Project Overview

For this project, I designed a relational database for a Spa and Wellness Center, called European Luxury Day Spa. The goal was to build a working database that could track customers, employees, services, rooms, appointments, products, and payments in a structured way using Microsoft Access and MySQL. The system is designed to help manage spa operations efficiently, including scheduling appointments, storing service details, and processing payments. I selected this topic because it combines real-world business needs with database design, and it allowed me to understand how service-based businesses manage information.

Development Process

The project began with requirement gathering. I reviewed the spa's pamphlets, and website to determine what information a real spa might need to store. I also spoke to a spa employee who gave me a rundown of how they manage appointments, staff, and customer needs. This helped shape the entities and relationships used in my ER diagram. I created a hand-drawn ER diagram using Chen notation and then a digital version using Draw.io. I built the tables in Microsoft Access and added sample data for testing. Each table contained at least 5 records, including real looking names, dates, and services.

I then recreated the entire structure in MySQL Workbench using CREATE TABLE scripts. After creating all 7 tables, I inserted the sample data using INSERT INTO statements. I used SELECT * FROM queries to display each table and verify that the data inserted correctly.

Challenges

The biggest challenge was making sure all foreign keys matched their corresponding primary keys in both data type and structure. For example, when importing from Excel into Access, some fields defaulted to Text or Short Text, which caused errors when trying to create relationships. I had to manually change them to Number to attempt to fix the issue.

Another challenge was learning how to use MySQL Workbench to build and manage tables. Initially, my INSERT statements failed because I either wasn't using the correct schema or the tables didn't exist due to a missed CREATE step. I resolved this by adding USE SpaWellnessCenter; and confirming the schema using SHOW TABLES;.

Lastly, keeping the ER diagram clean and readable required careful layout work. I used Draw.io alignment tools and shape styling to make sure the digital diagram followed the Chen notation clearly.

Conclusion

This project gave me hands-on experience with every step of database development, from planning to implementation. I now understand how data is structured and linked in a real system, and I feel more confident using both Access and MySQL. This project helped me practice designing relationships, setting primary and foreign keys, and troubleshooting real world issues with data types and relationships.