CS 1050, Mr. Kramer Programming Assignment #4 # of pts: 20

Purpose Learn how to use Java input/output.

Due Date Per the Course at a Glance. Can be resubmitted.

Submissions In this order: printed copy of the source code with line numbers, copy of the input file, and a copy of the output file. If you are handing in a revision, hand in the original graded version(s) and put the newer revised version on top.

Java Topics Java I/O, while loop, summing for a total and average.

References Textbook – use the index for relevant topics.

Specification

This program uses files for input and output and is based on the File Input/Output Example program discussed in class and included in FLIP\_FILES.zip.

The names of the input and output files should be, respectively:

YourName\_S\_04\_Input.txt

YourName\_S\_04\_Output.txt

Using jGrasp | File | New | Plain Text or Notepad on a PC or TextEdit on a Mac, create an input text file which contains the information below. (On the Mac, use the TextEdit feature that saves files as .txt files, not .rtf files.). The input file has this information in order of gross pay, savings percentage rate and IRA investment rate:

100.00 10.0 5.0

1000.00 11 6

1000.00 11 -6

1234.56 10.5 6.0

6543.21 10 5.0

10000 12 10

-1000 10.00 5.00

4444.22 10.2 4.9

2222.44 11.9 10

3141.59 12 5.0

Insert code that calculates the savings amount and the IRA investment amount from the numbers for valid lines that are read from the input file. You will also calculate the averages of the gross pay, savings amount and investment amount for all input lines that are valid. Valid input lines have numbers greater than 0 for all three input numbers. To calculate the averages, you’ll need to count the number of input lines, number of valid input lines and keep running totals. Output the numbers read and the calculated amounts to the output file and to the console in tabular form. Here is an example using the numbers above. Note that dollar amounts should be output to two decimal places and percentage rates to one decimal place.

Gross Pay Savings Rate Savings Amount IRA Rate IRA Amount

100.00 10.0 10.00 5.0 5.00

1000.00 11.0 110.00 6.0 60.00

etc.

We’ll learn soon how to line up the decimals so the numbers aren’t “ragged.”

After reading all the numbers, output the following to the output file and the screen with appropriate messages:

1. The total number of input lines read.

2. The sum of the gross pay, savings amount and IRA amount.

3. The average of the gross pay, savings amount and IRA amount, where the average is calculated only for valid input lines.

When calculating the average, be sure to check that the denominator is not zero.

Include comments in the header area at the start of the program and that the revision numbers, if any, are noted.

Please staple the sheets and write the usual information at the upper right-hand corner of the page.