Programming Assignment 0
Due September 18th, 2017 at 11:59pm

1 Overview of the Programming Project

In this project, your goal is to develop an L program that can calculate grade point averages for students in a class. Specifically, your program must do the following:

- Ask the user for the number of assignments and their respective weights (from 0 to 100). You must repeat your query to the user if the weight is not between 0 and 100

- If the weights do not add up to 100, abort your program with an error.

- Ask the user to enter the name of students and their grades. Specifically, you should prompt first for the student name, then for all their grades (from 0 to 100, you must repeat your query to the user if the grade is not between 0 and 100). After all grades are entered, you must ask the user if they want to add another student.

- Once all students have been added, you must output a list of student names with their average grade *sorted* from the highest grade to the lowest.

Since L only supports integers, calculate your averages as $(s_1 * w_1 + s_2 * w_2 + \ldots s_n * w_n)/(100)$ using integer division where s are scores, w are weights and n is the number of assignments.

To complete this project, you will need to read the L manual, which includes a tutorial on the L language. You may work either individually or in pairs for this assignment.

2 Files and Directories

To get started, create a directory where you want to do the assignment on any UT Austin computer science computer and create a file called `pa0.L`. To run the L interpreter, type

`/projects/cs345.tdillig/l-interpreter pa0.L`

This command will run the L interpreter on your program.

A big component of this assignment is to test your program thoroughly. It is your responsibility to ensure your program never crashes for any input and always terminates gracefully.

2.1 Turning in and Grading

You must hand in the following for this assignment:

- The file pa0.L containing your program with the name(s) and email(s) of your group members in a comment on top.

For submission, upload your pa0.L file to Piazza. If you are part of a group, upload your submission under both names, **but do not forget to indicate your group on top of the file in comments.**