

PROGRAMMING PROJECT #3  
Summer 2003  
due: 19 June 2001 - Start of Class

NAME \_\_\_\_\_ PROJECT \_\_\_\_\_

- 5 points \_\_\_\_\_ Folder completeness, neatness, orderliness, labeled tabs. Always include this grade form with your submission to me please.
- 10 points \_\_\_\_\_ A System Flowchart (Note: more than one program is involved) See Web page information.
- 10 points \_\_\_\_\_ Hierarchy Chart(s) (Structure Charts) including good paragraph numbering You will need a Hierarchy Chart for the driver and the update programs and one for the overall program structure relationships. Use a software tool.
- 15 points \_\_\_\_\_ Your program designs (pseudocode only) These must be word processed. Hand written inputs will not be accepted. Be certain to review the standards and information sheet on pseudocode and structure charts on my web page. Pseudocode for the Update program only.
- 25 points \_\_\_\_\_ COMPILED source listing(s)  
Standards and Program Structure (Module naming and placement) Comments (Flower Boxes - initial; each paragraph; Contents of flower boxes) Standard Naming Conventions (Record name prefixes; Working Storage conventions, others) **Good indenting** and statement structure ...  
**Remember scope terminators discussed in class...**
- 50 points \_\_\_\_\_ Program-generated output(s) AND RESULTS OF TEST SESSION.  
Accuracy of outputs (Output MUST be accurate!)  
Formats of outputs (Conformance to specifications;  
Appearance of your reports, report statistics,  
line control, zero suppression, spacing...) Separate each source code listing with a labeled tab.
- Evaluation will also include Menu Design (aesthetics, transfer among menus, etc.) and results of instructor interactive test session.
- 10 points \_\_\_\_\_ Ancillary Documentation Input master file, transaction file, Copy of your library record descriptions (copy files)

Menu layout charts only; no printer layout charts.

Total: 125 points.

\*\*\*THESE GRADES ASSUME THAT THE PROGRAM(S) WORK CORRECTLY OR VERY NEARLY CORRECTLY. IF YOUR PROGRAM FAILS TO PRODUCE THE REQUIRED OUTPUTS OR HAS MAJOR ELEMENTS MISSING, EVEN IF TURNED IN ON TIME, IT WILL BE GRADED AS IF IT WERE ONE OR TWO CLASSES LATE, DEPENDING UPON THE SEVERITY OF THE MISSING ITEMS.

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### PROGRAMMING PROJECT #3

#### INDEXED FILES OBJECTIVES:

1. To provide experience with Indexed Sequential File Processing and Updating Procedures
2. To provide additional experience with the Copy verb
3. To provide additional experience with Subprograms and the Linkage Section with significant parameter passing
4. To provide additional experience with Sorting using Input and Output Procedures
5. To provide experience with Data Validation and Reporting Techniques
6. To provide additional experience generating a report with multiple control breaks.
7. To provide experience with menu design and preferred way to communicate with an end-user.
8. To provide experience with interactive programming and processing, string and unstring, Accept and Display, screen formatting / processing and more

This program will be of considerable value to you whenever you are involved in any kind of batch and random access applications. The project embodies many of the traditional indexed sequential file processing requirements that you may encounter. In addition

to the objectives stated above, you will gain experience with accessing an indexed file with both primary and alternate record keys and processing the file with dynamic access. Interactive processing techniques are stressed, and the program is of immense practical value.

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The US-based company in charge of maintaining the statistical data on each state has recently installed new, classy terminals in their administrative offices and now need to upgrade their way of doing business. The first order of business is to change the file organization of their master file called "3531f3.summer2003.txt" and reorganize it as an indexed sequential file operating in a Microfocus environment to provide for both random access and sequential access. File maintenance (editing and updating) is to be done in an interactive model.

Now, to complicate things and be more responsive to their end users, the owners of the data file need to be able to retrieve individual records from their master file of computer professionals both by State Code (the Record Key) as well as by State and Region Number (Alternate Record Keys - with Duplicates for Region Number). All this has resulted in a major redesign of their existing modus operandi, and you have been tasked, as aspiring young Computer Professionals to upgrade the existing system, in accordance with these needs.

### SPECIFICATIONS

#### Overview:

Given the background above, you are to redesign the existing master file 3531f3.summer2003.txt and convert it to an indexed sequential file. The Record Key is to be State Code and alternate keys are State and Region Number, as mentioned.

#### INPUTS

Given \*interactive\* inputting of transactions from 3531t3.summer2003.txt, your transaction file from Program #2, you are to update the created indexed file with these transactions one at a time. All of the edits that have been previously applied to transaction records alone as well as to transaction records compared with their corresponding master file records will apply as in Program #2. No more will be added. There are no more additional edits. Your listing of your test file is to be included in the Ancillary Section of your deliverable).