

Group FORTRAN Program 3

The Matrix Add Program

Write a FORTRAN program to:

- Prompt for, test existence of, and open an input file.
- If the file does not exist, re-prompt the user and accept another file name or 'QUIT' to quit.
- Prompt for, test existence of, and open an output file.
- If the file exists, prompt the user to enter a new file name, overwrite the existing file, or 'QUIT', otherwise open the new file.
- Once the files are open, read an integer, the only data on the line, which identifies the number of matrices included in the file. The maximum number of matrices in the file is 10.
- The next line contains two integers, the first is the number of rows in each matrix and the second is the number of columns in each matrix. The maximum size for rows and columns is 10.
- Read following set of rows of data as the first matrix completely into the program.
- Add the matrix to the sum matrix, initialized to zero.
- Print the current matrix to the output file with a heading MATRIX x.
- Process the next set of rows of data as the next matrix
- Add the matrix to the sum matrix.
- Print the current matrix to the output file with a heading MATRIX x.
- Continue until all matrices have been processed.
- After all matrices have been processed, print the heading SUM OF ALL n MATRICES to the output file.
- Then print the sum matrix to the output file.
- Then program will handle end of file situations correctly.
- Include the program name, program number, names of those that wrote the program, and if it is a group effort the group number at the top of the program.
- Name the program LastNameP3.F or GxP3.F where x is the group number.
- Do not use any GOTO's.
- Comment your program.
- Turn the program in, as an ASCII file. Include your name, possible group number, class, and program name when submitting the program.

Test your program with the data file and other data files that you will create.

TO READ DATA FROM ONE LINE INCLUDE ALL PARAMETERS IN THE READ OR USE AN IMPLIED DO FOR THE READ THAT READS ONE ELEMENT. USE A DEFAULT *, FORMAT FOR THE DATA THAT IS READ FROM ONE LINE.