Team Members: Giovanni De La Luz, Ryan Vu

Decisions

- Programming Language – Python
    - Python is a popular compiled language and has a lot of support for powerful libraries such as the one used in our lab, Pandas. It further helped, that the library is heavily documented making it easier to source help. We are also proficient in Python syntax making it easier for development and debugging on our end. These factors ultimately guided our decision to use this popular framework.
- Internal Architecture
    - Data Structure → Pandas DataFrame
        - The Pandas library fundamental feature is the data structure provided, which is a DataFrame. Unfortunately, it is NOT an associate array, however it has a lot of utility as it represents a 2D array. Thus, reducing the need to build a datastructure from scratch and streamlining the students.txt file into a single DataFrame. There is a lot of useful in-built functions with the most helpful being iterating through the rows.
- Projecture Structure
    - main.py – contains all the query parsing and function calling, also handling query edge cases
    - schoolsearch.py – contains all the query functions (i.e. R3 - R11) and print statements
    - pandas.ipynb – a Jupyter notebook used solely for testing new functions and debugging

Task Log

Description	Student(s)	Approx. Duration	Deadline
Setup GitHub Repository / Environment	Giovanni De La Luz, Ryan Vu	1 hour	9/27
Basic Functionality / Project Setup	Giovanni De La Luz	2 hour	9/28
Implementing Functions and Parsing	Ryan Vu	4 hour	9 / 29
String Formatting	Giovanni De La Luz	1 hour	9 / 29
Implementing More Functions	Ryan Vu	2 hour	9 / 30
Implmenting Bus Function / Debugging	Giovanni De La Luz	1 hour	10 / 1
Casting Error-Checking	Giovanni De La Luz	2 hour	10 / 1
Test-Case Files	Giovanni De La Luz	1 hour	10 / 1
Total Project Time: ~14 Hours			

Other Lab Notes

I. Project Setup
   A. Virtual Environment (VS Code)
      a. python -m venv .venv (Windows)
         // python3 -m venv .venv (MacOS)
         i. creates virtual environment folder in the pwd
      b. venv\Scripts\activate (Windows)
         // source .venv/bin/activate (MacOS)
      c. (venv) pip install pandas → added to virtual environment folder
      d. python main.py (Windows) // python3 main.py (MacOS)
         i. may need to have the latest python version
      e. * can now query for commands*
      f. Deactivate

II. Notes
   A. Testing
      1. Challenges
         a) Parsing Data & Edge-Cases
         b) Running in to errors due to unfamiliarity with Pandas