Lab 1

In this lab we will go through the steps of accessing the Eustis account. Then we will write a simple code that reads from a file and produce an output file. We will compile the code in Eustis server and use some commands to compare the file with the sample output file.

Most of the parts will be discussed by the TA. Here is a problem description for the code. Note, that the code will NOT use any Dynamic Memory allocation for this lab.

Write a program that reads the ID number and grades for three courses of N (N<= 500) number of students. Then it displays all the students' ID numbers, grades for three courses, and average grade of the student. At the end it should also display the maximum average and the student who has achieved the maximum average. The average should be displayed up to 2 decimal places. The output also should be written to out.txt file.

You must have to use structure array in your solution.

Input file: students.txt

The first line of the file contains number of students N (N<=500). Then next N lines contains 4 integers where first integer is id number and the next three integers are the grades for three courses.

Sample students.txt fie:

5
861022 65 72 56
851102 78 45 80
860501 55 75 90
841205 75 80 95
850630 40 50 48

Output: the out.txt file should look like this

861022 65 72 56 64.33
851102 78 45 80 67.67
860501 55 75 90 73.33
841205 75 80 95 83.33
850630 40 50 48 46.00

Maximum Average is 83.33 and the student is 841205

Compiling in testing in Eustis:

Follow the instruction on transferring your file to Eustis and use the following command for testing.

$gcc yourcfilename.c //this will compile your c file

$./a.out //if there is no error, run your code by this command and it will produce out.txt file

You can use various commands to compare your output file against the given sample output file. Note that in your programming assignments you have to exactly match the output with the sample output to get full credit.

$diff out.txt sample_out.txt //the result will be blank if there is not difference between the files

$ diff -c out.txt sample_out.txt //this command will show ! symbol to the unmatched lines.

$ diff -y out.txt sample_out.txt //very useful to compare the files side by side to see where exactly it is not matching