Lab 1 Writeup

Team Members: Kaito Trias, Karla Sunjara, Nadia Wohlfarth

Initial Decisions: We decided from the start that we would program in Python. One of the reasons for this decision was because we haven't used this programming language since early CS classes and we wanted to refresh our skills. Additionally, we enjoy coding in this language and it is useful to know well for job interviews so we figured it is beneficial to brush up now. We also decided to use GitHub because we know that this tool is used widely in industry and we should get practice with it and feel confident so that we can be successful after graduation. Also it is convenient and great for collaborating and we have learned git commands in our classes.

Notes on selected internal architecture: We spent some time thinking about the data structures we would need for this program on Monday and we originally created a Student class. We were utilizing this class to store the different data components that made up a student in the data sample we were given. We later realized that this implementation was not necessary for the program. Instead we just directly read from the file. The data structure we are using is a Map for the info command. Since every grade needs to have a total number of students, for every grade we lookup in the map if there is a number associated with the grade. The map works as a counter for every grade. We also originally wrote a test script and then decided to test manually.

Task Log: All three of us brainstormed our plan of attack for this lab during the lab period of our first class (Friday, 9/20 from 4-5pm). Nadia was designated to work on creating the writeup. Our next working session was on Monday during class (9/23) and Nadia and Karla pair programmed starting with reading in the file, beginning to parse, and the specific inputs from the command line. Kai worked Tuesday morning on the program for 2 hours and added the student, instructor, and average functions. Nadia, Karla, and Kai worked Tuesday evening as well (9/24). Karla and Nadia worked on creating and documenting all of the test cases during lab and outside of lab for an hour on Wednesday(9/25). Also during this time Kai fixed bugs that were found through testing our code. On Thursday (9/25) Karla spent another 1.5 hours making sure the tests worked after several code changes and creating the tests.out deliverable. We all spent 1.5 hours adding finishing touches, cleaning up our code, created the README, and zipped all of the files(9/26).

Notes on testing: Karla and Nadia performed manual testing on the code and then developed the test script on Tuesday (9/24). We used the test driven development approach and came up with the majority of our test

cases before the program was finished. While manually testing our program, we realized we had issues with the empty line implementation so we went back and corrected it to accommodate the empty space. When we were manually testing we tried to come up with every edge case we could (No colon, misspelled last name, multiple last names in one command, numbers when a string is expected, lowercase last names, etc.). We realized that we had a bug when we tried to type Grade or G as a command. We found that we had a typo in our code (a variable name) which was causing this error! Our testing also helped us find and fix small bugs in our Quit and Info commands, as well as correctly handle cases in which students.txt was not in the directory or was an empty file.

Overall, we had a really harmonious group and worked well together!