CSCI 192 Programming Assignment 2 40 Points Due Date: 2/27/2019 (Wednesday)

Develop an interactive program to assist a Philosophy professor in reporting students’ grades for his PHIL-224.N1 to the Office of Registrar at the end of the semester.

Display an introductory paragraph for the user then prompt the user to enter a student record (student ID number and five exam-scores – all on one line). The scores will be in the range of 0-100. The **sentinel** value of **-1** will be used to mark the end of data.

The instructor has decided to **drop the lowest** of the five scores. Your program should compute and store in memory the student average and the corresponding letter grade (A = 90%, B = 80%, C = 70%, D = 60%, F = 0%) based on the best (top) four exam-scores. For each student **display in a box**, **the ID number, average (based on five scores), new average (based on best four scores), letter-grade (based on best four scores), and the lowest score with appropriate labels.** You can use characters such as “\*” or “+” to form/decorate the four sides of the box.

At the end, display a nice **summary report** to include the following items with appropriate labels: (a) class average based on the five scores and (b) class average based on the best four scores, (c) **Number of A’s, B’s, C’s, D’s, and F’s** (based on the best four scores only), and (d) the **total number of records processed**.

**Use the following data set as input**. Remember that for each of the five exam-scores your program is to output two sets of average and letter-grade (one before dropping the lowest score and one after).

**Input Data**

**Student ID # Exam 1 Exam 2 Exam 3 Exam 4 Exam 5**

11111 90 90 80 90 90

22222 100 88 87 93 90

33333 80 80 80 80 72

44444 80 0 0 60 70

55555 70 68 66 64 62

66666 77 77 77 66 77

**-1**

**Notes:**

1. See the next page for an example of input/output of the program.
2. Develop an algorithm for this problem using either flowcharting or the pseudo-code technique.
3. Documentation is necessary.
4. **Turn in** a copy of the **source code** (using File, Print options), the **program output** (screen shots or the copy/paste technique and the use of MS Word).
5. Run your program using the above data.
6. Please direct your questions to the instructor.
7. Please stop by his office during his office hours if you need any help.

An example of a portion of input and output of the program using two records may look something like the following:

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Please enter student id and five scores all on one line <-1 to exit>.

11111 90 90 80 90 90

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+ Student ID: 11111 +

+ Average: 88.0 +

+ Lowest Score: 80.0 +

+ New Average: 90.0 +

+ Letter Grade: A +

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Please enter student id and five scores all on one line <-1 to exit>.

22222 100 88 87 93 90

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+ Student ID: 11111 +

+ Average: 91.6 +

+ Lowest Score: 87.0 +

+ New Average: 92.8 +

+ Letter Grade: A +

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**Bonus Points Opportunities** (earn up to 10 **points**):

* Calculate letter grades based on the plus-and-minus grading system mentioned in the course syllabus (number of A’s, number of A-‘s, number of B+’s etc.)
* Include the count of (number of) each of the available grades in the summary report.