/no
SHOWOCC yes/no
CCC field id
SUCCESS
KEEP filename
STREAM function;parameter .....
COPY field id,field id...
RECALL
XEQ
EXIT
```

MANDATORY COMMANDS

```
-----
| HITFILE=filename |
| ISN=nn/mm        | <--- INPUT COMMANDS
| keyname>=keyvalue |
| keyname=keyvalue |
|-----
```

```
-----
| OUTPUT=filename | <--- OUTPUT COMMAND
|-----
```

```
-----
| COMPUTE key name=arith. expression |
|-----
```

COMPUTE STATEMENT

```
-----
| XEQ | <----- EXECUTION COMMANDS
| EXIT |
|-----
```

MANDATORY COMMANDS

- MUST BE SUPPLIED IN A RUN OF COMPUTE
- 1. INPUT COMMAND - ONE OF:
  - RANGE OF ISNS
    - EXAMPLE: ISN=1/20
  - SELECTION BY KEY VALUE
    - EXAMPLE: A100>=0100
  - OUTPUT FROM QUERY, INDEX, COMPUTE
    - EXAMPLE : HITFILE=FILE1
- 2. OUTPUT COMMAND:
  - EXAMPLE: OUTPUT=MYFILE
  - 2 FILES (EG. MYFILE, MYFILEDD) CREATED
- 3. AT LEAST ONE COMPUTE STATEMENT:
  - EXAMPLE: COMPUTE COST=ACOST \* COPIES
- 4. EITHER XEQ OR EXIT
 

EXECUTES	EXECUTES
INTERACTIVELY	IN BATCH

THE COMPUTE STATEMENT

- PERFORMS ARITHMETIC OPERATIONS WITHIN (HORIZONTAL) OR ACROSS (VERTICAL) RECORDS ON FIELDS CONTAINING NUMERICAL VALUES FOR A RESULT OF UP TO 27 DIGITS
- ALL NON-NUMERIC CHAR. EXCEPT DECIMAL POINT STRIPPED FROM FIELD BEFORE CALCULATION:  
 EG: \$25.50 BECOMES 25.50  
 4 + 12 BECOMES 412
- FOR EACH COMPUTE SESSION THERE MAY BE FROM 1 TO 60 COMPUTE STATEMENTS
- STATEMENT MAY BE UP TO 400 CHARACTERS LONG
- & MUST BE USED AS A CONTINUATION CHARACTER
- SYNTAX OF A STATEMENT IS:

```

COMPUTE key name=arithmetic expression
          |
          KEY
          |
          WHICH CONTAINS PSEUDO-FIELDS
          |
          (RESULTS OF EXPRESSION)
          |
          1 OR MORE HORIZONTAL OPERATIONS
          |
          AND/OR
          |
          1 VERTICAL OPERATION
    
```

COMPUTE key name=arithmetic expression

- KEY
- USER-DEFINED
  - MUST BE UNIQUE
  - NO LONGER THAN 8 CHARACTERS
  - KEY GENERATES ONE OR MORE PSEUDO-FIELDS CONTAINING RESULTS OF arithmetic expression
  - UP TO 60 KEYS MAY BE SPECIFIED IN 1 SESSION  
 1 KEY <----> 1 COMPUTE STATEMENT
  - UP TO 99 PSEUDO-FIELDS CAN BE GENERATED FROM 1 COMPUTE SESSION
  - PSEUDO-FIELD TAG IS Y PLUS 3 DIGITS
  - LAST DIGIT IS ALWAYS 0

I.E. Y010, Y020 ... Y990

5.

ARITHMETIC EXPRESSION

1. HORIZONTAL
  - + - \* / ( )
  - SUM(field id) - SUM OF ALL OCCURRENCES OF A SUBFIELD
  - DATE(field id) - ALLOWS OPERATIONS ON DATES IN DD/MM/YY OR YYYY-MM-DD FORMAT
2. VERTICAL
  - SUM - SUMS ALL OCCURRENCES OF FIELD IN SELECTED RECORDS
  - AVG - FINDS AVERAGE OF ALL OCCURRENCES OF FIELD IN SELECTED RECORDS
  - MAX - FINDS OCCURRENCE OF FIELD CONTAINING HIGHEST VALUE
  - MIN - FINDS OCCURRENCE OF FIELD CONTAINING LOWEST VALUE

HORIZONTAL OPERATIONS

- |             |            |                      |
|-------------|------------|----------------------|
| 1. number   | -----      | number, OR VALUE IN  |
| 2. field id | -----      | field id, IS WRITTEN |
|             |            | TO PSEUDO-FIELD      |
| 3. field id | horizontal | number               |
|             | operation  |                      |
| 4. field id | horizontal | field id             |
|             | operation  |                      |
|             |            |                      |
| TAG OR      | + - * /    | TAG OR               |
| MNEMONIC    | SUM( )     | MNEMONIC             |
|             | DATE( )    |                      |

-----  
 | MORE THAN 1 HORIZONTAL OPERATION MAY |  
OCCUR IN A HORIZONTAL EXPRESSION

ORDER OF EXECUTION OF HORIZONTAL OPERATIONS

1. SUM( ) OR DATE( )
2. MULTIPLICATION \* AND DIVISION / FROM LEFT TO RIGHT
3. ADDITION + AND SUBTRACTION - FROM LEFT TO RIGHT

EX: COMPUTE A=X100-X200\*2  
                   |                  |  
                   |                  1  
                   2

PARENTHESES CAN BE USED TO CHANGE ORDER OF EXECUTION

EX: COMPUTE A=(X100-X200)\*2  
                   |                  |  
                   1                  2

VERTICAL OPERATIONS

vertical operator	horizontal expression
BUM	number
AVG	field id
MAX	field id HOR. OP. number
MIN	field id HOR. OP. field id

EXAMPLES

COMPUTE A=SUM 1  
 COMPUTE B=MAX X120  
 COMPUTE C=SUM (X100 - X200) \* X300  
 COMPUTE D=AVG DATE(X400) - DATE(X500)  
 COMPUTE E=SUM COSTS \* COPIES  
 COMPUTE F=SUM Y010

- HORIZONTAL EXPRESSION IS EXECUTED BEFORE VERTICAL OPERATION
- ONLY 1 VERTICAL OPERATION PER COMPUTE STATEMENT

- WHEN RUNNING INTERACTIVELY

- XEQ - EXECUTES COMPUTE OPERATIONS
- EXIT - STREAMS A BATCH JOB
- JOB FILE IS Cdddtttt

DATE TIME

- WHEN RUNNING IN BATCH

THERE IS NO DIFFERENCE BETWEEN XEQ AND EXIT

\* \* \*

EXECUTION OF XEQ OR EXIT RESULTS IN DISPLAY OF OUTPUT TABLE

KEY NAME	FLD TOTAL	MINOR TOTAL	MAJOR TOTAL CNT	FINAL TOTAL	OC
AS DEFINED IN COMPUTE STATEMENT	RESULT OF HORIZONTAL OPERATION	SUBTOTALS (BREAK COMMAND)	RESULT OF VERTICAL OPERATION	SHOW OF OCC	

EXAMPLE OF A COMPUTE SESSION

ENTER DB NAME OR EXIT - projects  
 - ISN=1/5  
 - OUTPUT=exam1  
 - COMPUTE a=SUM p110  
 - DECIMAL 0  
 - COMPUTE b=p180 + p190  
 - DECIMAL 0  
 - XEQ

KEY NAME	FLD TOTAL	MINOR TOTAL	INT 1 CNT	FINAL TOTAL	OC
A	Y010			Y020	
B	Y030				

PROJECTS

ISN	P110	P180	P190
1	4	9	18
2	3	3	4
3	24	-	4
4	-	4	20
5	13	-	-

EXAM1

ISN	Y010	Y020	Y030
1	4		27
2	3		7
3	24		4
4	0		24
5	13	44	0



SUCCESS

- EVERY IF COMMAND MAY BE ACCOMPANIED BY A SUCCESS COMMAND
- SUCCESS IS USED WHEN YOU WANT ONLY ONE COMPUTE STATEMENT TO EXECUTE, DEPENDING ON CONDITION IMPOSED BY IF
- IF CONDITION IS MET, CURRENT COMPUTE STATEMENT EXECUTES AND FOLLOWING COMPUTE STATEMENTS ARE IGNORED

EX:     - ISN=1/5  
           - OUTPUT=COMP2  
           - IF P200 = "NEW YORK"  
           - COMPUTE SUM1=SUM X100  
           - SUCCESS  
           - IF P200 = "PARIS"  
           - COMPUTE SUM2=SUM X200

\* \* \*

DECIMAL nn,mm

- nn AND mm ARE INTEGERS FROM 0 TO 10
- nn DETERMINES TO HOW MANY DECIMAL PLACES PRECEDING COMPUTE STATEMENT IS CALCULATED - DEFAULT IS 3
- mm DETERMINES NO. OF DECIMAL PLACES USED IN OUTPUT RESULT (OPTIONAL).

SHOWOCC yes/no

- OPTION TO PROCESS SUBFIELDS OF REPEATABLE SUBFIELD FIELD
- DEFAULT IS no - SHOWOCC yes GENERATES INDIVIDUAL RESULT FOR EACH OCC.
- RESULT IS A 'FLATTENED' SET OF RECORDS - ONE FOR EACH OCC. OF SUBFIELD FIELD
- WRITES OCC. NO. OF SUBFIELD TO PSEUDO-FIELD 'OCC'
- INFO. IN 'OCC' FIELD USED TO IDENTIFY OCCURRENCE OF SUBFIELD IN MODIFY OR SUBSEQUENT COMPUTE SESSION

\* \* \*

OCC field id

- OPTION TO PROCESS SUBFIELDS IN REPEATABLE SUBFIELD FIELD
- IDENTIFIES SPECIFIC OCC. OF SUBFIELD TO BE USED IN COMPUTE OPERATION
- field id CONTAINS OCC. NO.
- CAN BE GENERATED BY SHOWOCC yes COMMAND IN INDEX OR PREVIOUS COMPUTE SESSION

SHOWOCC yes AND occ field id AFFECT PRECEDING COMPUTE STATEMENT (AND PRECEDING IF STATEMENT, IF ANY)

/ /

/ /

HANDLING REPEATABLE FIELDS

OPTIONS FOR REPEATABLE ELEMENTARY FIELDS:

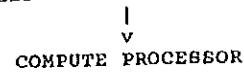
1. DEFAULT - SUM OF VALUES IN ALL OCCURRENCES OF FIELD IS USED IN HORIZONTAL OPERATION
2. TO PROCESS INDIVIDUAL OCCURRENCES
  - USE INDEX PROCESSOR OR 'PS' STRUCTURE TO 'FLATTEN' REPEATABLE FIELD

OPTIONS FOR SUBFIELDS IN REPEATABLE SUBFIELD FIELD:

1. DEFAULT - ONLY FIRST OCCURRENCE OF SUBFIELD IS USED IN COMPUTE OPERATION
2. SUM(subfield id) - SUM OF VALUES IN ALL OCCURRENCES OF SUBFIELD USED IN OPERATION
3. SHOWOCC yes - SEPARATE OPERATION PERFORMED ON EACH OCCURRENCE OF SUBFIELD
4. OCC field id - COMPUTE OPERATION PERFORMED ON A SPECIFIED OCCURRENCE OF SUBFIELD - field id HOLDS OCC. NO.

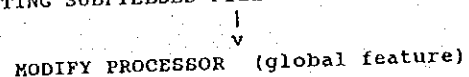
INDEX PROCESSOR

- SHOWOCC yes GENERATES PSEUDO-FLD CONTAINING OCC. NO. OF SPECIFIED SUBFIELD IN REPEATING SUBFIELD FIELD



- OCC field id USES RESULT OF SHOWOCC yes TO IDENTIFY OCCURRENCE OF SUBFIELD TO BE PROCESSED BY COMPUTE

- SHOWOCC yes GENERATES PSEUDO-FLD CONTAINING OCC. NO. OF SPECIFIED SUBFIELD IN REPEATING SUBFIELD FIELD



- OCC field id USES RESULT OF SHOWOCC yes TO IDENTIFY OCCURRENCE OF SUBFIELD TO BE WRITTEN TO DATA BASE

OTHER COMMANDS

| USING filename | <--- RE-USE KEPT COMMANDS

| DETAIL yes/no | <--- AFFECT OUTPUT OF FIELD TOTALS FOR VERTICAL OPERATIONS

| SHOWCOUNT yes/no | <--- SHOW INFORMATION ABOUT RECORDS

| KEEP filename | <--- KEEP COMMANDS

| STREAM function;parameter;.. | <--- STREAM BATCH JOB

| COPY field id, .. | <--- COPY FIELDS FROM HITFILE

| RECALL | <--- DISPLAY COMMANDS

DETAIL yes/no

- DEFAULT yes
- USED WITH VERTICAL OPERATIONS
- IF DETAIL IS no, NO FIELD TOTAL IS OUTPUT

\*\*\*

SHOWCOUNT yes/no

- DEFAULT no
- WHEN USED WITH SUM OR AVG, SHOWCOUNT yes OUTPUTS A COUNT OF RECORDS PROCESSED BY PRECEDING COMPUTE STATEMENT TO PSEUDO-FIELD
- WHEN USED WITH MIN OR MAX, SHOWCOUNT yes OUTPUTS ISN OF RECORD IN WHICH MIN OR MAX VALUE WAS FOUND

\*\*\*

COPY field id,field id....

- OPTIONALLY USED WHEN HITFILE FROM INDEX OR COMPUTE IS INPUT
- field id IS A PSEUDO-FIELD FROM INPUT FILE COPIED TO A PSEUDO-FIELD IN THE OUTPUT FILE
- UP TO 50 FIELDS CAN BE COPIED
- EX:
  - HITFILE=FILEA
  - OUTPUT=FILEB
  - COPY Y010
  - COMPUTE TOTAL=A100-B200
  - XEQ

Y010 FROM FILEA IS WRITTEN TO FILEB  
RESULT OF A100-B100 IS WRITTEN TO Y020 IN FILEB

EXAMPLE WITH RECALL AND SHOWCOUNT

- HITFILE=EXAM3
- OUTPUT=EXAM4
- BREAK P020
- COMPUTE AA=SUM P110
- DECIMAL 0
- SHOWCOUNT YES
- COMPUTE BB=MAX P110
- DECIMAL 0
- SHOWCOUNT YES
- XEQ

KEY NAME	FLD TOTAL	MINOR TOTAL	CNT	INTL TOTAL	FINAL TOTAL	CNT	OCC
AA	Y010	Y020	Y030		Y040	Y050	
BB	Y060	Y070	Y080		Y090	Y100	

NO. RECORDS PROCESSED AT BREAK      ISN OF MAX VALUE AT BREAK      TOTAL NO. OF RECORDS      ISN OF MAX VALUE

RECALL

- DISPLAYS ALL COMMANDS ENTERED UP TO THIS POINT

\*\*\*

KEEP filename

- KEEPS COMMANDS USED IN THIS SESSION
- KEPT COMMANDS: IF, BREAK, COMPUTE, SHOWCOUNT, SHOWOCC, OCC, DETAIL, SUCCESS
- COMMANDS NOT KEPT: INPUT COMMANDS, OUTPUT, STREAM, COPY, XEQ, EXIT
- filename - AN UNNUMBERED EDITOR FILE

\*\*\*

USING filename

- USES KEPT COMMANDS STORED IN filename

\*\*\*

STREAM function parameter;parameter .....

- BATCH JOB TO SEND OUTPUT TO ANOTHER PROCESSOR

STREAM PRINT;PROJECTS;PLIST;HITFILE=A;END  
 PROCESSOR DATA BASE PRINT OUTPUT  
 NAME NAME NAME FORMAT FILE

IF FIELDS IN EXAM3 HAVE THESE VALUES

ISN	P020	P110
2	A	5
6	A	4
7	A	20
10	A	23
11	A	3
1	E	4
4	B	9
8	B	11

TREN FIELDS IN EXAM4 WILL HAVE THESE VALUES:

Y010	Y020	Y030	Y040	Y050	Y060	Y070	Y080	Y090	Y100
5									
4					5				
20					4				
23					20				
3	55	5			23				
4					3	23	10		
9					4				
11					9				
11	24	3	79	8	11	11	8	23	10

NO. OF RECORDS      ISN      ISN



ORDER OF COMMANDS

1. INPUT COMMAND
2. OUTPUT=filename
3. COPY field id ....
4. BREAK field id ....
5. IF selection criteria - 1 FOR EACH COMPUTE STATEMENT
6. COMPUTE key name=arith. expression - AS  
MANY AS 60
7. DETAIL no - 1 FOR EACH VERTICAL COMPUTE STATEMENT
8. SHOWCOUNT yes - 1 FOR EACH VERTICAL COMPUTE STATEMENT
9. SHOWOCC yes - 1 FOR EACH COMPUTE STATEMENT
10. OCC field id - 1 FOR EACH COMPUTE STATEMENT
11. DECIMAL nn,mm - 1 FOR EACH COMPUTE STATEMENT
12. SUCCESS - 1 FOR EVERY IF COMMAND
13. STREAM
14. XEQ OR EXIT

PRINT

- DISPLAYS DATA ON OUTPUT DEVICE PRINTER  
TERMINAL  
DISC  
TAPE
- CREATES A PRINT FORMAT FILE
- EDITS AN EXISTING PRINT FORMAT FILE
- CAN BE RUN IN INTERACTIVE OR BATCH MODE

PRINT FORMAT FILE

- CREATED OR EDITED IN INTERACTIVE MODE OF PRINT
- DESCRIBES PAGE SPECIFICATIONS AND INDICATES WHICH FIELDS ARE TO BE DISPLAYED
- HAS A FILE CODE OF 2000

USING THE PRINT PROCESSOR

PRINT WILL ASK:  
ENTER DB NAME OR EXIT  
REPLY WITH A DATA BASE NAME.

PRINT WILL ASK:  
NAME OF PRINT FORMAT FILE  
REPLY WITH ONE OF:

- CARRIAGE RETURN - DEFAULT PRINT FORMAT WILL BE USED. NO EDITING IS ALLOWED ON FILE.
- NAME OF DEFAULT PRINT FORMAT - IF YOU WISH TO MODIFY IT.
- NAME OF ANOTHER PRINT FORMAT - IF YOU WISH CREATE OR MODIFY IT OR IF IT IS NOT DEFAULT.

IF THE FORMAT FILE DOES NOT EXIST,  
PRINT WILL DISPLAY:  
NONEXISTENT FILE. CREATE NEW (Y/N)  
Y ALLOWS YOU TO CREATE A NEW PRINT FORMAT.

USING THE PRINT PROCESSOR (continued)

IF PRINT FORMAT FILE IS FOUND, PRINT WILL ASK:  
FILE EXISTS.....DELETE?  
DO YOU REALLY WANT FILE DELETED (Y/N)  
IF YOU REPLY YES TO BOTH QUESTIONS, THE FORMAT  
FILE WILL BE PURGED.

YOU WILL THEN BE ASKED:  
CHANGE PAGE SPECIFICATIONS?  
IF YOU WISH TO CHANGE PAGE PARAMETERS, REPLY Y.

PRINT WILL ASK:  
EDIT EXISTING FORMAT FILE?  
IF YOU REPLY Y, YOU MAY MODIFY THE FORMAT.

USING THE PRINT PROCESSOR (continued)

PRINT WILL THEN ASK:  
SELECT OUTPUT DEVICE (TERMINAL/LP/SPECIAL)  
REPLY WITH ONE OF:

- CARRIAGE RETURN OR LP - SEND ALL OUTPUT TO PRINTER WITH OUTPUT PRIORITY OF 8 (OUTPRI=8).
- TERMINAL - SEND OUTPUT TO YOUR TERMINAL. PRINT ASKS IF YOU WANT TO SET TOP OF FORM. IF Y, PRINT WILL DISPLAY A SAMPLE RECORD FOR FORMS ALIGNMENT. YOU WILL ALSO BE ASKED IF YOU WANT TO DEFER PRINTING.
- SPECIAL - SEND OUTPUT TO PRINTER WITH PRIORITY OF 1 (OUTPRI=1). BECAUSE OUTPUT IS IN A LOW PRIORITY QUEUE, IT IS NOT PRINTED IMMEDIATELY. USED TO PRODUCE OUTPUT ON SPECIAL FORMS.

OUTPUT FILE IS CALLED OUTFL.  
OUTPUT CAN BE DIRECTED TO DISC OR TAPE  
BY A FILE EQUATION.

A FILE EQUATION CAN BE USED TO REDEFINE THE SIZE  
OF OUTFL. DEFAULT FILE SIZE IS 100,000 RECORDS.

USING THE PRINT PROCESSOR (continued)

PRINT WILL NOW ASK:  
SELECT RECORDS  
REPLY WITH ONE OF:

- HELP - DISPLAYS SYNTAX OF ALL VALID COMMANDS
- ISN=n OR ISN=n/m - SINGLE ISN OR RANGE OF ISNS
- Keyname=starting key value  
Keyname=starting key/ending key  
Keyname IS TAG OR MNEMONIC OF KSAM PRIMARY KEY FIELD, OR FAST-ACCESS FIELD OF MASTER DATA BASE.
- HITFILE=filename - FROM QUERY, INDEX, COMPUTE
- ALL - WILL PRINT ALL RECORDS IN DATA BASE.
- END - TAKES YOU OUT OF RECORD SELECTION MODE.

USING THE PRINT PROCESSOR (continued)

AFTER END IS ENTERED AS A RECORD SELECTION OPTION, PRINT WILL ASK:

ENTER DB NAME OR EXIT

YOU MAY REPLY WITH:

- EXIT - TO RETURN TO THE MINIS MENU
- ANOTHER DATA BASE NAME

IF YOU ENTER ANOTHER DATA BASE NAME, PRINT WILL ASK

NAME OF PRINT FORMAT FILE

YOU MAY REPLY WITH CARRIAGE RETURN (FOR DEFAULT FORMAT IF IT IS ANOTHER DATA BASE, OR THE SAME FORMAT IF IT IS THE SAME DATA BASE) OR THE NAME OF ANOTHER FORMAT.

5.

CREATING A PRINT FORMAT FILEPAGE SPECIFICATIONS

- PLACES RECORDS ON A LOGICAL PAGE
- PLACES LOGICAL PAGE ON A PHYSICAL PAGE

LINES PER PAGE

INDICATES LENGTH OF PHYSICAL PAGE.

CHARACTERS PER LINE

NUMBER OF CHARACTERS PRINTED ON EACH LINE.  
AN EXTRA CHARACTER IS ADDED TO RECORD LENGTH OF OUTPUT FILE IF OUTPUT IS PRINTED WITH CCTL (CARRIAGE CONTROL)

COLUMN FORMATTING

THERE CAN BE AS MANY AS 10 LOGICAL PAGES ON A PHYSICAL PAGE  
IF RESPONSE IS NO, THERE IS ONE LOGICAL PAGE PER PHYSICAL PAGE

NUMBER OF COLUMNS PER PAGE

NUMBER OF LOGICAL PAGES PER PHYSICAL PAGE

NUMBER OF SPACES BETWEEN COLUMNS

NUMBER OF SPACES BETWEEN LOGICAL PAGES

CHARACTER WIDTH OF COLUMNS

WIDTH OF LOGICAL PAGE

PAGE SPECIFICATIONS (continued)

NUMBER OF PAGES TO SKIP IF HEADING CHANGES  
NUMBER OF PHYSICAL PAGES TO BE SKIPPED IF VALUE OF EQUAL-SUPPRESSION FIELD CHANGES

PRINTING MODE

TELLS PRINT HOW TO HANDLE DIACRITICAL MARKS:

- 1 - PRINT AS ENTERED
- 2 - STRIP DIACRITICS AND VERTICAL BARS
- 3 - REMOVE BARS AND PUT DIACRITICS OVER LETTERS
- 4 - SIMILAR TO 3 BUT DOES NOT OVERSTRIKE

DEFAULT SPACING

SPACING BETWEEN EACH LINE IN RECORD

SPACING BETWEEN RECORDS

NUMBER OF BLANK LINES BETWEEN EACH RECORD

MAXIMUM NUMBER OF RECORDS/PAGE

MAXIMUM NUMBER OF RECORDS THAT CAN BE PRINTED BEFORE A NEW PAGE IS STARTED

PAGE SPECIFICATIONS (continued)

**LEFT MARGIN**  
LEFT-MOST CHARACTER POSITION FOR EVERY LINE.  
RELATIVE TO BEGINNING OF LOGICAL PAGE.

**MAXIMUM NUMBER OF LINES/RECORD**  
A FIXED BLOCK OF LINES CAN BE ALLOCATED TO  
EACH RECORD ON THE OUTPUT PAGE.

**SPLIT RECORD BETWEEN PAGES**  
IF REPLY IS Y, RECORD IS PRINTED ACROSS  
A LOGICAL PAGE BOUNDARY.

**PRINT AFTER LAST RECORD**  
IF YES, RECORD IS PRINTED IMMEDIATELY  
AFTER PRECEDING RECORD, ON SAME LINE.

**STARTING PAGE NUMBER**  
SPECIFIES STARTING PAGE NUMBER IN HEADING LINE.

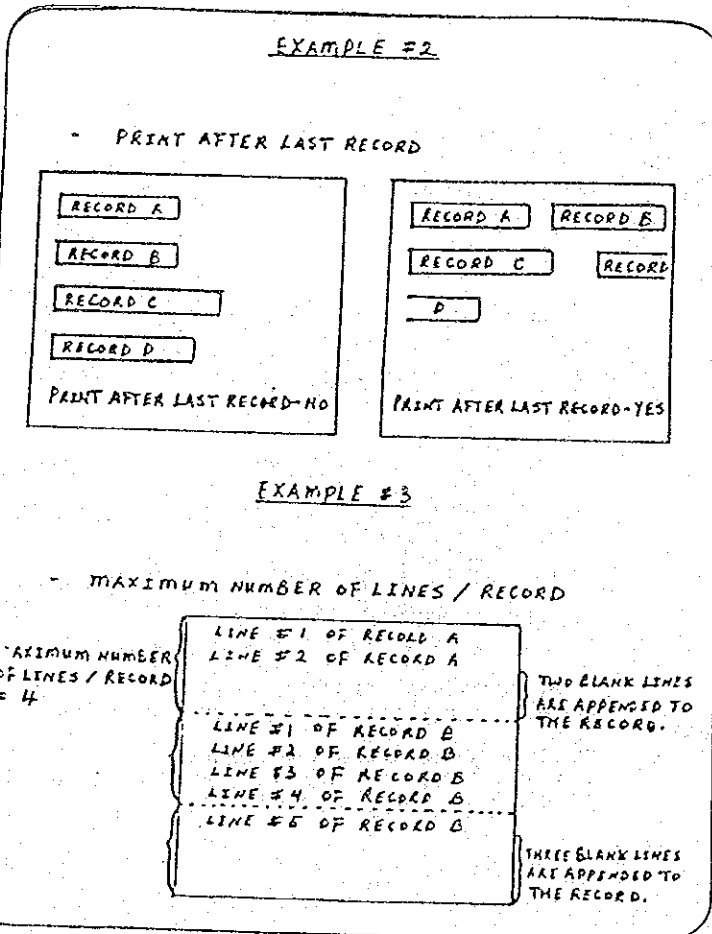
**NUMBER OF HEADING LINES**  
UP TO 10 HEADING LINES ON EACH PHYSICAL PAGE.  
A COMMERCIAL "AT" SIGN @ IN HEADING LINE WILL  
PRINT DATE AT LOCATION OF @.  
A "NUMBER" SIGN # IN HEADING LINE WILL PRINT  
PAGE NUMBER AT LOCATION OF #.

**TABLE #1 - DEFAULT AND MAXIMUM VALUES OF PAGE SPECIFICATION PARAMETERS**

PARAMETER	DEFAULT VALUE	MAXIMUM VALUE
A COLUMN FORMATTING	* NO	
B PRINTING MODE	1	4
C LINES PER PAGE	+ 56	210
D CHARACTERS PER LINE	+ 132	132
E NUMBER OF COLUMNS PER PAGE	0	10
F NUMBER OF SPACES BETWEEN COLUMNS	0	.
G CHARACTER WIDTH OF COLUMNS	0	.
H # PAGES TO SKIP IF HEADING CHANGE	0	10
I DEFAULT SPACING	1	30
J SPACING BETWEEN RECORDS	1	40
K MAXIMUM NUMBER OF RECORDS/PAGE	32766	32766
L LEFT MARGIN	1	20
M MAXIMUM NUMBER OF LINES/RECORD	0	255
N SPLIT RECORD BETWEEN PAGES	NO	
O PRINT AFTER LAST RECORD	NO	
P STARTING PAGE NUMBER	1	8191
Q NUMBER OF HEADING LINES	0	10

\* IF REPLY TO "COLUMN FORMATTING" IS Y, TOTAL OF (G\*E)+(E-1)\*F MUST BE LESS THAN OR EQUAL TO D.

+ DEFAULT VALUES OF LINES/PAGE & CHARACTERS/LINE ARE CODED IN MESS00.PUB AND ARE USER-DEFINABLE.



PRINT FORMATTING AT THE RECORD LEVEL

- ORDERING AND PLACEMENT OF FIELDS

EACH FORMAT MAY HAVE UP TO 256 FIELD ENTRIES:

- DATA FIELDS DEFINED IN GIVEN DATABASE
- PSEUDO-FIELDS GENERATED BY INDEX OR COMPUTE
- SYSTEM-GENERATED DATA FIELDS (IGN, DATE)
- LITERAL (LITL)
- POSITIONING CONTROL (FCTL)
- CONDITIONAL DISPLAY FIELD (TEST)

FIELD IDS

FIELD TAG OR MNEMONIC  
ANY FIELD IN THE DATA BASE.

PSEUDO-FIELD TAG  
GENERATED BY INDEX OR COMPUTE.  
TAG HAS FORM YDDD WHERE D IS A DIGIT.

ISN  
RECORD IDENTIFIER.

DATE  
PRINTS CURRENT DATE IN EACH OUTPUT RECORD.

LITL  
A CHARACTER STRING OF UP TO 80 CHARACTERS  
WHICH WILL APPEAR IN EACH RECORD.

FCTL  
PRINT INTERNALLY MAINTAINS A CURSOR TO INDICATE  
CURRENT POSITION OF OUTPUT RECORD.  
CURSOR IS DETERMINED BY LINE NUMBER AND  
POSITION WITHIN LINE. FCTL ALLOWS YOU  
TO SPECIFY POSITION OF CURSOR.

TEST  
ENABLES CONDITIONAL DISPLAY OF FOLLOWING FIELD,  
BASED ON SEARCH CRITERIA.  
FIELD SEARCHED CAN BE ANY FIELD IN RECORD,  
OR PSEUDO-FIELD.

HOW TO ADD AND EDIT PRINT FIELDS

WHEN YOU CREATE A PRINT FORMAT FILE OR REPLY  
Y TO EDIT EXISTING FORMAT FILE

PRINT WILL DISPLAY

INPUT COMMAND -  
I (insert) --  
D (delete) ) field id[,entry #]  
M (modify) )  
L (list) --  
G (gather) entry #,entry #  
S (show)  
E (end)

field id = FIELD TAG, MNEMONIC,  
PSEUDO-FIELD TAG, ISN,  
DATE, LITL, TEST OR FCTL

13.

14

HOW TO ADD AND EDIT PRINT FIELDS (continued)

INSERT field id,[entry #]  
ADDS A NEW FIELD TO FORMAT FILE.  
IF entry # IS SPECIFIED, NEW FIELD IS ADDED  
BEFORE SPECIFIED ENTRY.

DELETE field id,[entry #]  
DELETES AN EXISTING FIELD FROM FORMAT FILE.

MODIFY field id,[entry #]  
ALLOWS YOU TO CHANGE ATTRIBUTES OF FIELD.

LIST field id,[entry #]  
DISPLAYS CURRENT VALUES OF FIELD PARAMETERS.

GATHER entry #,entry #  
ALLOWS YOU TO CHANGE POSITION OF FIELD ENTRY.

SHOW  
DISPLAYS A LIST OF ALL FIELDS IN ORDER OF  
INSERTION. entry # IS PRINTED WITH FIELD TAG.

END  
TAKES YOU OUT OF INSERTING/EDITING MODE.

FIELD ATTRIBUTES

CONDITIONS FOR PRINTING FIELDS:

- PRESENCE OR ABSENCE OF ANOTHER FIELD
- WHETHER OR NOT FIELD HAS SAME VALUE AS FIELD IN PREVIOUS RECORD
- WHETHER ANOTHER FIELD HAS SAME VALUE IN PREVIOUS RECORD
- WHETHER TEST CRITERIA IS MET
- ACCORDING TO SPECIFICATIONS IN USER EXIT
- IF FIELD DOES NOT EXIST:  
LITERALS MAY OR MAY NOT BE PRINTED  
ALTERNATIVE FIELD MAY OR MAY NOT BE PRINTED

CONDITIONS FOR PRINTING FIELDS

CHECKED FIELD ID  
FIELD TAG, MNEMONIC OR PSEUDO-FIELD TAG.  
CURRENT FIELD WILL BE PRINTED DEPENDING  
ON PRESENCE OR ABSENCE OF CHECKED FIELD.

DISPLAY WHILE FIND CHECKED FIELD  
IF Y, CURRENT FIELD WILL BE PRINTED  
ONLY IF CHECKED FIELD EXISTS IN RECORD.

EQUAL SUPPRESSION ON CHECKED FIELD  
IF Y, PRINT COMPARES VALUE OF CHECKED  
FIELD WITH VALUE OF CHECKED FIELD IN PRECEDING  
RECORD. IF VALUE HAS CHANGED, CURRENT RECORD  
IS PRINTED. OTHERWISE, FIELD IS SUPPRESSED.

FUNCTION CODE OF USER EXIT  
ALLOWS YOU TO CALL A USER-WRITTEN ROUTINE  
WHICH RESIDES IN THE MINISIS SL.  
FUNCTION CODE IS ANY NUMBER FROM 1 TO 32766.

CONDITIONS FOR PRINTING FIELDS (continued)

CONDITIONAL DISPLAY  
IF N, PRINT ASSUMES FIELD ALWAYS EXISTS.  
IF FIELD REALLY DOES NOT EXIST IN RECORD,  
PRINT ASSUMES FIELD HAS A VALUE OF 1 CHARACTER,  
AND LITERALS ARE PRINTED.  
IF Y, AND FIELD DOES NOT EXIST, CURSOR  
DOES NOT MOVE.

EQUAL SUPPRESSION  
IF Y, CURRENT FIELD IS NOT PRINTED IF SAME  
FIELD IN PRECEDING RECORD HAS SAME VALUE.

PRINT AT TOP OF PAGE ONLY  
PROMPTED IF EQUAL SUPPRESSION IS Y.  
IF Y, CURRENT FIELD IS PRINTED IF VALUE  
OF FIELD HAS NOT CHANGED, AND RECORD IS  
FIRST RECORD ON PAGE (CONTINUATION HEADER).

ALTERNATIVE  
IF ALTERNATIVE IS SPECIFIED AND CURRENT FIELD  
DOES NOT EXIST IN RECORD, PRINT WILL TRY TO  
LOCATE ALTERNATIVE AND PRINT IT ON OUTPUT PAGE.

/7.

FIELD POSITIONING

THREE CLASSES OF OUTPUT:

- SEQUENTIAL
- TABULAR
- ABSOLUTE POSITIONING FOR SPECIAL FORMS

SEQUENTIAL FORMATTING  
FIELDS FOLLOW ONE ANOTHER, WITH  
INTER-FIELD SPACING AND PRE- OR POST-LITERALS.

TABULAR FORMATTING  
LOGICAL PAGE CAN BE DIVIDED INTO COLUMNS.  
FIELDS CAN FALL WITHIN SPECIFIC COLUMNS.

ABSOLUTE FORMATTING  
FIELDS CAN START AT SPECIFIC LINE AND  
SPECIFIC POSITION WITHIN LINE.

YOU CAN SPECIFY MIXED FORMATTING FOR  
EACH OUTPUT RECORD.

Agency: 805110 file: 25 ISN: 3001  
Donor: 805110

Tropical Legumes: Resources for the Future

Date Funds Committed: 19760000 Completion Date: 19790000

For information, contact: Wandy White (Information Services Manager)

-- Co-funding Agencies --

AID / Agency for International Development  
Co-funding Agency File: AIDrcad-285c

-- Researchers --

Raichie, Kenneth O. Dr.  
Function: Chairman

Vismeyer, Noel Dr.  
Function: Staff Officer

/tropical zone/ /leguminosae/ /root crops/ /fruits/ /storage crops/ /cereal/ /forest crops/ /fertilizers/ /erosion control/ /nitrogen fixation/

Availability of Documents: Report available from 805110: Tropical legumes: Resources for the Future, 1979, 331 pp.

Describes plants of the family Leguminosae, including root crops, pulses, fruits, forages, timber and wood products, ornamentals, and others. The report identifies leguminous plants that could improve the well-being of people in developing countries, selects the species with the greatest inherent value, and indicates what needs to be done to capitalize on these plants and to develop them to their potential. Includes discussions on green manure, soil reclamation, and erosion.

SEQUENTIAL FORMATTING



FIELD SPACING

DEPENDING ON FORMATTING MODE, FIELD SPACING APPLIES TO EITHER "COLUMN" OR "LOGICAL PAGE". FOR TABULAR FORMATTING, FIELD SPACING AFFECTS SPACING WITHIN COLUMN. FOR SEQUENTIAL FORMATTING, FIELD SPACING AFFECTS SPACING WITHIN LOGICAL PAGE.

**FIRST LINE INDENTATION**  
NUMBER OF SPACES THAT FIRST LINE OF A FIELD WILL BE INDENTED FROM LEFT MARGIN OF LOGICAL PAGE OR BEGINNING OF COLUMN.

**SUBSEQUENT LINE INDENTATION**  
DETERMINES INDENTATION OF FOLDED LINES, IF FIELD WON'T FIT ON ONE LINE.

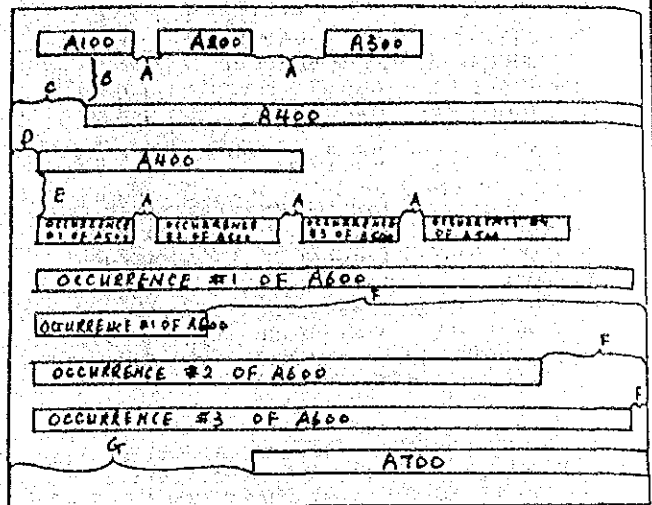
**NUMBER OF SPACES TO RIGHT**  
NUMBER OF SPACES TO BE PRINTED AFTER FIELD. IF THERE IS MORE THAN ONE OCCURRENCE OF FIELD, SPACES FOLLOW EACH OCCURRENCE.

**NUMBER OF LINES BEFORE**  
NUMBER OF LINES PRINTED BEFORE PRINTING FIELD.

**NUMBER OF LINES AFTER**  
NUMBER OF LINES PRINTED AFTER PRINTING FIELD.

**RIGHT JUSTIFICATION**  
IF Y, DATA IN FIELD IS RIGHT-JUSTIFIED, AS DETERMINED BY COLUMN WIDTH FOR TABULAR FORMATTING OR PAGE WIDTH FOR SEQUENTIAL AND ABSOLUTE FORMATTING.

EXAMPLE #4: FIELD SPACING



- A - NUMBER OF SPACES TO RIGHT
- B - NUMBER OF LINES BEFORE FOR A400
- C - FIRST LINE INDENTATION
- D - SUBSEQUENT LINE INDENTATION
- E - NUMBER OF LINES AFTER FOR A400 OR NUMBER OF LINES BEFORE FOR A500
- F - NUMBER OF SPACES TO RIGHT. THE CARRIED OVER SPACES TO THE NEW LINE ARE IGNORED
- G - RIGHT-JUSTIFICATION = YES. THE SPACES ARE CAUSED BY SPECIFYING RIGHT-JUSTIFICATION ON A700.

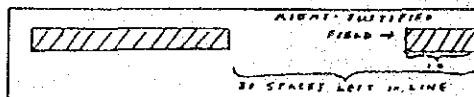
25

FIELD CONTROL

**MAXIMUM NUMBER OF CHARACTERS**  
IF FIELD CONTAINS MORE CHARACTERS THAN THIS, IT IS TRUNCATED. ALSO AFFECTS RIGHT JUSTIFICATION OF FIELD, IF REMAINING SPACES IN LINE ARE GREATER THAN THIS.

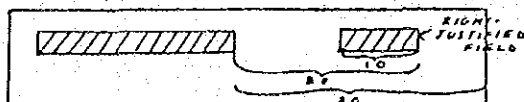
**EXAMPLE #5**

- NUMBER OF SPACES LEFT IN LINE = 30
- MAXIMUM NUMBER OF CHARACTERS = 32766
- LENGTH OF FIELD IS 10 CHARACTERS



**EXAMPLE #6**

- NUMBER OF SPACES LEFT IN LINE = 30
- MAXIMUM NUMBER OF CHARACTERS = 20
- LENGTH OF FIELD IS 10 CHARACTERS



FIELD CONTROL (continued)

**PRINT BY GROUP**  
PROMPTED ONLY WHEN FIELD IS A SUBFIELD. IF Y, EACH GROUP OF SUBFIELDS WILL BE PRINTED TOGETHER. IF N, EACH SUBFIELD IS TREATED AS AN ELEMENTARY REPEATABLE FIELD.

**EXAMPLE #7**

WHEN PRINTING SUBFIELD FIELD A180 WHICH CONTAINS FOLLOWING SUBFIELDS:

GROUP #	A181	A182	A183	A184
1	A		C	
2	AA	BB	CC	
3		BBB	CCC	
4	AAAA	BBBB	CCCC	DDDD

IF PRINT BY GROUP IS OFF (NO), OUTPUT IS:  
A AA AAA BB BBB BBBB C CC CCC CCCC DDDD

IF PRINT BY GROUP IS ON (YES), OUTPUT IS:  
A C AA BB CC BBB CCC AAAA BBBB CCCC DDDD





EXAMPLE #9 - GENERATE AN AUTHOR INDEX

- PRINT AUTHOR NAME ONCE IF AUTHOR NAME IS THE SAME IN SUCCESSIVE RECORDS
- REPEAT AUTHOR NAME ON TOP OF NEW PAGE IF REFERENCES RUN ACROSS PAGE BOUNDARY
- TRY TO PUT REFERENCES ON SAME LINE, AS MANY AS POSSIBLE
- INDENT 2 SPACES IF REFERENCE STARTS AT BEGINNING OF LINE

SPECIFICATIONS:

- RUN INDEX TO SORT AUTHOR NAMES
- RECORD SELECTION OPTION IS HITFILE=filename
- 3 FIELDS ARE DEFINED IN PRINT FORMAT FILE:

1. Y010 - SORTED AUTHOR NAME  
 NUMBER OF LINES BEFORE - 1  
 NUMBER OF LINES AFTER - 1  
 CONDITIONAL DISPLAY - YES  
 EQUAL SUPPRESSION - YES

EXAMPLE #9 (continued)

2. Y010 - (CONTINUATION HEADING)  
 NUMBER OF LINES BEFORE - 1  
 NUMBER OF LINES AFTER - 1  
 CONDITIONAL DISPLAY - YES  
 EQUAL SUPPRESSION - YES  
 PRINT AT TOP OF PAGE ONLY - YES  
 LITERAL 1 - (continued)

3. ISN  
 FIRST LINE INDENTATION - 2  
 MAXIMUM NUMBER OF CHARACTERS - 6  
 RIGHT JUSTIFICATION - YES

- TO PRINT ISN'S ON SAME LINE, REPLY Y TO PRINT AFTER LAST RECORD

PAGE 1	adams	1	10	30	41	75
	jones	2	4	11	20	21
PAGE 2	jones (continued)	23	30	39		

EXAMPLE #10 - GENERATE A PROOFLIST FORMAT

- PRINT EACH FIELD ON A SEPARATE LINE
- PRINT EACH OCCURRENCE ON A SEPARATE LINE
- PRINT A LITERAL IN FRONT OF EACH FIELD
- DEFINE TWO LOGICAL PAGES

PAGE SPECIFICATIONS:

- CHARACTERS PER LINE - 132
- COLUMN FORMATTING - YES
- NUMBER OF COLUMNS PER PAGE - 2
- NUMBER OF SPACES BETWEEN COLUMNS - 5
- CHARACTER WIDTH OF COLUMNS - 60
- SPLIT RECORD BETWEEN PAGES - NO

FIELD SPECIFICATIONS

TAG	A100	A200	A300	A400	A500	A600	A700
FIRST INDENT.	0	0	0	0	0	0	0
SUBSEQUENT IND.	6	6	6	6	6	6	6
SPACES TO RIGHT	60	60	60	60	60	60	60
LINES BEFORE	1	1	1	1	1	1	1
COND. DISPLAY	NO	NO	NO	NO	NO	NO	NO
LITERAL 1	A100	A200	A300	A400	A500	A600	A700
LITERAL1 POST	NO	NO	NO	NO	NO	NO	NO
LITERAL1 COND.	YES	YES	YES	YES	YES	YES	YES
LITERAL1 REP.	YES	YES	YES	YES	YES	YES	YES

EXAMPLE #10 (continued)

A100: ADAMS	A100: SMITH
A200: OTTAWA	A200: NEW YORK
A300: OPTIMISTIC METHODS FOR CONCURRENCY CONTROL	A300: NETWORK MANAGEMENT AND CONTROL - BACKUP AND TEST STANDARDS
A400: 12(12)	A400:
A400: 12(14)	A400: \$20,00
A500: \$10,00	A500: \$20,00
A600: CARNEGIE UNIVERSITY	A600: COLOMBIA
A700: CANADA	A700: U.S.A.

- 1 - REPEATABLE LITERAL  
 NUMBER OF SPACES TO RIGHT = 60
- 2 - SUBSEQUENT LINE INDENTATION = 5
- 3 - NUMBER OF LINES BEFORE = 1
- 4 - CONDITIONAL DISPLAY = NO
- 5 - LITERAL1 POST = NO (PRE-LITERAL)
- 6 - NUMBER OF COLUMNS PER PAGE = 2
- 7 - SPLIT RECORD BETWEEN PAGES = NO

EXAMPLE #11 - GENERATE AN INVOICE FOR A SUBSCRIBER TO A PUBLICATION

- INVOICE NUMBER, NAME OF SUBSCRIBER, ADDRESS OF SUBSCRIBER, PUBLICATION NAME, PRICE, QUANTITY, TOTAL AND INVOICE TOTAL ARE ALL PRINTED ON OUTPUT PAGE
- ONE INVOICE PER PAGE

PAGE SPECIFICATIONS:

LINES PER PAGE - 56  
 CHARACTERS PER LINE - 80  
 MAXIMUM NUMBER OF RECORDS/PAGE - 1

FIELD SPECIFICATIONS:

1. A100 - INVOICE NUMBER  
 NUMBER OF LINES BEFORE - 4  
 CONDITIONAL DISPLAY - YES  
 LITERAL1 - INVOICE NUMBER:  
 LITERAL1 POST - NO
2. A200 - NAME OF SUBSCRIBER  
 FIRST LINE INDENTATION - 4  
 NUMBER OF LINES BEFORE - 2  
 CONDITIONAL DISPLAY - YES

EXAMPLE #11 (continued)

3. A300 - ADDRESS OF SUBSCRIBER  
 FIRST LINE INDENTATION - 4  
 SUBSEQUENT LINE INDENTATION - 4  
 NUMBER OF SPACES TO RIGHT - 80  
 NUMBER OF LINES BEFORE - 1  
 CONDITIONAL DISPLAY - YES
4. LITL  
 LITERAL - TITLE PRICE QUANTITY AMOUNT  
 NUMBER OF LINES BEFORE - 4  
 NUMBER OF LINES AFTER - 2
5. A401, A402, A403, A404 -  
 TITLE, PRICE, QUANTITY, TOTAL

TAG	A401	A402	A403	A404
PRINT BY GROUP	YES	YES	YES	YES
STARTING COLUMN	1	32	39	48
ENDING COLUMN	30	37	44	52
COND. DISPLAY	YES	YES	YES	YES
RIGHT JUSTIFY	NO	YES	YES	YES

EXAMPLE #11 (continued)

6. Y010 (INVOICE TOTAL - from COMPUTE)  
 STARTING COLUMN - 48  
 ENDING COLUMN - 52  
 NUMBER OF LINES BEFORE - 1  
 CONDITIONAL DISPLAY - YES  
 RIGHT JUSTIFICATION - YES

SELECT RECORDS - HITFILE=TOTAL

invoice number:	1234	(1)		
abc co.	(2)			
60 queen st.				
ottawa, canada	(3)			
title	price	quantity	amount	
computers	20.00	1	20.00	
cobol language	15.50	2	30.30	
spl programming	9.00	10	90.00	
(5)		(6)	140.30	

EXAMPLE #12 - GENERATE MAILING ENVELOPES FOR SUBSCRIBERS

- PRINT ADDRESS OF PUBLISHER AT LEFT UPPER CORNER
- PRINT "PRINTED MATTER" AT LEFT LOWER CORNER
- PRINT NAME AND ADDRESS OF SUBSCRIBER AT CENTRE OF ENVELOPE
- ONE ENVELOPE/PAGE

PAGE SPECIFICATIONS:

LINES PER PAGE - 24  
 CHARACTERS PER LINE - 62  
 LEFT MARGIN - 4

FIELD SPECIFICATIONS:

1. FCTL  
 PAGE EJECTION - YES  
 ABSOLUTE LINE NUMBER - 2
2. LITL  
 LITERAL - MCGRAW-HILL  
 NUMBER OF LINES BEFORE - 1
3. LITL  
 LITERAL - 1221 AVE. OF AMERICAS  
 NUMBER OF LINES BEFORE - 1

EXAMPLE #12 (continued)

4. LITL  
LITERAL - NEW YORK, N.Y. 10020  
NUMBER OF LINES BEFORE - 1
5. FCTL  
ABSOLUTE LINE NUMBER - 22  
ABSOLUTE POSITION - 6
6. LITL  
LITERAL - PRINTED MATTER
7. FCTL  
ABSOLUTE LINE NUMBER - 10  
ABSOLUTE POSITION - 20
8. A100 - NAME OF SUBSCRIBER  
FIRST LINE INDENTATION - 20  
SUBSEQUENT LINE INDENTATION - 20  
CONDITIONAL DISPLAY - YES
9. A200 - ADDRESS OF SUBSCRIBER  
NUMBER OF LINES BEFORE - 1  
FIRST LINE INDENTATION - 20  
SUBSEQUENT LINE INDENTATION - 20  
NUMBER OF SPACES TO RIGHT - 62

EXAMPLE #12 (continued)

mcgraw-hill  
1221 ave. of americas  
new york, n.y. 10020

abc company  
60 queen st.  
ottawa, ont.  
canada

printed matter

ISOCONV

- CONVERTS MINISIS DATA BASE TO ISO FORMAT
- CONVERTS ISO FILE TO MINISIS DATA BASE
- ACCEPTS/CREATES FILE IN ISO 2709-1973 FORMAT
- FOR ISO TO MINISIS CONVERSION (DUMP) ISIS AND AGRIS ISO FILES ARE SUPPORTED
- FOR MINISIS TO ISO CONVERSION (LOAD) ONLY ISIS TYPE IS SUPPORTED
- ISOCONV REQUIRES CORRESPONDENCE DEFINITION (CD) BETWEEN MINISIS DATA BASE AND ISO FILE
- CD IS CREATED IN DATADEF

ISO FILE FORMAT

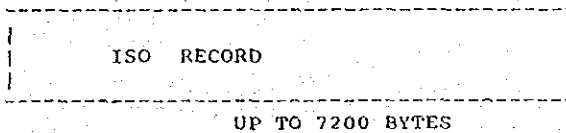
- ISO FILE CAN BE BLOCKED OR UNBLOCKED
- ISOCONV ACCEPTS ISO RECORD UP TO 7200 BYTES BUT MINISIS RECORD UP TO 4096 BYTES ONLY
- FOR UNBLOCKED FORMAT ISO RECORD MAY BE SPLIT INTO SEVERAL RECORDS OF 2048 BYTES
- ISO FILE MAY BE IN EBCDIC OR ASCII
- IF EBCDIC, SPECIFY IN CD
- DON'T USE FCOPY TO CONVERT ISO FILE TO ASCII
- ISO FILE MAY CONTAIN DATA IN BINARY FORM
- ISO INPUT AND OUTPUT FILES CAN BE EITHER BLOCKED OR UNBLOCKED

1.

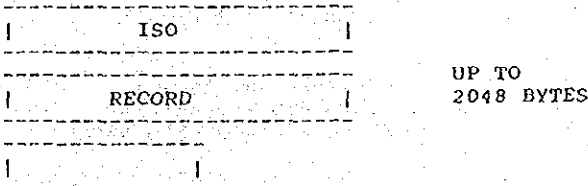
2

ILLUSTRATION #1 : UNBLOCKED RECORD

- ONE PHYSICAL RECORD OF UP TO 7200 BYTES OR SEVERAL RECORDS OF UP TO 2048 BYTES

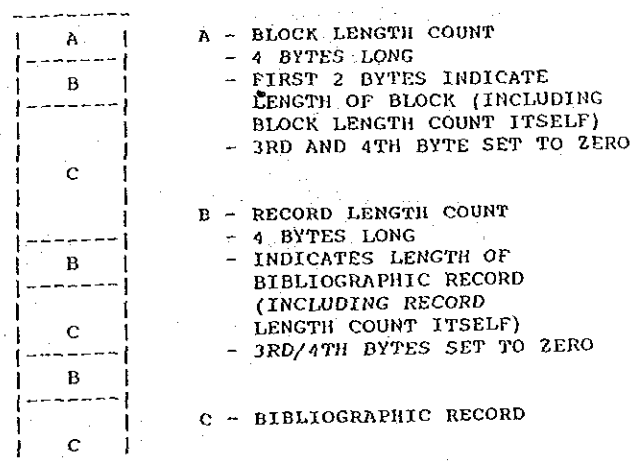


OR



- IF FILE IS UNBLOCKED, ISO BIBLIOGRAPHIC RECORD MAY BE SPLIT BETWEEN PHYSICAL RECORDS

ILLUSTRATION #2 : BLOCKED RECORD



- IF FILE IS BLOCKED, ISO BIBLIOGRAPHIC RECORD IS NEVER SPLIT BETWEEN PHYSICAL RECORDS

3

4

ISO BIBLIOGRAPHIC RECORD FORMAT

LEADER	- SIZE OF DIRECTORY ENTRIES - BASE ADDRESS OF DATA
DIRECTORY	- ONE ENTRY PER FIELD IN RECORD
FIELD SEPARATOR	- TERMINATED WITH A FIELD SEPARATOR
DATA FIELD	- EACH ISO FIELD IS TERMINATED WITH A FIELD SEPARATOR
FIELD SEPARATOR	
DATA FIELD	
FIELD SEPARATOR	
:	
DATA FIELD	- LAST FIELD IN RECORD TERMINATED WITH A RECORD SEPARATOR
RECORD SEPARATOR	

5

FORMAT OF ISO BIBLIOGRAPHIC RECORD (continued)

	LEADER	DIRECTORY	DATA							
START OF ISO RECORD										
	A	B	C	(length in bytes)						
	3	4	5							
	D	E	F	G	H	I	J	K	L	M
	5	1	4	1	1	5	3	1	1	2

- A - ISO TAG (3 BYTES)
- B - LENGTH OF ISO FIELD (INC. FIELD SEPARATOR)
- C - DISPLACEMENT TO ISO FIELD (5 BYTES)
- D - RECORD LENGTH IN ASCII (PADDED WITH LEADING ZEROES)
- E - RECORD STATUS
- F - IMPLEMENTATION CODE (USER SPECIFIED)
- G - INDICATOR LENGTH
- H - IDENTIFIER LENGTH
- I - BASE ADDRESS OF DATA=LENGTH OF LEADER + DIRECTORY + FIELD SEPARATOR
- J - USER SYSTEM CODE
- K - LENGTH OF "LENGTH FIELD" (B) IN DIRECTORY
- L - LENGTH OF "DISPLACEMENT" (C) IN DIRECTORY
- M - RESERVED FOR FUTURE USE

6

HOW TO LOCATE AN ISO FIELD

DISPLACEMENT RELATIVE TO THE DATA PORTION

- START OF THE ISO FIELD=START OF ISO RECORD + I + C
- LENGTH OF ISO FIELD=B - 1 (FIELD SEPARATOR)

DISPLACEMENT RELATIVE TO THE RECORD

- START OF ISO FIELD=START OF ISO RECORD + C
- LENGTH OF ISO FIELD=B - 1 (FIELD SEPARATOR)

ISO FIELD TAGS

- ISO FIELD TAGS MAY BE ANY COMBINATION OF 3 ALPHANUMERIC CHARACTERS INCLUDING NUMBERS FROM 010 TO 999

SPECIAL ISO TAGS

NORMALLY YOU MAY ASSIGN ANY TAG TO THE ISO FIELD, BUT THE FOLLOWING TAGS ARE RESERVED:

- TAG 001
  - RECORD IDENTIFIER EQUIVALENT OF ISN
  - REQUIRED IF AUTO-NUMBERING IS OFF
  - OVER-RIDES THE AUTO-NUMBERING OPTION

- TAG 002
  - SUBRECORD DIRECTORY (USED BY AGRIS)
  - DIRECTORY IS DIVIDED INTO SEVERAL AREAS
  - EACH AREA IS RESERVED FOR A BIBLIOGRAPHIC LEVEL

- TAG 008
  - USED BY AGRIS FOR BIBLIOGRAPHIC LEVELS, COUNTRY CODES, LITERARY INDICATORS, ETC.

F02-08-86

CREATING A CORRESPONDENCE DEFINITION (CD)

- MAPPING BETWEEN MINISIS FIELDS AND ISO FIELDS
- CREATED IN DATADEF BY DB COMMAND
- MAXIMUM OF 256 ENTRIES PER CD

TYPE OF MAPPING:

- ONE ISO FIELD INTO ONE MINISIS FIELD
- ONE ISO FIELD INTO SEVERAL OCCURRENCES OF A REPEATABLE MINISIS FIELD
- ONE ISO FIELD INTO A SUBFIELD OF MINISIS FIELD
- ONE ISO FIELD INTO SEVERAL MINISIS FIELDS (SPECIAL PROGRAMMING IS NEEDED)

F02-08-86

CREATING A CORRESPONDENCE DEFINITION (continued)

HEADER INFORMATION

USED TO DESCRIBE FORMAT OF ISO RECORD

ISO TYPE (ISIS/AGRIS)                    DEFAULT=ISIS  
INDICATES UNDER WHICH SYSTEM SPECIFICATION ISO FILE IS CREATED

LENGTH OF RECORD LEADER                 DEFAULT=24

LENGTH OF ISO TAG                         DEFAULT=3  
LENGTH OF ISO TAG FIELD IN DIRECTORY  
FOR ISO 2709-1973 FORMAT, IT IS 3 BYTES

LENGTH OF DISPLACEMENT FIELD            DEFAULT=5  
LENGTH IN BYTES OF "DISPLACEMENT FIELD" IN DIRECTORY  
FOR ISO 2709-1973 FORMAT, IT IS 5 BYTES

LENGTH OF LENGTH FIELD                  DEFAULT=4  
LENGTH OF "LENGTH FIELD" IN DIRECTORY

\*\* LENGTH OF DIRECTORY ENTRY IS SUM OF  
LENGTH OF ISO TAG, LENGTH OF DISPLACEMENT  
FIELD AND LENGTH OF LENGTH FIELD

9

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CREATING A CORRESPONDENCE DEFINITION (continued)

TYPE OF DISPLACEMENT (C/B/P)            DEFAULT=C  
C=CHARACTER, B=BINARY, P=PACKED DECIMAL

TYPE OF LENGTH FIELD (C/B/P)            DEFAULT=C  
AS ABOVE

TAG OF SUBRECORD DIRECTORY  
ISO FIELD WHICH CONTAINS SUBRECORD DIRECTORY  
FOR AGRIS, IT IS ALWAYS 002

TYPE OF INPUT FILE (A/E)                 DEFAULT=A  
CODING SCHEME OF ISO INPUT FILE  
(A=ASCII, E=EBCDIC)

TYPE OF OUTPUT FILE (A/E)                DEFAULT=A

ISO TAG OF RANGE CHECK FIELD  
INDICATES THAT SPECIFIED ISO FIELD CONTAINS  
RECORD IDENTIFIER OF ISO RECORD

DISPLACEMENT WITHIN RANGE CHECK FIELD  
OFFSET TO BEGINNING OF RECORD IDENTIFIER

MAXIMUM LENGTH OF RANGE CHECK FIELD

F02-01-87

CREATING A CORRESPONDENCE DEFINITION (continued)

RANGE CHECK FIELD TYPE (C/B/P)          DEFAULT=C  
IF C, RANGE CHECK FIELD MUST BE FILLED WITH  
LEADING ZEROES UP TO VALUE OF  
<LENGTH-OFFSET WITHIN RANGE CHECK FIELD>

VALUE OF SUFFIX                            DEFAULT=NONE  
FOR DUMPING ONLY  
SUFFIX OF ISO FIELD WHICH MATCHES  
THIS VALUE IS STRIPPED FROM ISO FIELD

LENGTH OF RECORD SEPARATOR               DEFAULT=1

LENGTH OF FIELD SEPARATOR                DEFAULT=1

UNBLOCKED TAPE (Y/N)                     DEFAULT=NO  
INDICATES IF ISO FILE IS BLOCKED/UNBLOCKED  
DEFAULT IS A BLOCKED FILE

LENGTH OF BLOCK-LENGTH FIELD             DEFAULT=0

//

CREATING A CORRESPONDENCE DEFINITION (continued)

CORRESPONDENCE RULES

MAPPING BETWEEN ISO FIELDS AND MINISIS FIELDS

MINISIS TAG

VALID MINISIS TAG OR ISN  
IF ISN IS SPECIFIED, ISOCONV WILL USE  
VALUE OF CORRESPONDING ISO FIELD AS THE  
ISN OF MINISIS RECORD.

ISO TAG

ONE OF TAGS DEFINED IN ISO RECORD DIRECTORY

MAXIMUM LENGTH OF ISO FIELD      DEFAULT=9999  
VARIABLE EXCEPT WHERE ISN IS LOADED INTO  
ISO FIELD - THEN LENGTH IS FIXED AND  
FIELD IS LEFT-JUSTIFIED WITH ZEROS

DISPLACEMENT OF "TO" FIELD      DEFAULT=0  
APPLIES TO LOAD OPERATION ONLY  
ISOCONV RESERVES SPACES UP TO THIS VALUE,  
PRECEDING THE DATA

DISPLACEMENT OF "FROM" FIELD    DEFAULT=0  
APPLIES TO DUMP OPERATION ONLY  
INDICATES NUMBER OF CHARACTERS TO BE  
STRIPPED FROM ISO FIELD

LENGTH OF INDICATOR              DEFAULT=0  
COMMON LENGTH USED FOR INDICATOR IS 2

/3

CREATING A CORRESPONDENCE DEFINITION (continued)

SUBFIELD IDENTIFIERS (MAX=9\*2 BYTES)  
A SUBFIELD ISO FIELD IS AN ELEMENTARY  
FIELD CONTAINING ALL SUBFIELDS, SEPARATED  
BY SUBFIELD IDENTIFIERS

- MAX 2 CHARACTERS PER IDENTIFIER
- IF 1 CHARACTER, SHOULD BE LEFT-JUSTIFIED
- MAXIMUM 9 SUBFIELD IDENTIFIERS
- UNIQUE IDENTIFIERS SHOULD BE USED IF YOU  
WANT ONE-TO-ONE MAPPING
- THE FIRST IDENTIFIER MAY BE TWO  
SPACES (INDICATES THAT NO IDENTIFIER  
PRECEDES THE FIRST SUBFIELD)

EXAMPLE: SUBFIELD IDENTIFIERS=@1@2@3  
          SUBFIELD1=AA  
          SUBFIELD2=BB  
          SUBFIELD3=CC

ISO FIELD WOULD BE: @1AA@2BB@3CC

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CREATING A CORRESPONDENCE DEFINITION (continued)

VALUE OF BREAK SEQUENCE  
FOR DUMP MODE ONLY  
ISO FIELD IS DIVIDED INTO SEVERAL SUBSTRINGS  
SEPARATED BY A BREAK SEQUENCE

EX: 010 ---> A010  
      BREAK SEQUENCE = " - "

ISO FIELD 010:

| AA - BB - CC |

MINISIS FIELD A010:

| AA | | BB | | CC |

VALUE OF PREFIX

A STRING OF UP TO 5 CHARACTERS  
DUMP - PREFIX STRIPPED FROM ISO FIELD  
LOAD - PREFIX IS ADDED TO ISO FIELD

BIBLIOGRAPHIC LEVEL (A/M/S/C)  
APPLIES TO AGRIS ISO FILE ONLY  
INDICATES WHICH AREA OF THE SUBRECORD  
DIRECTORY IS TO BE SCANNED FOR ISO FIELD

SPECIAL EXIT INDICATOR (Y/N)  
IF YES, SPECIAL PROCESSING IS REQUIRED

SUBFIELD PROCESSING

LOAD (MINISIS TO ISO)

A100 --> 100 LOAD ENTIRE FIELD  
          AND TREAT AS NON-SUBFIELD

A100 --> 100+SUBFIELD IDENTIFIERS  
          LOAD EACH FIELD WITH  
          SPECIFIED IDENTIFIERS

A101 --> 200 LOAD SPECIFIED SUBFIELD  
          INTO ITS OWN ISO FIELD

DUMP (ISO TO MINISIS)

100 --> A100 DUMP ISO FIELD INTO  
          A NON-SUBFIELD

100 --> A100 DUMP EACH SUBFIELD  
          (PREFIX IS ADDED TO ISO FIELD)  
          INTO CORRECT MINISIS SUBFIELD  
          IDENTIFIERS)

\*\* TO LOAD A MINISIS SUBFIELD FROM AN  
ELEMENTARY ISO FIELD, A SPECIAL  
EXIT IS NEEDED

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RUNNING THE ISOCONV PROCESSOR

- THE NAME OF THE ISO FILE IS ISO
- ISOCONV EXPECTS TAPE INPUT/OUTPUT UNLESS SPECIFIED OTHERWISE BY A FILE EQUATION

EX: :FILE ISO;DEV=DISC

ISOCONV SYNTAX

```

-----
| mode FROM=fromfile,TO=tofile |
| SKIPEOF=files,EXIT=exit |
-----

```

mode LOAD - MINISIS TO ISO  
DUMP - ISO TO MINISIS

fromfile RD, PS OR DS FOR LOAD  
CD FOR DUMP

tofile RD, PS OR DS FOR DUMP  
CD FOR LOAD  
\*printer FOR DUMP  
(DUMPS ISO FILE TO LINE PRINTER)

files NUMBER OF TAPE FILES TO BE SKIPPED

exit NAME OF USER-WRITTEN EXIT

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RUNNING THE ISOCONV PROCESSOR (continued)

## ISOCONV RECORD SELECTION

SUBSET=ALL OR RANGE (nn/mm)  
FOR LOAD

ALL - ENTIRE DATA BASE  
RANGE - RANGE OF ISNS

FOR DUMP

ALL - ALL RECORDS IN ISO FILE  
RANGE (nn/mm) - WITHOUT RANGE CHECK  
FIELD, SELECT RECORDS BY PHYSICAL  
POSITION (LOGICAL RECORD NO.)  
- WITH RANGE CHECK FIELD, SELECT  
RECORDS WHOSE RECORD IDENTIFIERS  
FALL WITHIN RANGE

QUERY STATEMENT (FOR LOAD ONLY)  
STATEMENT STARTS WITH EQUAL SIGN "="  
AND ENDS WITH DOLLAR SIGN "\$"

keyname>=keyvalue (FOR LOAD ONLY)  
SELECT ALL KSAM RECORDS WITH KEY  
FIELD >= SPECIFIED KEYVALUE

HITFILE=filename

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RUNNING THE ISOCONV PROCESSOR (continued)

- ISOCONV CAN RUN IN INTERACTIVE OR BATCH MODE
- THE FOLLOWING MESSAGE WILL APPEAR AFTER RECORD SELECTION COMMAND HAS BEEN ENTERED
- IF ISO FILE IS ON DISC, IGNORE THIS MESSAGE:

\*\* PLEASE MOUNT ISO TAPE \*\*

- IF THE ISO FILE IS ON TAPE, THE COMPUTER OPERATOR MUST MOUNT THE TAPE AND REPLY TO THE TAPE REQUEST ON THE OPERATOR CONSOLE

- IN INTERACTIVE MODE, YOU CAN OBTAIN PROCESSING STATISTICS AT ANY TIME BY HITTING CNTRL-Y  
THE FOLLOWING MESSAGE WILL BE DISPLAYED:

RECORDS PROCESSED=nn WRITTEN=nn REJECTED=nn

- A LISTING OF THE MAPPING BETWEEN ISO FIELDS AND MINISIS FIELDS IS PRODUCED BY ISOCONV
- OUTPUT FILENAME IS ISOLIST

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APPLICATIONS OF ISOCONV

- ACCEPT AN ISO EXCHANGE TAPE FROM OTHER INSTITUTIONS AND LOAD IT ONTO YOUR COMPUTER
- CONVERT A MINISIS DATA BASE TO ISO 2709 FORMAT FOR EXCHANGE WITH OTHER INSTITUTIONS
- RE-DEFINE AN EXISTING MINISIS DATA BASE (EG. RENAMING TAGS, MERGING FIELDS ETC.)
- MERGE SEVERAL MINISIS DATA BASES INTO ONE MINISIS DATA BASE
- SPLIT A MINISIS DATA BASE INTO SEVERAL MINISIS DATA BASES

20

THE BATCHIN PROCESSOR

- RUNS INTERACTIVELY OR IN BATCH
- WRITES RECORDS TO A DB
- INPUTS RECORDS WHICH ALREADY EXIST IN NON-MINISIS FORMAT ON DISK OR TAPE EG. IN AN UNNUMBERED EDITOR FILE
- BATCHIN INPUT FILE MUST CONFORM TO CERTAIN STANDARDS
- PHYSICAL RECORDS MAY BE LESS THAN OR EQUAL TO 256 BYTES
- LOGICAL RECORDS MAY EXTEND OVER PHYSICAL RECORDS BUT MUST BE SEPARATED BY !REC-ID
- IF MINISIS DB IS A MASTER DB, BUT IS NOT CONFIGURED FOR AUTO-GENERATION OF ISNS, ISNS ARE SUPPLIED FROM BATCHIN INPUT FILE

CHARACTERISTICS OF BATCHIN INPUT FILE

- IDB=name of MINISIS data base
- MUST BE SUPPLIED IN BATCH
- MAY BE SUPPLIED OR OVERRIDDEN AT TERMINAL
- !CHANGE=change commands...
- OPTIONAL - CHANGES DEFAULT VALUES OF:
  - STARTER=
    - DEFAULT IS !
    - INDICATES BEGINNING OF field id
  - ENDER=
    - DEFAULT IS !
    - INDICATES END OF field id
  - STRIP=Y/N
    - DEFAULT IS NO
    - IF YES, WILL STRIP BLANK SPACES AFTER DATA IN PHYSICAL RECORD
  - LENGTH=
    - DEFAULT IS PHYSICAL RECORD LENGTH
  - DISP=
    - DEFAULT IS 0
  - EXIT=
    - LIST=Y/N/ISN
    - DEFAULT IS N

/

2.

!REC-ID number

- MUST BE SUPPLIED
- DELIMITS A SET OF PHYSICAL RECORDS AS A LOGICAL RECORD
- EX. 1: !REC-ID
  - !A100!MARY!A200!CAMPBELL
  - !A300!IDRC
  - !REC-ID
  - !A100!RICHARD!A200!LEE!A300!IDRC
  - !REC-ID
- IF MINISIS DB IS MASTER AND IS NOT CONFIGURED WITH AUTONUMBERING, ISNS MUST BE SUPPLIED WITH REC-ID.
- EX. 2: !REC-ID 21
  - !A100!MARY!A200!CAMPBELL
  - !A300!IDRC
  - !REC-ID 22
  - !A100!RICHARD!A200!LEE!A300!IDRC
  - !REC-ID 23
- ISNS OF RECORDS WRITTEN TO MINISIS DATA BASE WILL BE 21, 22, 23

3.

FIELDS

- LOGICAL FIELD MAY EXTEND OVER SEVERAL PHYSICAL RECORDS
- DATA WHICH WILL BE WRITTEN TO MINISIS FIELD IS PRECEDED BY:
 

	STARTER	field id	ENDER
EX:		!A100!	
OR		!TITLE!	
- EX: !A100!MATHEMATICS FOR SECONDARY STUDENTS!B100!BOURADA, MARIE!C100!1981!C200!OTTAWA, ONT. CANADA
- OR (IF STRIP=YES IS USED):
- EX: !A100!MATHEMATICS FOR SECONDARY STUDENTS!B100!BOURADA, MARIE!C100!1981!C200!OTTAWA, ONT. CANADA
- REPEATABLE FIELDS
- OCCURRENCES OF FIELD ARE WRITTEN SEPARATELY:
- EX: !B100!BOURADA, MARIE!B100!JAY, MARGARET!B100!BRUCKNER, STEVEN!C100! ...

4.

SUBFIELDDED FIELDS

- 0-LEVEL FIELD TAG IS ENTERED FIRST, FOLLOWED BY FIRST SUBFIELD, DATA, SECOND SUBFIELD ...

EX: !B200!B201!MARY!B202!CAMPBELL

OR (IF STRIP=YES IS USED)

EX: !B200  
!B201!MARY  
!B202!CAMPBELL

REPEATABLE SUBFIELDDED FIELDS

- OCCURRENCES ARE ENTERED SEPARATELY

EX: !B200!B201!RICHARD!B202!LEE!B200!  
B201!TERRY!B202!GAVIN!B200!B201!  
ELEN!B202!WILSON!C100! ...

OR (IF STRIP=YES IS USED)

EX: !B200  
!B201!RICHARD  
!B202!LEE  
!B200  
!B201!TERRY

5.

SAMPLE BATCHIN INPUT FILE

```

!DB=MINUSERS ("TO" DB)
!CHANGE STRIP=Y, LENGTH=80
!REC-ID
!A100!TERRY GAVIN      -----
!A200!IDRC              |
!A300!OTTAWA, CANADA   -----
!REC-ID
!A100!ROBERT VALANTIN  -----
!A200!CONSULTANT      |
!A300!TORONTO, CANADA -----
!A400!TORONTO, CANADA -----
!REC-ID
!A100!MONIQUE DUGUAY   -----
!A200!ILO              |
!A300!GENEVA, SWITZERLAND -----
!A400!OTTAWA, CANADA -----
!REC-ID
!A100!FRANCES DELANEY -----
!A300!OTTAWA, CANADA   |
!A400!OTTAWA, CANADA -----
|
FIELD TAGS
IN MINUSERS
    
```

6.

RUNNING BATCHIN

- BATCHIN EXPECTS INPUT FILE TO BE NAMED BATCH AND TO RESIDE ON TAPE

- IF OTHERWISE, YOU MUST SUPPLY FILE EQUATION BEFORE RUNNING BATCHIN

EX: :FILE BATCH;DEV=DISC  
OR :FILE BATCH=BATCH01  
OR :FILE BATCH=BATCH01;DEV=DISC

IF RUNNING IN BATCH

- NAME OF MINISIS DB AND CHANGE COMMANDS, IF ANY, MUST BE SUPPLIED FROM INPUT FILE

SAMPLE JOB:

```

!JOB BATCH1,MGR.MINISIS
!FILE BATCH;DEV=DISC
!RUN BATCHIN.UTILITY;LIB=P
MINUSERS
EXIT
!EOJ
    
```

7.

IF RUNNING INTERACTIVELY:

- YOU WILL BE ASKED TO SUPPLY THE NAME OF THE MINISIS DB

- IF IT DOES NOT MATCH NAME FOLLOWING !DB= IN INPUT FILE, YOU MAY CHOOSE TO OVERRIDE !DB= COMMAND

- YOU WILL ALSO BE ASKED TO SUPPLY CHANGE COMMANDS, IF NECESSARY

- YOU MAY OVERRIDE CHANGE COMMANDS IN INPUT FILE IF YOU WISH

- OUTFL AND ERRFL LISTINGS SENT TO LINE PRINTER

- OUTFL  
- ALL RECORDS PROCESSED IF LIST=Y  
- ISNS/KSAM KEY VALUES ONLY IF LIST=ISN  
- SUPPRESSED IF LIST=N

- ERRFL  
- LISTING OF ANY ERROR MESSAGES

8.

BATCHIN WILL:

- INVERT ONLINE
- TRUNCATE DATA IF TOO LONG
- CHECK VALIDITY OF field id
- CHECK REPEATABILITY
- CHECK FOR NUMERIC DATA
- PERFORM RECORD LOCKING

BATCHIN WILL NOT:

- VALIDATE
- CHECK DUPLICATES
- CHECK USER EXITS
- CONVERT ++ OR ++1 TO CURRENT DATE

F02-08-86

DATADEF

DATA BASE MANAGER'S TOOL TO:

- CREATE AND MODIFY DATA BASE DEFINITIONS
- BUILD MASTER AND KSAM DATA FILES
- PURGE AND ERASE DATA FILES
- BUILD, PURGE AND ERASE B-TREE FILES

DATADEF COMMANDS

CREATE BTREE	COPY
CREATE XREF	INITNUM
CREATE MASTER	DBLIST
DB	HELP
VERIFY	SECURE
PURGE BTREE	DESECURE
PURGE DB	EQUATE
ERASE BTREE	UNLOCK
ERASE DB	EXIT

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THE DB COMMAND

- CREATES AND EDITS A DATA BASE DEFINITION  
DB <data base name>
- USER SUPPLIES NAMES FOR DATA BASE  
DATA MODEL  
DATA DEFINITION FILE

DATA DEFINITION FILE (DD FILE)

- PHYSICAL FILE HOLDING DEFINITION OF ONE OR MORE DATA BASES
- USUALLY ASSOCIATED WITH AN APPLICATION

DATA MODEL

- LOGICAL NAME FOR DD FILE
- USUALLY A COLLECTION OF DATA BASES FOR DIFFERENT FUNCTIONS

DATA MODEL / DD FILE

AQUIS  
CATALOG  
LIBRARY

DATA MODEL / DD FILE

DONORS  
GRANTEES  
BUDGET  
PROJECTS

1.

2.

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SYSCHEMA FILE

- IS BUILT IN PUB GROUP OF LOGON ACCOUNT
- BUILT BY DATADEF WHEN YOU FIRST USE THE DB COMMAND
- ACCOUNT-WIDE
- IT IS A DIRECTORY OF ALL DATA BASES IN THE ACCOUNT AND WHERE THEIR DATA DEFINITIONS ARE STORED (IN WHICH DD FILE)
- BUILT AND EDITED BY DATADEF WHENEVER A DATA BASE IS CREATED OR DELETED IN THE ACCOUNT

OTHER DB INFORMATION

- DATA BASE MANAGER IS ASKED TO SUPPLY HEADER INFORMATION ABOUT THE PHYSICAL STRUCTURE OF DATA BASE
  - TYPE OF DATA BASE (RD, DS, PS OR CD)
  - TYPE OF FILE (MASTER, KSAM, ...)
  - GROUP (LOCATION OF FILE)
  - SIZE OF DATA FILES etc.

AFTER THE HEADER INFORMATION IS SUPPLIED, DD AND SYSCHEMA FILES ARE BUILT IF THEY DO NOT ALREADY EXIST AND DATA BASE NAME IS WRITTEN TO SYSCHEMA.

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FIELD DEFINITIONS

- FIELDS ARE DEFINED ONE AT A TIME
- IF DEFINITION IS RD  
FIELD ATTRIBUTES ARE ASSIGNED
- IF DEFINITION IS FOR PS  
FIELD IN UNDERLYING RD IS IDENTIFIED (RD MUST HAVE BEEN PREVIOUSLY DEFINED)

FIELD ATTRIBUTES

- UNIQUE TAG
- UNIQUE MNEMONIC
- FIELD NAME
- MAXIMUM LENGTH OF FIELD
- WHETHER SUBFIELDED
- WHETHER REPEATABLE
- PROMPTED DURING ENTRY
- WHETHER MANDATORY
- DUPLICATE CHECKING
- VALIDATION
  - IF YES - NAME OF VALIDATION FILE
- INVERSION
  - IF YES - INVERSION ATTRIBUTES
    - ONLINE, OFFLINE OR RELEASE
    - TYPE, LENGTH, NUMBER OF KEYS
    - TYPE AND NAME OF FAST-ACCESS FILE
- LOGGING
- SPECIAL USER EXIT

4.

3.

## IF THE RD IS KSAM

- ALL FIELDS MUST BE DEFINED WHEN THE DATA BASE IS CREATED

## IF THE RD IS MASTER

- THE DATA BASE MANAGER MAY STOP AT ANY AFTER THE HEADER INFORMATION IS SUPPLIED AND CONTINUE DEFINING FIELDS FOR THE DATA BASE AT A LATER TIME.

## SUBFIELDS MUST BE DEFINED IN ORDER:

A100	NOT	A100
A101		B300
A102		A102
A103		A101
		A103

## AFTER FIELDS ARE DEFINED:

- DATA FILES ARE BUILT
- B-TREE FILES, IF ANY, ARE BUILT
- NAMES OF B-TREE AND KSAM FILES ARE WRITTEN TO A FILE CALLED KEYGROUP.PUB
- IF AUTONUMBERING IS ON, GRINS.PUB AND NUMBERS.PUB ARE BUILT AND UPDATED

OTHER SYSTEM FILES BUILT BY DATADEF

## KEYGROUP

- RESIDES IN PUB GROUP OF LOG-ON ACCOUNT
- BUILT AND EDITED BY DATADEF
- CONTAINS NAME AND GROUP OF ALL KSAM AND B-TREE FILES IN ACCOUNT
- LIKE SYSHEMA IT IS ACCOUNT-WIDE

## GRINS and NUMBERS

- RESIDE IN PUB GROUP OF LOG-ON ACCOUNT
- BUILT AND EDITED BY DATADEF
- ACCOUNT-WIDE

## GRINS

- NAMES OF DATA BASES WITH AUTO-GENERATION OF ISNS, AND POINTERS TO NUMBERS

## NUMBERS

- NEXT ISN TO BE ISSUED FOR EACH DATA BASE IN GRINS

INITNUM (DATADEF COMMAND) CAN BE USED TO SET AUTO-GENERATION OF ISNS TO BEGIN AT ANY NUMBER.

5.

6.

DEFINING A DATA BASE

DATA DEFINITION HAS 2 PARTS

## 1. HEADER

- LOGICAL AND PHYSICAL ATTRIBUTES OF DATA BASE
- EG. FILE NAMES, SITES, DATA BASE TYPE, ...

## 2. FIELD DEFINITIONS

- ATTRIBUTES OF EACH FIELD IN DATA BASE
- EG. FIELD ID., SIZE, TYPE, REPEATABILITY

MASTER-XREF DATA BASE (RD)

## DATA MODEL NAME

- DATA MODEL CORRESPONDS TO DD FILE
- GROUPING OF DATA BASES
- USUALLY FOR ONE TYPE OF APPLICATION

## TYPE OF DATA DEFINITION (RD/PS/DS/CD)

- RD - RELATION DEFINITION
- PS - PROJECTED SUBSET
- DS - DATA SUBMODEL
- CD - CORRESPONDENCE DEFINITION

## DATA DEFINITION FILE NAME

- IF FIRST DATA BASE IN DATA MODEL, MUST PROVIDE NAME OF DD FILE

## LOCKWORD OF DATA DEFINITION FILE

- OPTIONAL PASSWORD FOR DD FILE

## NON-MINISIS FILE TYPE (1 TO 32767)

- IF REPLY OTHER THAN CR, DATA BASE WILL BE LINKED TO NON-MINISIS DATA FILES (E.G. IMAGE)

## FILE TYPE (MASTER/KSAM/ANY/THES)

- TYPE OF DATA BASE FILE
- ANY AND THES ARE SPECIAL KSAM FILES

## GROUP NAME

- GROUP IN LOG-ON ACCOUNT WHERE DATA FILES WILL RESIDE

## MASTER FILE NAME

- FILE THAT WILL CONTAIN THE DATA
- WILL BE CREATED AUTOMATICALLY BY DATADEF

## XREF FILE NAME

- FILE THAT WILL CONTAIN CROSS-REFERENCE DIRECTORY TO MASTER DATA FILE
- WILL BE CREATED AUTOMATICALLY BY DATADEF

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MAXIMUM SIZE OF MASTER FILE  
- MAXIMUM NUMBER OF PHYSICAL RECORDS IN FILE  
- EACH PHYSICAL RECORD=4096 CHARACTERS

MAXIMUM NUMBER OF ISNS  
- MAXIMUM NUMBER OF LOGICAL RECORDS IN THE DATA BASE

\*\* FILE SIZE CAN BE MODIFIED BY GARBAGE \*\*

BIBLIOGRAPHIC LEVEL INDICATOR (Y/N)  
- IF Y, VARIABLE PROMPTING FOR DIFFERENT BIBLIOGRAPHIC LEVELS PERMITTED IN ENTRY  
A - ANALYTIC  
M - MONOGRAPHIC  
S - SERIAL  
C - COLLECTIVE

USER-DEFINED PROMPTING SEQUENCE (Y/N)  
- IF Y, ENTRY WILL PROMPT USER TO ENTER FIELDS IN SEQUENCE DEFINED BY DB MGR  
- IF N, PROMPTING OF FIELDS GOVERNED BY VALIDATION, DUPLICATE CHECKING, BIB. LEVEL PARAMETERS IN FIELD DEFINITIONS

AUTO-NUMBERING (Y/N)  
- Y - ISNS GENERATED AUTOMATICALLY BY ENTRY  
- N - ENTRY WILL ASK THE INPUT OPERATOR FOR ISN TO BE ASSIGNED FOR EACH RECORD

DEFAULT QUERY FIELD TAG  
- TAG OF FIELD USED BY DEFAULT WHEN SEARCHING

NO. OF PS SETS FOR CONTROLLED UPDATE (0-8)  
- MANY PS'S MAY REFER TO 1 MASTER FILE  
- ONE PS MAY LOGICALLY DELETE A RECORD STILL VALID IN ANOTHER PS  
- WHOLE RECORD NOT DELETED UNTIL ALL SETS OF PS'S HAVE DELETED RECORD

DEFAULT PRINT FORMAT FILENAME  
- NAME OF FILE CONTAINING PRINT FORMAT SPECIFICATIONS THAT WILL BE USED BY DEFAULT TO DISPLAY A RECORD IN PRINT, MODIFY, QUERY  
- GROUP FOR DEFAULT FORMAT CAN BE SPECIFIED

REGISTER ACCESS IN AUDIT TRAIL FILE (Y/N)  
- IF Y, EACH ACCESS TO DB, PROCESSOR USED, DATE, TIME AND USER-ID WILL BE RECORDED

AUDIT TRAIL FILE NAME  
- NAME OF AUDIT TRAIL FILE IF Y TO PREVIOUS PROMPT  
- FILE MUST BE BUILT BY DATA BASE MANAGER IN SAME GROUP AS DATA FILES  
:BUILD <name>;REC=-62,8,F,ASCII

10.

9.

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FIELD DEFINITIONS

LOGGING ACCESS (Y/N)  
- IF Y, TRANSACTIONS TO DATA BASE ARE LOGGED TO MPE LOG FILE  
- WILL LOG COMPLETE RECORDS AS ENTERED  
- OPTIONALLY WILL LOG CHANGES TO FIELDS  
- RECOVERY PROCESSOR MAY BE USED TO RECONSTRUCT DATA BASE FROM LOG FILES

USER EXIT TO VALIDATE ENTIRE RECORD (Y/N)  
- IF Y, A USER-WRITTEN PROCEDURE WILL BE CALLED TO DO SPECIAL PROCESSING ON EACH RECORD BEFORE IT IS WRITTEN TO DATA BASE

NAME OF PARAMETER FILE  
- NAME OF USER-DEFINED FILE WHICH HOLDS INFORMATION USED BY USER EXIT

FIELD NAME  
- DISPLAYED WHEN FIELD IS ENTERED OR MODIFIED  
- UP TO 34 CHARACTERS

MNEMONIC  
- SHORT NAME - UP TO 6 CHARACTERS  
- USED BY PROCESSORS TO ACCESS FIELD

FIELD TAG  
- FORMAL NAME FOR FIELD  
- LETTER (EXCEPT Y) FOLLOWED BY 3 DIGITS  
- IF ELEMENTARY FIELD - LAST DIGIT IS 0  
- IF SUBFIELD - LAST DIGIT NOT 0

OFFSET TO FIELD  
- ONLY IF FIELD LINKED TO KSAM FILE FOR VALIDATION OR INVERSION  
- IF APPLICABLE, USUALLY 4 (PRIMARY KEY)

MAXIMUM LENGTH OF FIELD  
- MAXIMUM NUMBER OF CHARACTERS  
- FOR MASTER/XREF - 4000 IS LIMIT  
- FOR REPEATABLE FIELDS - MAXIMUM LENGTH FOR EACH OCCURRENCE

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## REPEATABLE (Y/N)

- ONLY FOR MASTER-XREF
- IF Y - FIELD MAY REPEAT 200 TIMES
- IN ENTRY, FIELD WILL BE PROMPTED FOR UNTIL NULL RESPONSE (CR) IS ENTERED

## NUMERIC DATA TYPE (Y/N)

- DATA EITHER CHARACTER OR NUMERIC
- IF NUMERIC - PACKED DECIMAL

## DECIMAL PLACES FOR NUMERIC FIELD

- ASKED ONLY IF DATA TYPE IS NUMERIC
- VALID RESPONSE 0-19
- DEFAULT IS 3

## SUBFIELDING FIELD INDICATOR (Y/N)

- IF Y, FIELD IS SUBFIELDING
- SUBFIELDING FIELD DEFINED FIRST (0-LEVEL)
- THEN SUBFIELDS IN ORDER OF LAST DIGIT
- DATA LOST IF NOT ENTERED IN SEQUENCE
- INVERSION ONLINE AND INVERSION ON RELEASE NOT SUPPORTED FOR SUBFIELDING FIELDS

## VALIDATION (Y/N)

- IF Y, DATA ENTERED IS VALIDATED AGAINST A KSAM AUTHORITY FILE DURING ENTRY OR MODIFY

VALIDATION FILE DIFFERENT FROM FAST ACCESS FILE  
 - IF VALIDATION SPECIFIED, INVERTED FILE AND AUTHORITY FILE MAY BE DIFFERENT FILES

## ROOT NAME OF VALIDATION FILE

- 4-CHAR. NAME OF KSAM VALIDATION FILE

## PROMPT (Y/N)

- IF Y, ENTRY WILL PROMPT FOR FIELD
- FIELDS PROMPTED IN SEQUENCE DEFINED
- IF USER-DEFINED PROMPTING SEQUENCE=Y
- OTHERWISE FIELDS WITH DUPLICATE CHECKING=Y, VALIDATION=Y OR BIBLIOGRAPHIC INDICATORS ARE PROMPTED FIRST

## MANDATORY (Y/N)

- IF Y, USER MUST ENTER DATA IN FIELD WHEN PROMPTED IN ENTRY

## DUPLICATE CHECKING (Y/N)

- IF Y, ENTRY CHECKS FOR DUPLICATE RECORDS
- FIELD MUST BE INVERTED
- ALL KEYS FROM CHECKED FIELDS ARE ANDED TO FIND POTENTIAL DUPLICATE RECORDS

/3.

/4.

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## ISN CONSISTENCY CHECKING (Y/N)

- IF Y, ENTRY AND MODIFY WILL ENSURE FIELD VALUE MATCHES ISN OF RECORD
- ENSURES THAT RECORDS ENTERED INTO DS JOINED ON ISN WILL BE JOINED SUCCESSFULLY

## BIBLIOGRAPHIC LEVEL (A/M/S/C)

- PROMPTED IF BIBLIOGRAPHIC INDICATOR=Y

## DEFAULT CHARACTER SET

- INDICATES WHICH ALPHABET USED (00-ROMAN, 02-ARABIC, ETC.)

## INVERSION (Y/N)

- IF Y, THIS FIELD WILL BE ASSOCIATED WITH AN INVERTED FILE FOR FAST-ACCESS SEARCH
- FOLLOWING PROMPTS ISSUED ONLY IF Y

## INVERT ONLINE (Y/N)

- IF Y, INVERTED FILE MAINTAINED AUTOMATICALLY AND INSTANTLY BY ENTRY/MODIFY

## INVERT ON RELEASE (Y/N)

- IF Y, INVERTED FILE MAINTAINED ONLY BY RELEASE PROCESSOR

## INVERT OFFLINE (Y/N)

- REQUIRES USE OF INDEX AND INVERT PROCESSORS

## INVERTED FILE TYPE (B/K)

- INDICATES IF INVERTED FILE IS B-TREE OR KSAM

## THESAURUS STRUCTURE ON INVERTED FILE (Y/N)

- ONLY PROMPTED IF FILE TYPE IS KSAM
- Y INDICATES INVERTED FILE IS THESAURUS

## FUNCTION CODE OF USER-DEFINED EXTRACTION ROUTINE

- CALLS USER EXIT FOR KEY EXTRACTION

## NO. OF SIGNIFICANT KEYS EXTRACTED

- MAXIMUM NO. OF KEYS EXTRACTED FROM FIELD

## TYPE OF EXTRACTION (T/W)

- TYPE OF EXTRACTION USED TO GENERATE KEYS
- T - TERM PROCESSING
- W - WORD PROCESSING
- (CR) - WHOLE FIELD PROCESSING

## INVERT PRIMARY KEY AND SECONDARY KEY (Y/N)

- INVERT PRIMARY KEY ONLY
- BREAK SEQUENCE (MAX.=3 CHARACTERS)
- ENABLES DOT FEATURE SEARCHING

## TERM DELIMITER

- DELIMITERS FOR TERM PROCESSING
- DEFAULT IS //

## LENGTH OF STRING TO EXTRACT

- LENGTH OF KEY TO BE GENERATED
- CAN BE NO GREATER THAN 256
- SAME AS KEYLENGTH OF INVERTED FILE



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TYPE OF STRIPPING (N/D)

- SPECIFIES WHETHER SPECIAL CHARACTERS ARE BE REMOVED FROM THE KEY BEFORE INVERSION
- N - STRIP NON-ALPHANUMERIC CHAR.
- D - STRIP ONLY DIACRITICALS

ELIMINATE STOPWORD (Y/N)

- IF Y, KEYS ARE MATCHED AGAINST STOPWORD FILE BEFORE INVERSION
- ONLY KEYS NOT FOUND IN FILE ARE INVERTED

SUFFIX OF STOPWORD FILE (0-9)

- STOPWORD FILE IS KSAM DATA BASE
- NAME IS STPNKEYD WHERE n IS NUMBER 0-9

NON-THESAURUS ANY FILE (Y/N)

- IF Y, ANY OPERATOR MAY BE USED IN SEARCHING, IN CONJUNCTION WITH ANY FILE

ROOT NAME OF INVERTED FILE

- NAME OF KSAM OR B-TREE INVERTED FILE
- FOR B-TREE FILES, ENTER PARAMETERS EXTENT=, KEYLENGTH=, DEV=, NUMKEY=, POSTING=, GROUP=, USAGE=
- KSAM INVERTED FILE SHOULD BE CREATED WITH DB COMMAND

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LOG CHANGES ON THIS FIELD (Y/N)

- IF FIELD IS CHANGED IN MODIFY, THE CHANGE WILL BE RECORDED IN MPE LOG FILE

IF VALIDATION, INVERSION OR NUMERIC DATA TYPE ARE SPECIFIED, THEN

EXTENDED DEFINITION (Y/N)

- ALLOWS FOR ADDITION OF SPECIFIC ATTRIBUTES FOR THIS FIELD

ANY ARGUMENT FOR VALIDATION (Y/N)

- ALLOWS ADDITIONAL INFORMATION FROM VALIDATION FILE TO BE DISPLAYED IF INVALID DATA IS ENTERED IN THIS FIELD DURING ENTRY

SPECIAL USER EXIT (Y/N)

- IF Y, A USER-WRITTEN SUB-ROUTINE WILL BE CALLED WHEN FIELD IS ENTERED OR MODIFIED

17.

18.

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DEFINING A KSAM DATA BASE (RD)

- CAN BE USED AS AUTHORITY AND/OR INVERTED FILES FOR MASTER DATA BASES
- PHYSICAL DATA FILES MUST BE BUILT WHEN DEFINING DATA BASE
- HEADER PROMPTS SAME AS FOR MASTER-XREF UNTIL YOU REPLY KSAM TO: FILE TYPE (MASTER/KSAM/ANY/THES)

KSAM FILE NAME (4 CHAR)

- ROOT NAME OF PHYSICAL FILES
- 2 FILES - xxxxKEYD AND xxxDIR
- NAME IS WRITTEN TO KEYGROUP

FIXED FORMAT OF KSAM FILE (Y/N)

- FOR POSTINGS PORTION OF INVERTED KSAM FILE

MAXIMUM SIZE OF KSAM FILE

- MAXIMUM NUMBER OF LOGICAL AND PHYSICAL RECORDS IN FILE

INVERTED KSAM FILE (Y/N)

- IF Y, KSAM FILE MAY BE INVERTED FILE

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FIELD DEFINITIONS

DATADEF DOESN'T PROMPT FOR:

- OFFSET TO FIELD (calculated by DATADEF)
- SUBFIELD FIELD INDICATOR
- REPEATABLE
- VALIDATION
- INVERSION

OTHER PROMPTS ARE SAME AS FOR MASTER RD EXCEPT:

KEY FIELD (Y/N)

- IF Y, THIS FIELD IS PRIMARY KEY
- UNIQUE IDENTIFIER FOR RECORD

NON-PRIMARY KSAM KEY (Y/N)

- IF Y, FIELD IS SECONDARY KEY

MAXIMUM LENGTH OF FIELD

- NUMBER OF CHARACTERS RESERVED IN RECORD
- MUST BE AN EVEN NUMBER
- NOT GREATER THAN 80 IF KEY FIELD
- NOT GREATER THAN 2048 FOR OTHER FIELDS

EXERCISE #1 - CREATING A DATA BASE

:MINISIS

MINISIS VERSION F.02.00 THU AUG 14 1986 9:55 AM  
VALID FUNCTIONS ARE:1. COMPUTE 2. ENTRY 3. INDEX .....  
20. DATADEF 21. EXIT  
WHICH FUNCTION DO YOU WANT? DATADEF

DATADEF VERSION F.02.00 THU AUG 14 1986 9:56 AM

TYPE 'HELP' FOR VALID COMMANDS

PLEASE SELECT FUNCTION

- DB FOOD

DO YOU WANT TO CREATE A DATA DEFINITION? - Y

DATA MODEL NAME - GUIDE

TYPE OF DATA DEFINITION (RD/PS/DS/CD) -

DATA DEFINITION FILE NAME - DDGUIDE

LOCKWORD OF DATA DEFINITION FILE -

\*\* DATA DEFINITION BEING CREATED...BE PATIENT

NON-MINISIS FILE TYPE (1 TO 32767) -

FILE TYPE (MASTER/KSAM/ANY/THES) -

GROUP NAME -

MASTER FILE NAME - GUIDEM

XREF FILE NAME - GUIDEX

MAXIMUM SIZE OF MASTER FILE - 50

MAXIMUM NUMBER OF ISNS - 300

BIBLIOGRAPHIC LEVEL INDICATOR (Y/N) -

USER-DEFINED PROMPTING SEQUENCE (Y/N) -

AUTO-NUMBERING (Y/N) - Y

DEFAULT QUERY FIELD TAG -

NO. OF PS SETS FOR CONTROLLED UPDATE (0-8) -

DEFAULT PRINT FORMAT FILENAME - GUIDEPR

REGISTER ACCESS IN AUDIT TRAIL FILE (Y/N) -

LOGGING ACCESS (Y/N) -

USER EXIT TO VALIDATE ENTIRE RECORD (Y/N) -

NAME OF PARAMETER FILE -

EXERCISE #1 (continued)

\*\* SUBCOMMAND HANDLER \*\*

INPUT COMMAND - I

FIELD NAME - RESTAURANT NAME

MNEMONIC - NAME

FIELD TAG - R100

OFFSET TO FIELD -

MAXIMUM LENGTH OF FIELD -

REPEATABLE (Y/N) -

NUMERIC DATA TYPE (Y/N) -

SUBFIELD FIELD INDICATOR (Y/N) -

VALIDATION (Y/N) -

PROMPT (Y/N) - Y

MANDATORY (Y/N) -

DUPLICATE CHECKING (Y/N) -

ISN CONSISTENCY CHECKING (Y/N) -

PRIMARY CHARACTER SET -

INVERSION (Y/N) -

LOG CHANGES ON THIS FIELD (Y/N) -

EXTENDED DEFINITION (Y/N) -

21.

EXERCISE #1 (continued)

INPUT COMMAND - I

FIELD NAME - RESTAURANT LOCATION

MNEMONIC - LOC

FIELD TAG - R200

OFFSET TO FIELD -

MAXIMUM LENGTH OF FIELD - 300

REPEATABLE (Y/N) -

NUMERIC DATA TYPE (Y/N) -

SUBFIELD FIELD INDICATOR (Y/N) - Y

VALIDATION (Y/N) -

PROMPT (Y/N) - Y

MANDATORY (Y/N) -

DUPLICATE CHECKING (Y/N) -

ISN CONSISTENCY CHECKING (Y/N) -

PRIMARY CHARACTER SET -

INVERSION (Y/N) -

LOG CHANGES ON THIS FIELD (Y/N) -

EXTENDED DEFINITION (Y/N) -

EXERCISE #1 (continued)

INPUT COMMAND - I

FIELD NAME - STREET ADDRESS

MNEMONIC - STREET

FIELD TAG - R201

OFFSET TO FIELD -

MAXIMUM LENGTH OF FIELD -

NUMERIC DATA TYPE (Y/N) -

VALIDATION (Y/N) -

PROMPT (Y/N) - Y

MANDATORY (Y/N) -

DUPLICATE CHECKING (Y/N) -

ISN CONSISTENCY CHECKING (Y/N) -

PRIMARY CHARACTER SET -

INVERSION (Y/N) -

LOG CHANGES ON THIS FIELD (Y/N) -

EXTENDED DEFINITION (Y/N) -



MODIFYING A DATA BASE DEFINITION

- USE DB COMMAND WITH NAME OF EXISTING DATA BASE
- FIELDS CAN BE ADDED OR DELETED
- FIELD ATTRIBUTES CAN BE CHANGED

BEWARE OF CHANGING THESE ATTRIBUTES AFTER RECORDS ARE ENTERED

## IN A MASTER DATA BASE:

- RENAMING FIELD TAG
- TURNING SUBFIELD INDICATORS ON OR OFF
- CHANGING INVERSION ATTRIBUTES (UNLESS YOU PLAN TO RE-INVERT THE DATA BASE)
- CHANGING TYPE EG. NUMERIC TO CHARACTER

## IN A KSAM DATA BASE:

- CHANGE FIELD LENGTHS
- CHANGE FIELD DISPLACEMENTS
- ADD OR DELETE FIELDS

MODIFYING HEADER ATTRIBUTES

## YOU MAY CHANGE:

- GROUP NAME
- DATA FILE NAME
- DEFAULT PRINT FORMAT NAME
- DEFAULT QUERY FIELD
- AUDIT TRAIL FILE NAME
- ACCESS TO USER EXITS
- TRANSACTION LOGGING
- AUTO NUMBERING
- PARAMETER FILENAME (FOR EXIT)

## YOU MAY NOT CHANGE:

- TYPE OF DATA BASE
- TYPE OF FILE
- SIZE OF FILE (USE GARBAGE)

IF YOU TURN OFF BIBLIOGRAPHIC LEVELS, FIRST REMOVE THE BIBLIOGRAPHIC LEVEL INDICATOR FROM THE FIELD DEFINITION.

EXERCISE #2: MODIFYING A DATA BASE

DATADEF VERSION F.02.00 THU AUG 14 1986 11:28 AM

TYPE 'HELP' FOR VALID COMMANDS  
PLEASE SELECT FUNCTION

- DBLIST

DM=GUIDE <----- DATA MODEL NAME

R=FOOD

PLEASE SELECT FUNCTION

- DB FOOD

EDIT HEADER INFORMATION (Y/N) - Y

GROUP NAME - PUB --

MASTER FILE NAME - GUIDEM --

XREF FILE NAME - GUIDEX --

BIBLIOGRAPHIC LEVEL INDICATOR (Y/N) - N --

USER-DEFINED PROMPTING SEQUENCE (Y/N) -

AUTO-NUMBERING (Y/N) - Y --

DEFAULT QUERY FIELD TAG - --

NO. OF PS SETS FOR CONTROLLED UPDATE (0-8) - 0 --

DEFAULT PRINT FORMAT FILENAME - GUIDEPR --

REGISTER ACCESS IN AUDIT TRAIL FILE (Y/N) - N --

LOGGING ACCESS (Y/N) - N --

NAME OF EXIT FOR VALIDATION (MAX 8 CHAR) - --

NAME OF PARAMETER FILE -

\*\* SUBCOMMAND HANDLER \*\*

INPUT COMMAND - M R201

SPECIAL NOTES

1. IF MORE THAN ONE FIELD IS INVERTED INTO THE SAME INVERTED FILE, PARAMETERS SUCH AS LENGTH OF STRING TO EXTRACT TYPE OF EXTRACTION (T/W) SHOULD BE IDENTICAL.
2. IT IS ONLY NECESSARY TO ENTER A VALUE FOR OFFSET TO FIELD FOR A MASTER DATA BASE WHEN THE FIELD IS LINKED TO A KSAM DATA BASE FOR VALIDATION OR INVERSION. THE OFFSET ENTERED WILL BE THE OFFSET OF THE KEY FIELD IN THE KSAM (USUALLY 4 BYTES).
3. FOR SUBFIELDIED FIELDS: SUBFIELDS MUST BE ENTERED IN CORRECT ORDER AND GROUPED TOGETHER OR DATA WILL BE LOST. ON-LINE INVERSION AND VALIDATION APPLY TO SUBFIELDS, NOT TO SUBFIELDIED FIELDS.
4. B-TREE IS THE INVERTED FILE TYPE NORMALLY CHOSEN UNLESS YOU WISH TO USE A VALIDATION FILE FOR INVERSION (CONTROLLED VOCABULARY).
5. VALIDATION FILE DIFFERENT FROM FAST ACCESS FILE OFFERS THE CHOICE OF 1 KSAM FILE FOR BOTH VALIDATION AND INVERSION OR HAVING ONE COMMON KSAM AUTHORITY FILE FOR A NUMBER OF DATA BASES, EACH OF WHICH WOULD MAINTAIN INDIVIDUAL INVERTED FILES. IF REPLY IS N  
- KSAM DB USED FOR VALIDATION AND INVERSION  
- REPLY K TO INVERTED FILE TYPE

OTHER DATADEF COMMANDS

CREATE BTREE  
 CREATE MASTER  
 CREATE XREF  
 - USED TO CREATE FILES WHEN IT IS NOT PRACTICAL TO USE DB  
 - I.E. WHEN DATA BASE HAS ALREADY BEEN CREATED AND FILES MUST BE RE-BUILT

VERIFY <dbname>  
 - DISPLAYS DATA DEFINITION  
 - OFFLINE SENDS LISTING TO LP

PURGE BTREE=<filename>  
 PURGE DB=<dbname>  
 - PURGES B-TREE FILES AND LOGICAL DATA BASE DEFINITIONS  
 - PURGE DB=<dbname>, KEEP=NO  
 WILL ALSO PURGE DATA FILES

ERASE BTREE=<filename>  
 ERASE DB=<dbname>  
 - ERASES DATA FROM FILES

OTHER DATADEF COMMANDS (continued)

COPY  
 - MAKES A COPY OF A DATA BASE IDENTICAL TO ORIGINAL IN ALL RESPECTS, WITH THE EXCEPTION OF AUTO-NUMBERING (TURNED OFF IN COPY)

INITNUM  
 - USED TO SET AUTO-NUMBERING

DBLIST  
 - DISPLAYS LIST OF DATA BASES AND DATA MODELS

SECURE  
 DESECURE  
 EQUATE  
 - FOR MINISIS SECURITY FEATURE

UNLOCK  
 - TO CLEAN UP THE LOCKTABL FILE

DEFINING A PROJECTED SUBSET

- A PS IS A USER VIEW BASED ON AN RD AND SHARING SAME MASTER FILE AS THE RD

- PS MAY DEFINE A SUBSET OF RECORDS AND A SUBSET OF FIELDS WITHIN A RECORD

- SUBSET OF RECORDS - INITIAL RESTRICTION

- SUBSET OF FIELDS - PROJECT LIST  
 - 256 FIELDS MAXIMUM

- RD MUST BE A MASTER-XREF DATA BASE

PS HEADER INFORMATION

TYPE OF DATA DEFINITION (RD/PS/DS/CD)  
 - REPLY PS

RD DATABASE NAME  
 - NAME OF UNDERLYING RD

WRITE ACCESS TO PS (Y/N)  
 - IF Y, USER WILL BE ABLE TO WRITE AND UPDATE RECORDS THROUGH PS

AUTO-NUMBERING (Y/N)  
 - ONLY IF Y TO PREVIOUS QUESTION

STARTING ISN SAME AS UNDERLYING RD (Y/N)  
 - IF Y, NEXT ISN FOR ENTRY IS SAME AS NEXT ISN OF RD  
 - IF N - ASKED TO SUPPLY STARTING ISN

SET # FOR CONTROLLED UPDATE  
 - WILL BE PROMPTED FOR IF NO. OF PS SETS FOR CONTROLLED UPDATE IS GREATER THAN 0.

INITIAL RESTRICTION  
 - QUERY EXPRESSION  
 - USED TO DEFINE SUBSET OF RECORDS  
 - 500 CHARACTERS MAXIMUM

PROJECT LIST FIELD DEFINITIONS

## RD FIELD TAG

- TAG FROM RD TO BE INCLUDED IN PS

## RENAME RD TAG (Y/N)

- IF Y, FIELD HAS DIFFERENT TAG IN PS

## REDEFINE SOME OF THE FIELD ATTRIBUTES FOR PS (Y/N)

- IF N, FIELD WILL HAVE SAME ATTRIBUTES IN PS AS IN RD

## READ-ONLY FIELD (Y/N)

## PROMPT (Y/N)

## MANDATORY (Y/N)

- ASKED ONLY IF WRITE ACCESS TO PS

## REDEFINE INVERSION CRITERIA (Y/N)

- IF N, THEY REMAIN SAME AS RD
- IF Y - PROMPTED FOR INVERSION CRITERIA

IF WRITE ACCESS IS OFF FOR THE PS

- WHEN YOU ARE FINISHED DEFINING FIELDS YOU WILL BE PROMPTED:

## ANY FLATTENING (Y/N)

- IF Y

- A VIRTUAL SET OF RECORDS WILL BE RETRIEVED WHEN THE FLATTENED FIELD REPEATS IN A RECORD

- EACH RECORD IN THE SET WILL HAVE THE SAME ISN

- EACH RECORD IN THE SET WILL BE IDENTICAL WITH THE EXCEPTION OF THE FLATTENED FIELD

- EACH RECORD IN THE SET WILL HAVE A SINGLE UNIQUE OCCURRENCE OF THE FLATTENED FIELD

## FIELD TO BE FLATTENED

- ENTER PS FIELD TAG TO BE FLATTENED
- ONLY ONE FIELD IN EACH PS MAY BE FLATTENED
- FIELD MUST BE REPEATABLE
- FIELD MAY NOT BE SUBFIELD