CPE 101-01, Turner
Fall 2008

SAMPLE PRACTICE Lab Exam 1a - another sample
October 15th , 2008
(Lab exam on Friday!)

•   Time to complete the exam: 50 minutes.
•   This exam is individual
•   This exam is open book
•   This exam is closed everything else, including lecture notes, electronic devices, etc
•   The only programs you are allowed to have open on the computer during this exam are:
    – Terminal windows
    – The text editor of your choice
    – ssh connection to *vogon where you compile and run your program*.
• Do not use any code you may have access to from earlier in this course or from other courses
• The problem description includes all assumptions necessary to answer the problem. However, if you feel additional assumptions are or need clarification on a problem, you may ask the instructor during the exam period.
• The program you write to solve the problem will be graded pass/fail.
• Style will not be strictly enforced on this Lab exam.

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The Problem.

A vintage acoustic dealer would like to track her stock and the value of the instruments.   She needs to keep track of the highest value guitars for those "special customers" who want the best. You are to write a program to assist a dealer in computing the total value of the guitars in stock and to indicate the highest value guitar(s) in stock.

The input to your program is a series of 4 models of guitar, each on their own line. The first number in each line is number of guitars of that model (integer). The second number is the current value, in dollars and cents, of that model of guitar (double).

Your output must, in the first line, tell the dealer the total value of her stock of guitars (in dollars and cents, formatted for such.) The second line must tell me which model accounts for the largest share of the total stock. The line number here refers to the position in the input, guitar number 1 would be the first line input, guitar number 2 would be the second, etc. Tell the dealer which model accounts for the majority of her equity in the stock.

You must name your source file guitarValue.c and your compiled executable guitarValue . Your source code must compile with gcc -ansi -Wall -pedantic. Failure to compile with these flags will result in failure. You should have no warnings at all. Style will not be enforced on this exam.

Example input:

15 3649.90
2 25535.00
6 12348.99
19 1959.99

Output for example input:

Your total stock of guitars is worth $217152.25
Your stock of the guitar model from input line 3 is worth the biggest portion of that total

Now, you may go and find example code to test your code against. On your vogon account, you may use the unix copy command like this:

cp ~gradercst/TEST/PLExam1aTest/*.* .

You will now have several test files, test1.in, test2.in and test3.in . You can use these to run your program like this -

guitarValue < test1.in > mytest1.out

Then you can use the "diff" command to see if you passed the test -

diff mytest1.out test1.out

If diff produces no output, you've matched mine and your test is good. Do this for the 3 included tests to be sure you've met the specs and then use handin to turn it in.