List of Team Members: Noah Stapp, Richa Gadgil

Initial Decisions:
We decided to go with Python, using Pandas. Python is used extensively for data analysis and its simple IO and language structure made it an optimal choice. Pandas is a very powerful library that makes parsing and searching data extremely easy.

Notes on selected internal architecture:
We used a Pandas dataframe to store all of the contents of the students.txt file. We were able to easily manipulate this data frame in order to get the statistics we needed. A dataframe represents a relational model. Each command simply queried the dataframe and filtered the results to retrieve the desired data.

Task log:
Parsing txt file and creating Pandas dataframes: 10:20-10:30 [Noah]
Implemented old query functions with new dataframes: 10:30-11:00 [Noah]
Implemented extended search functions: 10:20-11:00 [Richa]
Created data analytic functionality: 10:20-11:00 [Noah and Richa]
Testing: 11:30-12:30 [Richa and Noah]
Writeup and additional testing: 1:00-2:00 [Richa & Noah]

Part I modifications:
Code from Part I had to be modified if it referenced data split across the two dataframes. To implement the part I queries, we simply got the necessary data separately from each dataframe and then combined the results together before outputting the query result. For certain commands, a new temporary dataframe had to be created by merging both dataframes.

Notes on testing. How many bugs found, how long it took to find them:
No bugs were found with the old commands once implemented using the new dataframes. The new search and analytic commands had several bugs each, all a result of not verifying user input or dataframe queries. They were all found and fixed quickly, in initial testing immediately after implementation.

Syntax and semantics of additions:
Requirement NR1: C[lassroom]: S[tudents] <classroom number> (C: S 112)
Requirement NR2: C[lassroom]: T[eachers] <classroom number> (C: T 112)
Requirement NR3: G[rade]: T[eachers] <grade> (G: T 4)
Requirement NR4: E[nrollment] (E)

Requirement NR5:

R[angeQuartiles]: G[rade] (R: G)
R[angeQuartiles]: B[us] (R: B)
R[angeQuartiles]: T[eacher] (R: T)
D[eviation]: G[rade] (D: G)
D[eviation]: B[us] (D: B)
D[eviation]: T[eacher] (D: T)
M[eanGPA]: G[rade] (M: G)
M[eanGPA]: B[us] (M: B)
M[eanGPA]: T[eacher] (M: T)