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CSC 365 Lab 1 Writeup

Initial decisions:

We decided to use the pandas library in python using the unix/linux environments. Our test script is a bash script batch file.

Notes on selected internal architecture:

We used the dataframe object in pandas because its implemented functions and fields are very useful for selecting and data.

Task log:

January 6- We began by reading through the project specifications together and reviewing the lab requirements after lecture on the day the lab was assigned. During this 1-hour meeting, Sarah started a github repository for the project and shared it with Nicole. We also agreed to complete the project in Python and use the Python library Pandas.

January 6 - January 8- We each took 2 days to separately map out our initial ideas to the problem and write pseudo code summarizing our own approaches. During this time, we also installed the Pandas library.

January 8- We had a second 1-hour meeting where we shared our pseudo code and wrote the main function and handleAsk function. We also wrote function headers for all other functions that we would need. Since many of the helper functions (i.e studentSearch, gradeSearch, busSearch, etc) follow a similar structure, we wrote the studentSearch function together and decided to use it as a model for the other functions. Then, we split the remaining helper functions between the two of us, agreeing to check and test the other's functions.

January 8-9- We each wrote the remainder of the helper search functions we were responsible for and tested the others functions. Nicole started a test documenting test cases on a document.

January 13- Sarah wrote a batch script for testing the program with input from a file. We both added to the test document until all the required cases were covered.

January 15-16 We separately reworked our part 1 file and wrote the new searches, then compared and aggregated our progress to use one file. Comparing our methods yielded interesting insights as to how the multiple datafiles could be used in conjunction for the same searches. Sarah used the two text files to initially create a single database and fully reuse part 1 functions, while Nicole used the two text files to create two databases and use them both in the searches. Our program uses Nicole's functions.

January 16 We added to our text file of tests from part 1 to include tests to cover every correct case of the 5 new functions.

Notes on testing:

Testing was done both using a batch script and manually through the command line. The batch script read input from a file and redirected its output to a separate file called “output.txt” in the current working directory. The testing document was used to verify that all requirements produce the expected output as listed in the lab specifications and track which cases had already been testing. Testing was mainly done as the functions were written. However, any cases that had still not been covered by the project’s completion, were tested at the end. For testing NR2 with multiple teachers in a single classroom, we added a line to the given teachers.txt file “ HIMMEL, STEVE, 104” to check that the program would successfully return all teachers who teach in a given classroom.