IT 697 SQL Module Nine Reflection Journal

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The ninth week of this semester may have been the most challenging week I have faced in my academic career. On top of standard weekly learning and assignments, final projects were due in both of my courses. The progress that I had made throughout the term had me in a good position to submit quality reports, but I still had a lot of work left to put the papers together when I got moments away from my full-time job during the week and my part-time job at the Red Sox on Saturday and Sunday. There were four main activities around which this week’s learning experience revolved. The first was specifically for Module 9, which included exploring indexes in SQL. The second and third activities were finishing tasks for projects that I hoped to use in my Executive Brief in order to demonstrate what I have learned throughout this learning experience. The final activity involved putting everything together in the Executive Brief.

Since I had so much work ahead of me, I set out to explore SQL Indexes early in the week. On Monday, I spent a couple of hours watching Youtube videos and reading through web tutorials that covered indexes. Prior to beginning this exploration, I had a general idea of what an index is from learning how to retrieve data in R. It turned out to be somewhat different than I was expecting. Instead of retrieving specific columns based on integer values, it is possible in SQL to create a separate object that serves as a standard retrieval tool within a given table. I was able to get a better feel for how to create indexes in SQL, and I was even able to learn about the differences between clustered and non-clustered indexes.

After a couple days of switching gears into my other course, I was able to return to my SQL activities and I finished up the projects I had been working on for the Executive Brief. The first project was converting organizational database requirements into a database schema using SQL. Last week I created the conceptual data model. My next steps were to create the actual tables in APEX Oracle, populate them with sample data, and run a few queries to show how the database I created works. I was able to modify the queries that I had written from an already solved example of this project. It was helpful to go through the process in practice before trying to work on the actual database requirements for my project. I have discovered in this experience that reading about how things are done can only take you so far. You can learn so much more from actually having to do the work yourself. Going through the process with the solved example made it much easier when it came time to do the project with my specific requirements. Once the tables were correctly created in our APEX Oracle environment, I created sample data in Excel that I planned to insert into the tables so that I could run some queries on the database. Unfortunately, I found out that we do not have permissions to insert data in the environment, so my project stopped there. Although I was not able to complete everything I had hoped, this project gave me experience with some key SQL skills that were not explicitly covered in this experience and demonstrated some of the program competencies that this experience has helped me to develop.

The next project I had to finish for the Executive Brief was my attempt to land on the top 10 leaderboard of the Spring Sprint monthly challenge from sqlpad.io. As of last Sunday, I was in 5th place on the leaderboard with 118 points. The problems that had given me trouble up to that point generally regarded working with dates and window functions. This week, in one day, I was able to learn more about these concepts and solve 16 more questions. This was good enough to land me in 2nd place on the leaderboard with 190 points where I should be securely in the top 10 for the monthly challenge. Working through this problem set has been critical along my SQL learning experience in this course. Not only have I developed skills when it comes to writing queries in the SQL programming language, but I have improved my problem-solving abilities and I have identified areas where there is room for growth in my knowledge.

Finally, I spent the rest of the week working on my Executive Brief. It took parts of three days, but I believe that I was able to generate a quality document that describes what I have learned throughout this experience and how it relates to my journey both in the MS Data Analytics program and in my professional career. The Executive Brief was formatted in a way that I was able to reflect on all of the activities that I have pursued over the last nine weeks and to put them into a broader perspective. With the specific sections and questions within those sections, I had the chance to discuss how theories and concepts from this experience apply to my required program competencies, to compare the differences between this experience and most other courses, and to consider how this experience will impact my future learning and professional opportunities. I found that writing the Executive Brief was a valuable way to conclude this experience. Since I am electing to participate in another experiential learning activity in Python next semester, I now have many ideas in mind of how I will approach the experience and what I hope to get out of it. I am grateful that the experiential learning activity provided me with an opportunity to design and execute a portion of my growth as a data analyst, and I am excited to try it again by starting from scratch with another language.

Project/Coursework Tracker

* Company requirements -> database schema
  + Week 4 - database design podcast
  + Week 7 - found one example with solution and one example that I can try to solve on my own for the project
  + Week 8 – created sample tables using example with solution, developed conceptual model using other example requirements
  + Week 9 – created tables using my project requirements, created sample data but was unable to insert it into the environment, project halted
* Sqlpad.io movie rental practice questions
  + 59/80 completed
  + 190 points in April 2021 Spring Sprint Challenge
    - 2nd place as of 4/25/2021