Final Report: Sakila Database in MySQL Workbench

Student Name: [Your Name]

Date: [Submission Date]

Course: [Course Name]

Introduction

This report summarizes my experience completing the Sakila database assignment in MySQL Workbench. The tasks involved modifying records, creating tables, designing complex queries, working with transactions, and ensuring data integrity. Throughout the assignment, I encountered both challenges and easier tasks, which helped me improve my SQL skills and understanding of database management.

Challenges and Learnings

One of the easier parts of the assignment was working with basic SQL statements such as INSERT, UPDATE, and DELETE. These queries were straightforward, and I was already familiar with their syntax. However, I had to be careful with constraints and foreign key relationships to ensure data integrity.

Creating a table from a query result required some attention to detail. While the query itself was not difficult, I initially overlooked the fact that primary keys and constraints are not automatically copied when using CREATE TABLE AS SELECT. This made me realize the importance of defining table structures explicitly when creating new tables.

The most challenging part was designing complex SQL queries, especially the ones involving joins and aggregations. Writing queries to identify the most rented film and calculating total revenue per store required careful use of JOINs, GROUP BY, and aggregate functions. Debugging these queries took time, but testing them with smaller datasets helped in identifying mistakes.

Working with transactions and rollback mechanisms was another area where I had to be extra careful. Understanding how to manage concurrency and prevent inconsistencies required reading about record locking policies. Testing a scenario where a transaction was rolled back due to an error helped me understand the practical use of ROLLBACK and COMMIT statements.

Ensuring data integrity using foreign key constraints and triggers was also a valuable learning

experience. While I understood the concept of referential integrity, implementing it in practice required precise constraint definitions. The trigger I created to prevent negative payments helped reinforce the importance of data validation at the database level.

Conclusion

This assignment provided a deeper understanding of SQL operations and database management in MySQL Workbench. The most valuable learning experiences came from debugging queries, handling transactions, and enforcing data integrity. While some tasks were straightforward, others required troubleshooting and careful testing. Overall, this assignment helped strengthen my ability to work with relational databases efficiently.