Lab 7 – Files

For this lab you will have three different methods called from your menu in main. This lab will test your knowledge of scanner usage that we have been talking about in class.

When reading from files it is important to understand the format of the file so you know what data and types are in what order in the scanner. Unless specified you can assume any file format that works for you.

We did not go over PrintStream deeply in class, but you did read about it in the book(?). Don’t be intimidated by it though. Creating a PrintStream object and opening a file to write to is just like creating a Scanner object and giving it a file object to read from.

Example:

PrintStream outputFile = new PrintStream(new File(“output.txt”));

Once created, you just use the PrintStream just like you would System.out.

outputFile.println(“This goes to the file”);

See the book or online resources for additional details.

**Problem 1:**

Write a method that does the following:

* 1. Reads the file "input.txt" and calculates sum of the numbers in this file, identifies the maximum value among the numbers in this file, and the average number.
  2. Output the sum, max and average to a file called output.txt.

Note: You will need to create the input.txt file in order to test this. It can be in any format and contain any numbers you wish.

**Problem 2:**

Write a method that asks the user for any number of student records. Student records include student first and last name, letter grade received, and year the course was taken. Write all of this information to a file called students.dat.

Hint: Many people seem to want to label the data they put into a file. Something like this:

First name: XXXX

Last name: YYYY

Etc…

If it is a data file (a file to store data that is not intended to be human readable) the data does not need labels, you can just format it in a way that makes sense to the program to read it back in. Alternatively, you can add labels, but when reading the file, you may end up needing to ignore those labels in the program that reads the data.

**Problem 3:**

Write a method to read from students.dat and create three parallel arrays to store the records in. Create a menu showing the student names as options and allow a user to select which student to view the record of. Print that students full record.