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CSC 365 - Professor Emilia Buckalew
September 10th, 2018
Lab 1 Part 1 Writeup

Initial Decisions
As per the lab spec, we used Java as our chosen language. We developed in two separate environments, depending on the person - Griffin used Eclipse, and Steven used IntelliJ. We also decided to use Git/Github as a source control, both for safety as well as easy of access for both team members.

Program Information/Notes
We decided the best course of action would to be reading in the entire file, constructing a linked list of the information, and then using that list to search and parse through information. We decided a linked list would be best, as in order to search you need to tab through every element in order to find the correct information, negating the speed benefits of using an array. We created a class to contain every bit of information, since all students will have the same information as well as that information is consistent and always in the same order. Combining the two, we have a simple Linked List of Student class objects.

Task Log
Design + Outer Implementation (main function, class structure, etc.)
        Griffin & Steven - 1 Hour (Tuesday, 3:10 PM to 4:00 PM)
Error Checking & Basic Command Recognition
        Griffin - 0.75 Hours (Sunday, 2:30 PM to 3:15 PM)
"S:" Command Implementation
        Griffin - 1 Hour (Sunday, 3:15 PM to 4:15 PM)
"T:" Command Implementation
        Griffin - 0.08 Hours (Sunday, 4:15 PM to 4:20 PM)
"B:" Command Implementation
        Steven - 0.25 Hours (Sunday, 5:30 PM to 5:45 PM)
"G:" Command Implementation
        Steven - 0.5 Hours (Monday, 3:10 PM to 3:40 PM)
"I" and "A:" Command Implementation
        Griffin - 0.25 Hours (Monday, 3:10 PM to 3:25 PM)
Debugging and refactoring the parser to recognize full words
        Griffin - 0.33 Hours (Monday, 3:25 PM to 3:45 PM)
Refactoring and Further Debugging
        Steven - 0.25 Hours (Sunday, 5:45 PM to 6:00 PM)
Testing and Cleaning
        Griffin - 0.5 Hours (Tuesday, 11:15 AM to 11:45 AM)

Testing Notes

See the readme for information on how to run our test. We have one file, labeled "tests.txt" which tests each command's syntax and output for correctness. There is also "tests_commented.txt" which outlines what each set of commands is, and what the expected output should be.

There were a couple of bugs with testing, mostly syntax errors. All of the outputs had correct information, but sometimes commands wouldn't be recognized because they weren't specified properly in the implementation. There were a couple of issues with the "Grade" command, most notably missing break statements in a switch command resulting in improper output, and using 0 as the default for the low GPA, meaning no student would be printed out, since no student had a GPA lower than 0.

Final Other Notes

For clearer output, if any additional command line arguments are specified when being run (for example, running "java schoolsearch asdf"), the program will run in "test" mode, which removes the output that lists the commands and what they do. Running it with no arguments displays the list. This was added to help with clarity while testing.