Zach Shackleton

3/17/25

CS-499

Category 3 DB Narrative

Through this enhancement of the Databases Category I have worked to improve the AdvisorCourseList.cpp program to utilize a database from SQLite rather than rely on a less secure, and less efficient text document. I originally created this document to apply CRUD capabilities to the text document and it allowed the user to view a list of courses by their ID’s, titles, and prerequisites. The enhancement works to apply the same methodology but with greater tools and resources such as OOP and SQLite. I sought out this artifact over most because ever since I attended the class I knew I could never learn enough about Data Structures and Algorithms so going back and this artifact was the final project in that class. I'm excited to have the opportunity to perform other enhancements on artifacts from this class that relate to improving the Data Structures themselves to further reinforce my research in the course.

Overall, I feel that with the current enhancement that's in development I will achieve course outcomes by challenging myself in skills that I haven't quite mastered and in this case that would be SQLite. One of the greatest challenges I faced when developing this enhancement was making the application scalable so that courses could be added to the database by the user. Using an insertCourse method allowed for that functionality but programming the logic was more difficult as I had to find and piece together unknown information from its older looking documentation. One thing I did learn is how to further reinforce my prepared SQLite statements with prepared statements and not allow the user to perform SQL injection. This was done by using “?” in my code to hold the input for the user as they entered in their choices.