

INDEXED FILE PROCESSING

PROCESSING INDEXED DISK FILES:

CREATING AN INDEXED FILE:

- . CREATE IN SEQUENCE BY KEY FIELD
 - . SORT INPUT FILE ON RECORD KEY (UNIQUE FIELD)
-

CHANGES TO PARTS OF COBOL PROGRAM:

1. SELECT STATEMENT (NEED FULL OPTIONS...)

SELECT file-name ASSIGN TO implementor-name-1

[ORGANIZATION IS] INDEXED

[ACCESS IS] SEQUENTIAL]

RECORD KEY IS data-name-1.

(STILL ADDITIONAL OPTIONS: FILE STATUS FIELD;
ALTERNATE INDEX FIELD – more later)

NOTE: OPTIONAL / REQUIRED ENTRIES

-
- . implementor-name-1 IS YOUR DATA FILE TO BE CREATED.
 - . ORGANIZATION - CITES FILE ORGANIZATION
SEQUENTIAL, INDEXED, RELATIVE, (OTHERS....)
 - . ACCESS - HOW YOU ARE TO ACCESS THE RECORDS
SEQUENTIALLY, RANDOMLY, DYNAMICALLY....
 - . DEFAULTS: SEQUENTIAL, SEQUENTIAL (INCLUDE FOR
INDEXED FILES)
 - . RECORD KEY - (REQUIRED FIELD)
 - .. KEY FIELD LIES WITHIN THE RECORD.
 - .. USED AS THE AINDEX@ TO LOAD/RETRIEVE RECORD

.. USUALLY NUMERIC

2. INVALID KEY CLAUSE (STILL CREATING THE FILE....)

WRITE record-name-1 [FROM identifier-1]
[INVALID KEY imperative statement-1]

- . INVALID KEY TESTS FOR TWO CONDITIONS: (CREATE)
 - .. KEY FIELD NOT IN SEQUENCE
 - .. KEY FIELD NOT UNIQUE (SAME AS ONE WRITTEN)
(SOME SYSTEMS REJECT BLANK KEY TOO)
 - .. WE WANT TO KNOW!!

 - . INVALID KEY RAISED, ==> RECORD NOT WRITTEN TO DISK
-

Example:

```
WRITE MFSCHOOL-INDEX-REC
  INVALID KEY
    PERFORM 999-FIX-ERROR
  NOT INVALID KEY
    PERFORM 400-NEXT-STUFF
END-WRITE.
```

- . NOT INVALID KEY NOT USED MUCH BEFORE.
 - . USING THIS CLAUSE CAN MAKE OUR LIVES EASIER AHEAD...
 - .. CAN HELP ENSURE VALIDITY IN OUR CREATES / UPDATES.

 - . INDEXED FILE NOW CREATED! (ORGANIZATION IS INDEXED
ACCESS IS SEQUENTIAL.)
-

UPDATING AN INDEXED FILE RANDOMLY

CAN ACCESS AN INDEXED FILE SEQUENTIALLY AND RANDOMLY.

TO UPDATE: . NEED MASTER FILE ITSELF

. NEED TRANSACTIONS.

. MASTER FILE SERVES AS BOTH INPUT AND OUTPUT FILES.

. SINCE UPDATE IS RANDOM -
NO NEED TO SORT TRANSACTIONS.

. RANDOM ACCESS ==> RANDOM ACCESS

. SOMETIMES INDEXED FILE ABACKED UP@ PRIOR TO
UPDATE

. → TRANSACTION FILE - TWO SOURCES

.. FILE ON DISK

.. TRANSACTIONS ENTERED INTERACTIVELY

.. NOTE: YOUR BOOK ASSUMES A TRANSACTION FILE...

.. CAN CERTAINLY BE DONE THIS WAY TOO....

TO UPDATE:

. READ TRANSACTION RECORD (FROM FILE OR SCREEN)

. MOVE KEY FIELD OF TRANS REC INTO RECORD KEY FIELD
IN MASTER RECORD AREA

. ISSUE READ OF MASTER FILE

ACCESS METHOD USES KEY IN RECORD AREA....

. MAY BE GOOD OR BAD - DEPENDING ON TRANSACTION
ADD, CHANGE, DELETE...

READ INVENTORY-FILE

INVALID KEY

PERFORM 999-ERROR-RTN

VALID KEY

PERFORM 777-OKAY-RTN

END-READ.

PROGRAMS 3 AND 4 WILL REQUIRE YOU TO PASS PARAMETERS
FROM DRIVER TO UPDATE PROGRAM CITING WHETHER OR NOT
YOU HAVE SUCCESSFULLY ACCESSED A RECORD IN THE INDEXED
OR RELATIVE FILE. (MORE LATER)
