**Name:**

**Advance Programming in Java**

**Lab Exercise 10/13/2023**

**Project… Student Averages**

Create the following text file called *StudentScores.in* and store in your standard folder

(*temp\_Name*).

**File contents: Program output:**

Agnes 56 82 95 100 68 52 Agnes, average = 76

Bufford 87 92 97 100 96 85 93 77 98 86 Bufford, average = 91

Julie 99 100 100 89 96 100 92 99 68 Julie, average = 94

Alice 40 36 85 16 0 22 72 Alice, average = 39

Bobby 100 98 92 86 88 Bobby, average = 93

Each line of the file consists of a student’s name followed by an unpredictable number of test

scores. The number of students is also unpredictable. The desired output is as shown where the

numbers there represent the average test score rounded to the nearest whole number.

Create a class called *StudentAverages* that will input the *StudentScores.in* text file and produce

the indicated output.

**Project…. Write Student Averages**

Modify the project (Determining Student Averages) so that it will print the output to a file rather than a console screen. Your output file should be stored in your standard folder, *temp\_Name* and the file name should be *StudentScores.out*. At the completion of the program, the contents of *StudentScores.out* should be:

Agnes, average = 76

Bufford, average = 91

Julie, average = 94

Alice, average = 39

Bobby, average = 93

Call this new class *StudentAverages\_Out*.

**Project…. Random Generator**

Create a RandomGenerator application that implements the Linear Congruential Method. The formula used by this method is:



Use constant integers for a, c, and m. Choose a seed integer value for X0. Show 10 numbers from the sequence. Application output should look similar to:

Seed = 12, a = 1246. c = 200, m = 50

(1246 \* 12 + 200) % 50 = 2

(1246 \* 2 + 200) % 50 = 42

(1246 \* 42 + 200) % 50 = 32

(1246 \* 32 + 200) % 50 = 22

(1246 \* 22 + 200) % 50 = 12

(1246 \* 12 + 200) % 50 = 2

(1246 \* 2 + 200) % 50 = 42

(1246 \* 42 + 200) % 50 = 32

(1246 \* 32 + 200) % 50 = 22

(1246 \* 22 + 200) % 50 = 12