Project: Airbnb Booking System Database

Summary of Work and Approach

The goal of this project was to design and build a database for a platform similar to Airbnb, where users can book accommodations. The main challenge was to create a structured database that accurately supports key functions of the platform, such as managing users, accommodations, bookings, payments, and reviews.

To tackle this, I began by identifying the platform's requirements, outlining the roles of different users: hosts, guests, and administrators, and their interactions with accommodations. From there, I developed an Entity-Relationship (ER) model that includes 26 tables, each representing a distinct part of the system, like users, transactions, and reviews. Relationships between tables were established with foreign keys to maintain data integrity, while cardinality and optionality settings were applied to reflect the actual behavior expected in the platform.

Each table was carefully documented in a data dictionary, detailing field names, data types, and descriptions to provide clarity for future work. Complex relationships, such as many-to-many and recursive associations, were also integrated where relevant, ensuring that the database could support the platform's needs accurately.

The database is designed to be scalable and efficient, meeting normalization standards to reduce data redundancy. This initial work lays a strong foundation, with the next phase planned for adding sample data to further test and demonstrate functionality.