

### **Introduction** (include your project vision and goals)

The vision for this project is to expand my skills and knowledge by gaining a comprehensive understanding of SQL, a critical skill frequently listed in recent job postings for roles in data science and analytics. To achieve this, I followed the Associate Data Scientist in SQL track offered by DataCamp. This track included 11 courses and 2 projects, providing hands-on experience in database manipulation, data retrieval, filtering, and analysis. The goals included: completing all 11 courses and 2 projects in the track, learning to write complex SQL queries to retrieve, filter, join, and aggregate data, and apply my SQL knowledge to real-world datasets effectively.

### **Background**

This project focused on addressing a skill gap in SQL, a language essential for managing and analyzing data in various industries. Despite having little prior experience in SQL, I was motivated to learn because it is a foundational tool for anyone pursuing a career in data science or analytics.

By completing this project, I successfully developed the ability to write and execute SQL queries, manipulate datasets, and perform tasks such as joining, filtering, and aggregating data. These skills were acquired through completing almost all the courses and applying them to 1 hands-on project that simulated real-world datasets and challenges.

This project was critical to my professional development as it bridged a significant technical gap and aligned my skills with current job market demands. It equipped me with the ability to confidently work with databases and analyze data efficiently, making me a stronger candidate for roles that require SQL proficiency.

### **Methodology, Materials and Methods** (what did you use to obtain the knowledge and/or skills?)

To acquire the knowledge and skills for the project, I utilized the Associate Data Scientist in SQL track on DataCamp as my primary learning platform. The track provided structured courses and practice problems, which helped me build a foundational understanding of SQL.

While DataCamp was effective in delivering content, I found its interface limiting because it operates solely within its website. This constraint made it challenging to explore or practice my own problems beyond the platform's predefined exercises. These exercises often sought specific outcomes, which hindered my ability to freely experiment with SQL queries,

To overcome this limitation, I supplemented my learning by setting up a local SQL environment on my computer. This allowed me to practice creating, querying, and manipulating databases independently, providing the freedom to apply concepts learned in the course to self-designed problems. This hands-on approach enhanced my understanding of SQL and improved my ability to troubleshoot and execute complex queries in a real-world context.

**Results** (What did you learn? How do you know you have learned it? What were your project assessments and did you reach those goals?)

Through this project, I gained a foundational understanding of SQL by completing half of the courses and 1 hands-on project from the Associate Data Scientist in SQL track on DataCamp. I developed essential skills such as organizing data, selecting unique identifiers, and designing tables effectively. Additionally I learned to write and debug SQL queries, make them distinct using aliasing, filter results using WHERE conditions, and apply aggregate functions such as COUNT() and ROUND(). I also explored advanced techniques, including handling NULL values, grouping data with GROUP BY, and sorting results using single or multiple fields.

For the project, I applied these skills to analyze data on the mental health of international students at a Japanese university. Using SQL queries, I explored factors that might influence mental health, leveraging filtering, grouping, and sorting techniques to derive insights from the dataset.

**Discussion / Reflection** (did you meet your goals? If yes, what did you do that allowed you to reach them? If not, what did you do that did not allow you to reach those goals and how would you change your approach to succeed in the future? How do you feel about the project results?)

Although I did not fully meet my goal of completing the entire SQL track, I gained valuable insights into my learning style and what methods work best for me. The project was not a waste of time; instead, it served as a lesson in identifying approaches that optimize my learning process. For example, I realized the importance of supplementing structured courses with hands-on practice in a local environment, as it allows for more exploration and experimentation beyond predefined exercises.

Professionally, this experience also facilitated growth in unexpected ways. Attending a job fair and a networking night were significant steps outside my comfort zone. These opportunities broadened my perspective on career development and expanded my professional network, which I would not have considered prior to this class.

While I did not achieve my initial goal of finishing the entire path, I made meaningful progress by completing 5 courses and 1 project. To succeed in the future, I plan to allocate more time to structured practice, set smaller milestones, and incorporate independent problem-solving earlier in the learning process. Overall I feel positive about the project results, as it helped me develop critical SQL skills and fostered professional growth in ways I hadn't anticipated.

**Conclusion** (look to the past, the present, and look to the future. How did this confirm/change your outlook? What could you do next?)

This project promoted me to engage in introspection, encouraging me to reflect on what I truly want for my future, including the types of jobs and career milestones I aim to achieve. It confirmed the importance of aligning my learning and professional development with my long-term goals, which has shifted my outlook toward a more deliberate and focused approach to skill-building.

Looking in the future, I see self-development as a key component of this process. By continuing to invest in personal growth such as enhancing my technical skills, attending

networking events, and exploring new challenges, I can better position myself to succeed in my desired career path. Moving forward, I plan to complete the SQL track, apply my skills to real-world problems, and explore additional tools and technologies that align with my aspirations. This experience has underscored the value of continuous learning and adaptability in shaping my professional journey.

## References or Bibliography

- <https://rtoland.github.io/>
- DataCamp - <https://app.datacamp.com/>
- Website Template - <https://html5up.net/>
- Hosting a Website On Github - <https://www.youtube.com/watch?v=e5AwNU3Y2es>
- Loading MySQL on Local Device - [https://www.youtube.com/watch?v=7S\\_tz1z\\_5bA&t=1771s](https://www.youtube.com/watch?v=7S_tz1z_5bA&t=1771s)